The University of Nottingham

School of Veterinary Medicine and Science

Autistic Veterinary Surgeons in the United Kingdom: Workplace Stressors and Mental Wellbeing

by

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Table of Contents

List of Figures

.

Abstract

Background: Poor mental wellbeing has been documented in both veterinary surgeons and autistic adults. Autistic veterinary surgeons may be at particular risk for poor mental wellbeing.

Aims: To examine UK autistic veterinary surgeons' experiences of their psychosocial work environment (job stressor exposures), generate a profile of mental wellbeing, and compare these to normative data. Further, to establish the strength and direction of associations between psychosocial work environment quality and mental wellbeing. Finally, to identify and consider the acceptability of reasonable adjustments to support mental wellbeing.

Methods: Interviews were conducted with 15 veterinary surgeons with a diagnosis of autism to identify common job stressors and reasonable adjustments to support autistic veterinary surgeons. A thematic analysis of interview transcripts informed the design of a survey distributed to diagnosed and self-identifying autistic veterinary surgeons that assessed mental wellbeing (Warwick-Edinburgh Mental Wellbeing Scale [WEMWBS]), generic psychosocial work environment quality (Health and Safety Executive Management Standards Indicator Tool [MSIT]), and veterinary-specific job stressors, as well as the acceptability of reasonable adjustments to support autistic veterinary surgeons. Mental wellbeing and psychosocial work environment quality were profiled using descriptive statistics, while correlation and linear regression analyses examined relationships between these constructs. The relations between mental wellbeing and job stressors were used to generate a list of reasonable workplace modifications that employers could implement to support mental wellbeing, which were ranked from most to least acceptable.

Results: Ninety-three survey responses were analysed. The mean WEMWBS score was 39, with 57% of respondents reporting probable depression (score of ≤40). All seven MSIT psychosocial work environment domains significantly correlated with mental wellbeing. Generic

psychosocial working conditions accounted for 46% of the variance in mental wellbeing, with job control and role clarity (both $\beta = 0.28$) showing the strongest associations with mental wellbeing ($p<0.05$). Veterinary-specific job stressors made a small additional contribution (4%) to explaining mental wellbeing over and above that explained by generic stressors. Further, the workplace accommodation deemed most acceptable was the provision of a dedicated workspace (89.2%), and the least acceptable was altered out-of-hours commitments (52.7%).

Conclusion: This sample of autistic veterinary surgeons reported poor mental wellbeing and psychosocial work environment quality relative to that observed in veterinary-specific and general workforce normative data. While these findings are limited by an inability to demonstrate cause-effect relations between psychosocial work characteristics and mental wellbeing, they suggest a potential aetiological role for the former in the determination of the latter, which could be conclusively established in future research using longitudinal designs. Moreover, these findings suggest that psychosocial work environment modification may represent an effective means by which to support the mental wellbeing of autistic veterinary surgeons.

Preface

Background and Contribution to Thesis

As an undergraduate veterinary student, I developed an interest in mental wellbeing in the profession yet found the lack of information and awareness about autism worrying. Through my efforts to learn more about veterinary mental health and autistic veterinary surgeons, I was introduced to Kirstie Pickles and Bradley Hill of the University of Nottingham's School of Veterinary Medicine and Science. This thesis emerged from our collective concern for this unresearched demographic. The original proposal for this thesis - to investigate workplace stress and reasonable adjustments for autistic veterinary surgeons - was developed by Kirstie Pickles and Bradley Hill, with Jonathan Houdmont of the School of Medicine. They had prepared a grant application to the RCVS Mind Matters Initiative and obtained ethical approval from the University of Nottingham Ethics Committee. Following the awarding of the research grant I was offered an MRes studentship and officially joined the team in August of 2021. I began collecting data two months later, in October 2021. At times during my position as a postgraduate student at the school, I have worked on projects as part of a team and with guidance from my supervisors which was necessary for the demanding nature of the work and it having to be completed within a short time frame. This has been a valuable experience for me. This thesis, however, was developed out of my own work on the studies included in the thesis and all the data collection, analyses, and interpretation presented are my own.

Aims and Structure of the Thesis

This thesis is based on a set of aims from the study funded by the RCVS Mind Matters Initiative and the University of Nottingham School of Veterinary Medicine and Science that concerned the identification of key workplace stressors and reasonable adjustments for autistic veterinary

surgeons. The project aimed to:

1. identify psychosocial work characteristics that present a challenge to the mental wellbeing of autistic veterinary surgeons (job stressors);
2. identify reasonable adjustments that employers could take to protect and promote the mental wellbeing of autistic veterinary surgeons;
3. quantify stressor exposure and mental wellbeing, and compare these to veterinary-specific and general workforce norms;
4. examine the strength and direction of relations between stressor exposure and mental wellbeing;
5. explore the potential efficacy of identified reasonable adjustments that employers could implement to support the mental wellbeing of autistic veterinary surgeons.

The introductory chapter presents an overview of the theoretical perspective of this thesis and offers contextualisation by reviewing the available literature on mental wellbeing in autistic adults and veterinary surgeons. The introduction concludes by outlining the aims of the study. The first and second aims of this project were achieved through a qualitative study (detailed in the first parts of the methods and results chapters) for which I interviewed fifteen UK veterinary surgeons with a clinical diagnosis of autism with the aim of identifying common job stressors and reasonable adjustments to support mental wellbeing.

A quantitative profile of the mental wellbeing of autistic vets and their exposure to veterinary-specific occupational and organisational stressors was presented using descriptive data obtained from a survey (the second part of the methods and results sections) that was distributed to autistic veterinary surgeons in the UK who had a formal diagnosis of autism or self-diagnosed as autistic. The quantitative results section of this thesis focuses on the third and fourth aims of this study

with an outline of the descriptive statistics and correlation and regression analyses performed to establish the strength and direction of associations between stressor exposure and mental wellbeing. The final aim of this project is addressed in the results section where I identify the interventions that were deemed to be most acceptable by survey respondents.

The discussion brings together the results and conclusions from both studies and compares these to the extant literature and considers the acceptability of the interventions and reasonable adjustments that were identified from the study outcomes. The discussion reflects on the limitations of the studies and possible ways forward in research concerning workplace wellbeing and stressors among autistic veterinary surgeons, before ending with a summary of the findings and conclusions.

Publications and Presentations Arising from This Thesis

June 2022	Smits, F. *Autistic Veterinary Surgeons: Workplace Wellbeing and Stressors* Poster presented at the AVMA Visitation at Twycross Zoo, University of Nottingham
July 2022	Smits, F. *Autistic Veterinary Surgeons: Workplace Wellbeing and Stressors* oral presentation at the Postgraduate Summer Symposium, University of Nottingham
September 2022	Smits, F. *Autistic Veterinary Surgeons: Workplace Wellbeing and Stressors* poster presented at the Veterinary Schools Council EDI Conference, London
August 2023	Smits, F., Houdmont, J., Hill, B., and Pickles, K. (2023) Mental wellbeing and psychosocial working conditions of autistic veterinary surgeons in the UK. *Veterinary Record*, 193(8)

1 Introduction

It is widely accepted that mental wellbeing is poor across all areas of the veterinary profession, and numerous reviews of veterinary mental health have taken place in recent years (e.g., Bartram, Sinclair, and Baldwin, 2010; Cardwell *et al.*, 2013; Rhind and Grant, 2017). Indeed, UK veterinary surgeons are 3-4 times more likely than the general population to die by suicide, which is often attributed to psychosocial working conditions such as long working hours and poor work-life balance (Platt *et al.*, 2010). Elements of veterinary practice may make it an attractive career for some autistic individuals since it requires intense levels of focus, pattern analysis and problem-solving, high retention of facts, and excellent attention to detail (Wolman, 2010). It is, therefore, reasonable to suppose that there is a greater representation of autism in veterinary medicine compared to the general population (Lyall *et al*., 2017). Due to the higher levels of mental ill-health experienced by autistic people (Carpenter, 2007; Underwood *et al.*, 2015), especially depression and anxiety (Joshi *et al.*, 2013), the combination of autism and a veterinary career may converge to create a particularly high risk for low mental wellbeing. Mental wellbeing is represented in the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) as both subjective happiness and psychological function (Tennant et al., 2008). Consequently, it is important to understand the problematic psychosocial working conditions (job stressors) commonly experienced by autistic veterinary surgeons to inform the design and targeting of reasonable adjustments to support mental wellbeing in this group.

1.1 What is Autism?

Autism Spectrum Condition (ASC), or 'autism', is a neurodevelopmental condition characterised by social communication and interaction differences, repetitive and restrictive behaviour patterns, and differences in sensory processing (Masi *et al.*, 2017; Autism Spectrum

Australia, 2021). ASC is considered a spectrum condition due to the wide variation in the type and intensity of symptoms experienced by autistic individuals (NIMH, 2021). It is a complex and multifactorial condition that is not easily defined due to its heterogeneity; in essence, no two autistic people will present the same (Georgiades, Szatmari, and Boyle, 2013). The prevalence of ASC in the general population is reported at 1.0-2.5% in developed countries and is estimated to be more prevalent in science, technology, engineering, and mathematics (STEM) professions (Kim *et al*., 2011; Ruzich *et al*., 2015; Zablotsky *et al*., 2015; Lyall *et al*., 2017).

Presently, the criteria for a clinical diagnosis of autism are defined according to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) as social communication difficulties and repetitive or restrictive behaviours that have been present since early development and cause significant impairment to the person's ability to function properly in school/work and other areas of life (Constantino and Charman, 2016). Under the DSM-V criteria, a clinical diagnosis of ASC is achieved if the observed symptoms cannot be explained by an intellectual disability (ID), which is any condition, congenital or acquired, that causes limitations in cognitive, motor, and intellectual function (Davis, White, and Ollendick, 2014; NICE, 2022). It is estimated that 30% of autistic individuals have an ID and the remainder are deemed to have average or above-average intellect, termed 'high functioning' (previously 'Asperger's Syndrome'). The term 'high functioning' is, however, considered discriminatory by some members of the autistic community (Baird *et al.,* 2006). The term has led to assumptions that higher intelligence quotient (IQ) and greater adaptive functioning result in better long-term outcomes, despite clinical evidence to the contrary (Alvares *et al*., 2019), and the level of support a person receives is often unduly based on an assessment of cognitive functioning, rather than the impact of their symptoms on their daily lives. When Alvares and colleagues (2019) examined

the relationship between IQ and levels of adaptive functioning in a large sample of autistic individuals, they found that intelligence was not a good descriptor for functioning, indicating 'high functioning' is a misnomer if based on intelligence alone. Moreover, high functioning individuals, i.e., those without intellectual disability, frequently go undiagnosed until later in life due to their higher verbal and social abilities, even though they remain burdened by the consequences that their symptoms have on their everyday lives (Lewis, 2016). Despite these substantial disadvantages of using the term 'high functioning' when describing autistic people without intellectual disability, its use in the present study is due to the lack of a more appropriate description. Here, it is also important to make the distinction between the medical definition of autism, which defines autism as a disability, and the neurodiversity stance, which defines ASC as a human variation that results in a unique lived experience that may or may not fit comfortably into a particular environment (Lai *et al.*, 2020).

1.2 Autism and Common Psychiatric Comorbidities

Autism is associated with a wide range of comorbid psychiatric conditions, especially anxiety and depression (Hollocks *et al.*, 2019). The reported prevalence of these comorbidities is highly varied, preventing definitive conclusions from being drawn. However, the review and meta-analysis by Hollocks *et al.* (2019) reports a 27-42% prevalence of anxiety disorder and 23-37% prevalence of depressive disorder comorbid with ASC. This review encompasses 35 separate studies on anxiety and depression in autistic people, with a total sample size of 26,070 and 26,117, respectively for each condition. However, heterogeneity between the studies analysed makes it difficult to ascertain the accuracy of these values. Nevertheless, similar results have been found in recent survey research which found a 38% prevalence of anxiety disorder and depression amongst autistic adults (Uljarević *et al.*, 2020). In contrast, the general UK

population shows comparatively lower frequencies of anxiety (7%) and depression (20%) (Mental Health Foundation, 2022). Data on psychiatric disorders such as bipolar and mood disorders, schizophrenia, eating disorders, and attention-deficit/hyperactivity disorder (ADHD) are even more varied but are all reported to be of higher prevalence amongst autistic individuals, with a reported frequency of comorbidity with any one psychiatric condition being as high as 70% (Lugo-Marín *et al.,* 2019; Hossain *et al.,* 2020). The heterogeneity of data on mental health comorbidities may be in part attributed to the lack of appropriate diagnostic procedures; for example, non-verbal individuals with ASC cannot be accurately assessed for mental ill-health in the same way as a verbal individual (Lai *et al.,* 2019). Other factors which may affect mental health in autism, especially anxiety, include sensory sensitivities (Green and Ben-Sasson, 2010) and difficulties with handling change (Maisel *et al.*, 2016). Autistic people require unique and targeted diagnostic techniques and treatment methods due to their unique experiences and perception of the world around them.

There is similarly a greater prevalence of suicidal ideation and behaviour in autistic adults, and those without an intellectual disability have been reported to be 9.4 times more at risk of suicidality than the general population (Hirvikoski *et al.*, 2016; Cassidy *et al*., 2018). The explanation for the increased incidence of lethal or near-lethal suicide attempts in autistic adults is poorly understood and there is a lack of research into why this is the case. It has been proposed that risk factors such as abuse and depression play a role in suicidality in autistic adults, some authors suggest that autistic adults experience above-average rates of bullying and physical and emotional abuse, which may be explained by differences in managing social stressors, difference in communication style, isolation, and victimisation (Jawaid *et al*., 2012; Weiss and Fardella, 2018). A questionnaire-based study by Weiss and Fardella (2018) reported that adults with ASC

described having experienced bullying, sexual assault, and other forms of victimisation when they were children to a greater degree than a non-autistic comparison group. These experiences have been associated with poor mental wellbeing and suicidality in adulthood (Winding *et al.*, 2020). This study was not anonymous and there was no attempt to substantiate participants' reports with informants, which may have led to under-reporting of experiences. It is likely that the participants in Weiss and Fardella's (2018) study were more well-adjusted and the effects of victimisation were understated, indicating that people with ASC experience higher levels of bullying and other forms of victimisation throughout life. Additionally, there are factors pertaining to the experiences of autistic people including, but not limited to, a lack of support, perceived burdensomeness, and difficulty with problem-solving and creating healthy coping strategies (Hirvikoski *et al.,* 2020; Pelton *et al.,* 2020). Overall, the combinations of psychiatric comorbidity, social challenges such as communication barriers, and a lack of accurate clinical diagnosis in some individuals all increase the incidence of poor mental health and suicidality in people with ASC.

A further contributing factor to poor mental health in autistic people is societal perceptions and a lack of acceptance (Dillenburger *et al.*, 2015; Cooper, Smith, and Russell, 2017), which results in a poorer quality of life (Robertson, 2009). Autistic individuals' perceptions of autism acceptance and stigma have been found to significantly impact their mental health. For instance, Cage, Di Monaco, and Newell (2018) surveyed 111 autistic adults and found they were significantly more likely to experience depression and stress than non-autistic people when their social peers were perceived to be less accepting of autism. The survey employed a self-report approach and respondents were mostly female; despite there being no reported differences between gender this may affect the reliability of these results. The study does, however, highlight

a need in the literature for more investigations into the impact of social stigma on the mental wellbeing of autistic people from various walks of life as a means to promote the importance of reducing stigma surrounding autism. Social acceptance of autism has greatly improved in recent years, in part attributable to the development of the term 'neurodiversity', which holds less stigma (Grinker, 2020). The concept of neurodiversity frames autism as diversity in neurological function rather than a pathology or disorder that demands suffering and implies abnormality; many autistic people therefore take pride in identifying as neurodivergent (Kapp *et al*., 2013). Nevertheless, significant stigma surrounding autism remains, in part due to dehumanising research, harmful stereotypes, and ignorance (Botha, Dibb, and Frost, 2019). In the media, autistic people are often portrayed as dangerous, mistreated, or unlikeable; or are given above-average intelligence and special abilities, sometimes known as 'Savant-Syndrome', though both are equally harmful to the labelling of false stereotypes (Draaisma, 2009). These falsehoods may pressure autistic individuals to hide, or 'camouflage,' their traits despite impacting their mental health.

Camouflaging, or 'masking,' refers to a set of coping strategies used by autistic individuals to hide or diminish their symptoms to fit into, and access, social situations (Corbett *et al.*, 2021). These behaviours are associated with poor mental health and wellbeing (Hull *et al.*, 2017; Livingston, Shah and Happé, 2019; Cook *et al.*, 2021). Camouflaging behaviours could further lead to a potential for mis- or under-diagnosis of autism and mental illness, especially in females (Kirkovski, Enticott and Fitzgerald, 2013), which acts as a barrier to accessing support and appropriate autism-specific care. The review by Kirkovski, Enticott, and Fitzgerald (2013) found that female children and adults often exhibit symptoms of autism that do not fit the standard diagnostic phenotype, such as a greater difficulty in forming friendships despite increased ability in social communication. This suggests that there is a lack of understanding of the presentation

of ASC in females and this can lead to underdiagnosis. The study reviewed 113 papers, many of which did not note any gender differences; however, many of the studies did not include enough females, if at all, in the samples to show any significant results. Despite its small sample size and preliminary nature, this review indicated a scarcity of literature regarding gender differences in autism and suggested that this may be due to the fact that females do not present as expected. Autism appears differently in women and men since autistic women are known to camouflage more frequently and effectively (Ratto *et al.*, 2018; Allely, 2019). Some have ascribed this to sex-specific cognitive differences that allow female-bodied individuals to have better language and social mimicry skills, and others have found that females do not experience the same stereotypical symptoms of ASC that are recognised in autistic males (Lai *et al*., 2011; Lenhardt *et al*., 2016). Further, the current understanding of ASC is based on historically male-only research; females are less likely than males to exhibit external behaviours such as impulsivity and social conduct problems and instead have greater internalising problems, namely depression, anxiety, and eating disorders (Mandy *et al*., 2012). Typically, autistic females will receive diagnoses later in life (Giarelli *et al.*, 2010) and may be more vulnerable to sexual abuse and exploitation (Bargelia, Steward, and Mandy, 2016).

Late or missed diagnosis is a common issue in the autistic community, especially amongst women and high-functioning individuals who may camouflage more frequently and whose symptoms do not fit the typical understanding of autism (Mazzone *et al*., 2012). Late diagnosis is also one of the major risk factors associated with high suicide rates amongst autistic people (Cassidy *et al*., 2014). Many autistic individuals avoid seeking diagnosis due to the fear of not being believed by doctors, difficulty in finding a specialist, previous poor experiences with mental health services, and long waiting times for assessment which have been reported to be over 2

years in the UK (Crane *et al*., 2016; Huang *et al.*, 2020). Many seeking diagnoses, disproportionally women, may be misdiagnosed with mental health conditions which do not entirely explain their experiences, which can cause self-doubt and confusion, and limit access to appropriate autism-specific support (Leedham *et al*., 2020). In contrast, receiving a diagnosis has been linked to better mental wellbeing. Interviews concerning the lived experience of 11 autistic females diagnosed over the age of 40 (Leedham et al., 2020) found that after an initial adjustment period, having a clinical diagnosis enabled them to adapt their lives and access essential resources which improved their mental wellbeing. Even with the small sample size, the themes which emerged from this study reflected previous understanding late diagnosis may be related to increased camouflaging behaviours among females, and that there is a significant negative impact on the mental wellbeing of autistic women pre-diagnosis, influenced by a lack of understanding themselves and poor self-image. It also found that the participants were better able to recognise their needs and access peer and clinical support post-diagnosis, compared to pre-diagnosis. The nature of Leedham and colleagues' (2020) study does not allow the results to be generalised, yet the data do reflect themes identified in other studies that a diagnosis, even later in life, may be beneficial to many autistic people. It is, however, generally accepted that post-diagnosis support services available to autistic adults are limited and many are left to navigate their new identities alone (Jones *et al*., 2014).

1.3 Autism in the Workplace

ASC is associated with behaviours which may be beneficial in certain work environments, including excellent attention to detail, systemising behaviours, and effective recall (Russell *et al.*, 2019). Systemising is defined as the drive to analyse or construct systems, which has been attributed to abilities in recognising repeating patterns (Baron-Cohen *et al.*, 2009). These characteristics could be advantageous to jobs that involve analysis of patterns and periods of

intense focus, such as those in STEM, and have been associated with greater levels of organisational productivity (Vogus and Taylor, 2018). Despite these advantages, people with ASC are at greater risk of worse employment outcomes than any other disability group (Hedley, Uljarević, and Hedley, 2017). Autistic people are more likely to be unemployed, underemployed, or overqualified (McIntosh, 2016); indeed, only 22% of autistic adults were reported to be in paid employment in the United Kingdom in 2020, compared to 75% in the general adult population (ONS, 2020, 2021). Those who are employed are often working in unstable employment with low pay and little or no benefits or support (Hedley *et al.*, 2017). It is suspected that the employment disparity between autistic and non-autistic individuals is linked to differences in social communication and poor mental health experienced by autistic people, even though employment is associated with individual and societal wellbeing (Billstedt, Gillberg and Gillberg, 2011; Lopez and Keenan, 2014; Chen *et al*., 2015; McKnight-Lizotte, 2018). Individuals who may be defined as high functioning still experience difficulties with social interaction, namely interpreting verbal communications and inferred meanings, both of which are integral to a positive experience in the workplace (Hayward, McVilly and Stokes, 2018).

Additionally, autistic people are often underpaid (Solomon, 2020). Clear data are absent on the wage gap for autistic people, however, the pay gap for men with learning difficulties, including autism, was reported to be 62% in 2017 (Brown, Rickard, and Broughton, 2017). This report, commissioned by the Equality and Human Rights Commission, indicates that an important factor in the pay gap is that disabled people are more concentrated in part-time and less well-paid occupations, and that UK legislation is based on homogenous changes to the labour market, despite the enormous heterogeneity in needs amongst disabled people. A lack of secure employment may hinder an autistic person's ability to be independent and adds to the already

heavy burden of stressors faced at work and in life. People with ASC may experience a greater set of stressors within the workplace than neurotypical people; in addition to commonly experienced workplace stressors such as long hours, heavy workload, job insecurity, and complex colleague relationships, autistic people may also experience stress from negative employer attitudes towards autism and a lack of appropriate support, as well as increased anxiety from communication difficulties and forming interpersonal relationships (Scott *et al.,* 2018; Hayward, McVilly, and Stokes, 2019; BetterHealth, 2021)

A common barrier to finding and retaining paid work for autistic people is that they are often assigned a socially devalued group due to negative stereotypes (Hinshaw and Stier, 2008). A study by Johnson and Joshi (2016) found that those that did not disclose their autism at work did so to avoid being treated differently or avoid the application of false stereotypes by colleagues (Johnson and Joshi, 2016). The mixed-methods investigation utilised in-depth interviews and a survey of autistic workers to establish the impact of stigma in the workplace and found that the stigmatising label of ASC leads to social discomfort and unpredictability from autistic workers' colleagues. The qualitative-quantitative structure of the Johnson and Joshi (2016) study provides a comprehensive insight into the experiences of autistic people in the workplace. Although it is limited by its retrospective nature and the fact that many participants had not disclosed their condition at work, it highlights an important avenue in autism research surrounding disclosure and people's reasoning for or against disclosing to an employer, since past research has indicated that this is a difficult, multi-factorial decision. This investigation further showed how autistic people experienced greater self-esteem at work when employed by organisations with support policies for workers with ASC. In the United Kingdom, autistic people are protected under The Equality Act (2010) which necessitates public services and workplaces to prevent discrimination

against disabled people (Gov.uk, n.d.). Further protection is provided under the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD) which mandates the right of disabled people to equal employment opportunities and to be protected against unemployment (United Nations, 2006).

Interventions do exist to improve employee success and integration into the workplace. Workplace interventions are actions or processes implemented to protect mental health and should aim to reduce work-related risk factors, develop positive aspects of work, and address mental health problems among workers regardless of the cause (LaMontagne *et al.*, 2014). Most of the research on autism in the workplace has focused on ASC as an impairment, therefore the burden of workplace integration and adjustments lies on the individual. However, environmental factors, especially employer attitudes and behaviours, play a key role in workplace satisfaction for autistic people (Scott *et al*., 2019). In their review of 134 studies on employment for autistic people, Scott and colleagues (2019) found that most intervention studies sought to "solve" autistic characteristics or required the autistic individuals to partake in lengthy training courses that "improved" productivity and employability, rather than creating a work environment that enabled career success. This review confirmed that most ASC research has focused on interventions for children and only 36 studies focused on interventions for adult workers, highlighting the necessity for more data. Most of these were impairment-focused with the view of reducing the impact of autism symptoms rather than improving the workplace environment to be more accessible to autistic employees. This study represented a review of data mostly collected in The United States which may limit its applicability in the context of the current study, but nevertheless highlights the importance of research into workplace interventions, especially those focusing on the work environment rather than the individual. To date,

interventions such as vocational skills training, positive behaviour support (reducing 'challenging behaviours'), and similar individual-focused models have dominated the literature (Schall, 2010; Fong *et al*., 2021), yet these ignore the vital role played by the work environment on workplace wellbeing.

Successful employment outcomes for autistic individuals are greatly impacted by their employers' capacity to support them. As previously mentioned, there is a paucity of literature focusing on external factors, including employer perspectives, even though they have the ultimate control over hiring autistic people and the provision of a supportive work environment. The limited research available on employer perspectives has identified that employers are concerned about how to interact with their autistic employees and tend to overestimate the cost and time required to implement appropriate accommodations (Lindsay *et al*., 2019). Increasing organisational knowledge of ASC through disability and neurodiversity awareness training has been shown to improve employer confidence and facilitate staff acceptance of ASC, resulting in an improvement in accommodations for autistic employees (Bowman, 2020). Providing training for employees may also reduce the stigma and discrimination surrounding autism and enable autistic workers to safely disclose their condition and access the support they require (Lindsay *et al*., 2021). A study by Scott and colleagues (2018) explored the efficacy of a tool designed to improve employers' levels of support for autistic employees and found that improving employers' knowledge of autism and their confidence in providing sufficient support at work improved employment success for autistic individuals (Scott *et al*., 2018). Since employment success should not depend solely on the individual's ability to change their behaviour, interventions that focus on changing the work environment to be more accepting and accommodating of disabilities, including autism, through peer-support programmes and ASC-

specific training, have the potential to significantly improve workplace wellbeing and career satisfaction for autistic people.

1.4 The Veterinary Profession

The present study focuses on workplace stressors specific to autistic veterinary surgeons working in clinical practice, for which there is a complete absence of data. Veterinary surgeons, or 'vets', are considered a high-risk group for mental ill-health and suicidality with the risk of suicide reported at 1.7-4.0 times greater than the risk of the general population across various countries (Bartram and Baldwin, 2008; Fritschi *et al.*, 2009; vande Griek *et al.*, 2018). High rates of poor mental health in vets are an international issue, with elevated rates of suicidality within the profession having been reported in the United Kingdom (Mellanby, 2005), the United States (Miller and Beaumont, 1995), Canada (Whiting and Marion, 2011), Australia (Jones-Fairnie *et al.*, 2008), and Norway (Hem *et al.*, 2005). A lot of the understanding behind elevated suicide rates in veterinary surgeons is based on speculation rather than empirical research; however, some studies have found that easy access to, and familiarity with, firearms and toxic drugs have increased the numbers of suicides by these methods (e.g., Platt *et al.*, 2010). Others have attributed these figures to 'suicide contagion' because of direct and indirect exposure to suicidal behaviour in others within the profession (Stoewen, 2015), as well as unfavourable psychosocial working conditions, poor managerial support, and poor work-life balance (Bartram, Sinclair, and Baldwin, 2010). Authors have speculated that exposure to the practice of convenience euthanasia, where an animal's owner chooses to euthanise their pet for personal rather than medical reasons, may increase the likelihood of suicide being considered an option during periods of psychological distress (Ogden, Kinnison, and May, 2012). The large-scale survey by Ogden, Kinnison, and May (2012) found no association between convenience euthanasia and

attitudes towards suicide. Their findings suggested that students and newly graduated veterinary surgeons had a lower tolerance for convenience euthanasia than those who had more experience but there was no relationship between perceptions on euthanasia and perceptions on suicide. This was not a longitudinal study so the effect of years in practice on these perceptions cannot be fully ascertained. On the other hand, it has been suggested by others (e.g., Rollin, 2011) that the moral stress that develops because of convenience euthanasia leads to reduced mental wellbeing. Unlike other forms of stress, Rollin (2011) explained how moral stress cannot be remedied by standard stress management techniques (e.g., relaxation or peer support) and this will ultimately lead to reduced physical and mental health and, in some cases, suicide.

Veterinary surgeons undertake various responsibilities as part of their roles, which may contribute to impaired mental wellbeing. There is no 'typical' workday for a veterinary surgeon since there is great variation between different areas of the profession and individual veterinary practitioners. Typically, vets work 8-10 hours per day (Hills, 2023) and responsibilities include consultations, operations, administrative duties, inpatient care, and on-call or out-of-hours work (McCormack, 2017). Farm and equine practitioners are usually required to do visits to yards/farms for routine procedures, unwell animals, and medical emergencies. Outside of the workday, vets are also required to undertake continuing professional development (CPD) and/or additional training to build their knowledge and continue with their careers. The unique workplace stressors experienced by vets could result in burnout (chronic, unmanaged stress in the workplace) and compassion fatigue, which is the emotional and physical exhaustion that results from frequently dealing with clients' emotional distress (Lloyd and Campion, 2017). The profession demands a high workload, long, unsociable working hours, and difficult client relationships, as well as the emotional impact of euthanasia and handling sick patients (Bartram, Yadegarfar, and Baldwin, 2009b). Veterinary surgeons frequently face ethical dilemmas in

practice, where the right treatment option is not immediately clear, due to conflicting obligations to the health of their patients, client satisfaction and economic considerations, and to the profession and wider society (Batchelor, Creed and McKeegan, 2015). These situations lead to moral distress, regularly without the means to cope.

Mental ill-health is associated with poorer standards of client and patient care in medical doctors (Firth-Cozens, 2001; Carrieri *et al*., 2018) and since there are many similarities between human and veterinary medicine, there is scope for investigating the impact of poor mental wellbeing in veterinary surgeons on the client and patient care. The review by Carrieri and colleagues (2018) indicates that poor mental health in medical doctors is a public health concern since it threatens the sustainability of the National Health Service (NHS) due to poor worker retention, a problem also faced by veterinary practices in the UK, as there has been a notable increase in vets leaving clinical practice since 2018 (RCVS, 2022). The review concluded that early intervention could be imperative for the care of clients, patients, and public health, a conclusion also arrived at by others (e.g., Petrie *et al*., 2022), as well as the health and safety of the practitioners. Stressors in the veterinary workplace range from occupational and environmental to patient-related to personal (Brannick *et al.* 2015). A review by Bartram, Sinclair, and Baldwin (2010) produced a series of suggested interventions at the individual level and at an organisational level for protecting veterinary surgeons. To protect mental health in individuals they suggested training in mental health awareness, promoting adaptive coping skills, and education of early warning signs, as well as supporting workers through complaints and disciplinary hearings and aiding them in finding counselling or psychotherapy. Suggestions for organisation-oriented interventions included population-level monitoring of mental health and psychosocial work characteristics, improved management skills and mentoring, regular breaks, a reduction of working hours or flexible hours, and providing support for those affected by a colleague's

suicide to reduce the risk of contagion.

Most research on veterinary workplace wellbeing focuses on mental illness and other negative outcomes, such as compassion fatigue and burnout, and neglects to consider the positive facets of the job. It has been found that finding meaning in veterinary work through helping animals and building relationships with clients plays an important role in improving wellbeing (Polachek and Wallace, 2018). Additionally, work-life balance is cited as an important causative factor for reducing workplace stress in veterinary surgeons (Hansez, Schins, and Rollin, 2008) and having a 'healthy' life balance has been linked to improved resilience and job satisfaction (Cake *et al.*, 2017). This enables veterinary surgeons to focus on the sources of pleasure within their roles (Clise, Kirby and McArthur, 2021) and maximising the impact of these positive events could improve wellbeing across the profession. For instance, Mastenbroek and colleagues (2014) found that opportunities for professional development, support from employers, and decision latitude (job control) contributed most to work engagement and reduced exhaustion in veterinary surgeons (Mastenbroek *et al*., 2014). They used the Job Demands-Resources (JD-R) model as a lens through which to investigate personal resources that affect workplace wellbeing in vets, and how it affects performance. This study reported limitations based on the potential for upward bias as participants were likely to have picked colleagues that would positively rate their performance, and its cross-sectional design did not allow for the analysis of causal relations; however, it showed that access to resources such as autonomy, social support, and feedback improved performance. It highlights a necessity for more investigations into the provision of resources and support for veterinary surgeons to improve mental wellbeing, and therefore performance. Workplace interventions that focus on increasing exposure to these job resources may provide a meaningful alternative to most of the current interventions which focus on reducing mental illness and burnout on an individual level.

As previously mentioned, there is a complete absence of data regarding the prevalence of autism within the veterinary profession; however, for reasons previously stated it is reasonable to assume that it is greater than the prevalence in the general population. This speculation is due to autistic people often having meticulous attention to detail; above-average recall of information; the ability to remain focused on a task for extended periods; a driving passion for work and a strong work ethic, all of which may assist in achieving success in the veterinary profession. The same traits are also valued in practitioners of human medicine (Moore, Kinnear, and Freeman, 2020). A small study by Price *et al.* (2019) found 1% of doctors to be autistic, which reflects the general population; however, this figure is generally accepted to be an under-representation due to the lack of diagnosis in high-functioning individuals and the profession's lack of proper support for autistic people (Price *et al*., 2019). Indeed, one third of the three hundred members of Autism Doctors International (ADI) is made up of general practitioners; challenging the assumption that autistic doctors would only be found in less patient-centric fields (Doherty, Johnson, and Buckley, 2021). Medical doctors face similar workplace challenges as veterinary surgeons, including high workload and the emotional demands of practising medicine (Edwards, Kornacki, and Silversin, 2002), and therefore data on occupational stressors and mental health in autistic doctors can be extrapolated to autistic veterinary surgeons in the absence of any vet-specific data. There is no apparent reason as to why there is such an absence of data or research into autistic medical and veterinary professionals, but one possibility is that the perceived stigma surrounding autism has led to a lack of disclosure, or that high-functioning individuals face under-diagnosis. Autistic veterinary surgeons may also struggle to cope with stressors at work and lack of support which will result in them leaving the profession. Awareness and understanding of autism have only recently become more commonplace, as well as increased accuracy of diagnostic techniques and access to diagnostic services, meaning that autism is now perceived to be more common.

Autistic veterinary surgeons could represent an asset to a veterinary team, yet the nature of working in veterinary practice may be cause for added stress. Long working hours, often without proper breaks, busy working conditions, high volumes of social interactions in short spaces of time, and frequent exposure to emotionally challenging situations all potentially contribute to a psychological burden. Therefore, the causative factors of mental ill-health in autistic people added to those in veterinary surgeons may well result in an elevated risk of impaired mental wellbeing. It is for this reason that autistic veterinary surgeons may require additional considerations when addressing mental health in the profession.

1.5 Aims of the Investigation

The scientific literature suggests that an examination of autistic workers' experiences of the psychosocial work environment can usefully inform the management of that environment for the protection and promotion of health and wellbeing. Autistic veterinary surgeons might be at high risk of impaired mental wellbeing, suggesting a need for research to identify aspects of the content and context of the role that present a threat to mental wellbeing (i.e., job stressors). Such research could generate recommendations on tailored actions for employers to support autistic vets' mental wellbeing. In response to this need, the current investigation aims to:

1. identify psychosocial work characteristics that present a challenge to the mental wellbeing of autistic veterinary surgeons (job stressors);
2. identify reasonable adjustments that employers could take to protect and promote the mental wellbeing of autistic veterinary surgeons;
3. quantify stressor exposure and mental wellbeing, and compare these to veterinary-specific and general workforce norms;
4. examine the strength and direction of relations between stressor exposure and mental

wellbeing;

5. explore the potential efficacy of identified reasonable adjustments that employers could implement to support the mental wellbeing of autistic veterinary surgeons.

2 Research Methods

2.1 Research Design

The investigation involved a mixed methods design. The first study consisted of qualitative interviews with autistic veterinary surgeons to identify stressors perceived as a challenge to mental wellbeing and further a list of interventions that employers could take to protect and promote the mental wellbeing of autistic vets (Aims 1 and 2). These findings informed the design of a survey that was administered to a large sample of autistic vets to quantify exposure to stressors identified in the qualitative phase and rank the potential acceptability of interventions that employers could take to promote their wellbeing (Aims 3 and 5). The quantitative study also assessed mental wellbeing, allowing for the examination of linkages between stressor exposure and mental wellbeing (Aim 4). The layout of the study is shown in **Figure 1.**

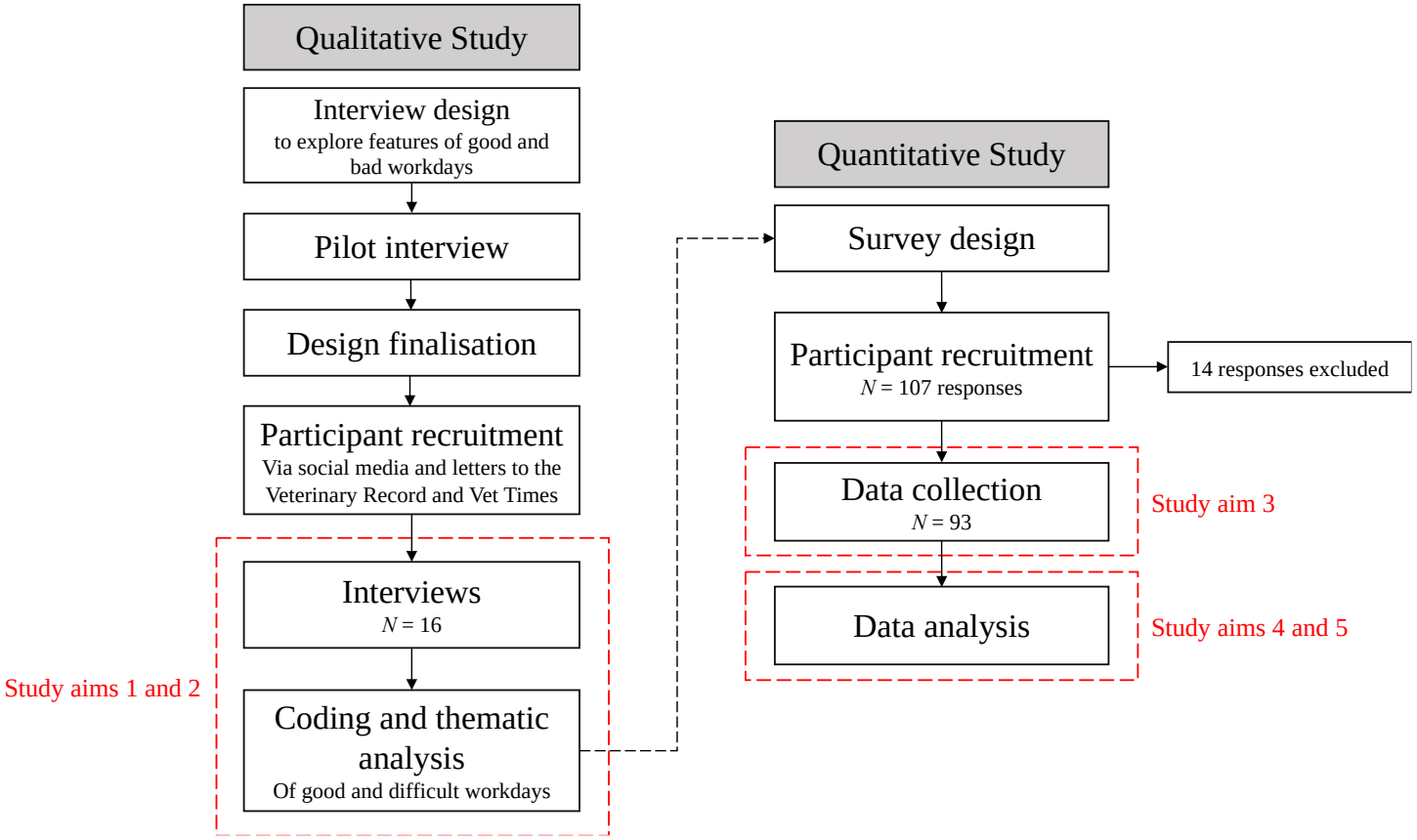
Qualitative-quantitative sequential mixed methods designs have found support in workplace health and wellbeing research (e.g., Houdmont *et al.,* 2021) because they facilitate a deep understanding of an often un(der)researched phenomenon while also generating evidence of the extent of said phenomenon. Mixed methods studies allow for the generalisation of qualitative findings and establishment of magnitude, trends, and potential causes and effects of these phenomena. They further represent a powerful facilitator of change to policies and practices for

the support of workplace health and wellbeing since “mixed methods combine the power of stories and the power of numbers…stories have the power to change policies, and statistics

Figure 1

Outline of the Structure of the Present Study

traditionally provide a strong rationale to make change" (Pluye and Hong, 2014).



2.2 Qualitative Study

The initial qualitative study addressed the first two aims of the investigation concerning the identification of psychosocial work characteristics that negatively impact the mental wellbeing of autistic veterinary surgeons (Aim 1) and identification of reasonable adjustments that employers could implement to support the mental wellbeing of autistic vets (Aim 2).

2.2.1 Participant Recruitment

Sixteen interviews were conducted in the first quarter of 2022. To be eligible to participate, individuals were required to (i) have a medical diagnosis of autism spectrum condition, (ii) be at

least two years post-graduation, and (iii) currently work in clinical practice in the UK or have experience working in practice in the UK within the last two years. Exclusion criteria included a diagnosis of any other neurodivergent condition (e.g., attention- deficit/hyperactivity disorder) and those that self-identified as autistic. These participants were excluded to ensure that the data collected on workplace stressors were exclusively related to the lived experience of autistic vets and ensure validity of the data collected. Concurrent neurodivergent conditions may interact with and potentially confound the interview results and reduce the certainty that the points raised were specific to autism. Participants were recruited via social media, with invitations to participate posted to several Facebook groups, including 'Neurodiverse Vets,' 'Vets Stay, Go, Diversify (VSGD),' 'Veterinary Voices', and 'Veterinary Spoonholders', as well as British Veterinary Ethnicity and Diversity Society (BVEDS) Facebook page. Recruitment letters were also published in the Veterinary Times and the Veterinary Record.

The number of interviews conducted was dictated by two factors. The first was pragmatic and reflected the number of eligible individuals that expressed an interest in participation. The second was scientific; the aim was to continue to conduct interviews to the point at which thematic saturation was achieved, i.e., the point at which additional interviews yielded little or no new information.

2.2.2 Interview Format

An interview proforma was developed to elicit information about aspects of the content and context of veterinary work perceived to have a positive or negative impact on mental wellbeing. The initial proforma was reviewed by several veterinary surgeons, including autistic individuals, with minor modifications to improve clarity and interview flow. A critical incident method (Woolsey, 2011) was used, which is defined as "a set of procedures for collecting direct

observations of human behaviour in such a way to facilitate their potential usefulness in solving practical problems and developing broad psychological principles" (Flanagan, 1954, as cited in Lewis *et al.*, 2010). The interview guide (**Appendix A**) focused on exploring the characteristics of a good day at work and a difficult day at work. Although the critical incident technique can be effective for the identification of issues considered important by the interviewee and allows for issues to be viewed in their context, there is a risk that memories of past events may not be reliable. To combat this, it is common in workplace critical incident studies to provide participants with information about the focus of the interview prior to interview (e.g., Lewis *et al*., 2010). Therefore, two days prior to the interview participants received an email prompting them to reflect on the characteristics or a good day at work and a difficult day at work.

The semi-structured interview guide presented questions in a fixed sequence while permitting the interviewer flexibility to explore the interviewees' lived experience further. Through detailed descriptions of these events, the interviews reflected the characteristics of a good day at work and a difficult day at work. The interview also examined workplace support and whether a disclosure of autism had been made to the employer.

Initial questions established participants' demographics: the type of practice they work in, how long they have been working in practice, when they received a clinical diagnosis of autism, and what led them to seeking a diagnosis. These questions also served as an 'icebreaker' and provided the interviewer with context to direct appropriate follow-up questions. Next, participants were asked to describe what would make a good day at work in general before being asked to recall a specific workday that they would define as good. They were then asked to describe a specific difficult day they had experienced at work and the events that caused them to perceive it in this way. Potential interventions were identified using the information collected

from these questions by generating solutions to the most common factors for difficult days. At the end of the interview, participants were given the opportunity to share any further pertinent information prior to being thanked for their time and reminded of how to obtain a summary of the study's results.

Most interviews were conducted via video call in Microsoft Teams. The MS Teams recording, and transcription functions were used to capture interview content; transcripts were manually checked against the video recordings for accuracy, with corrections made, as necessary. Prior to analysis, any identifying material was removed, and each transcript was allocated an identification number.

2.2.3 The Brief-COPE Inventory

Up to 48 hours before the interview, participants were also asked to fill out the Situational Brief-COPE (Coping Orientation to Problems Experienced) Inventory via Microsoft Forms. This is a 28-question self-report questionnaire designed to assess fourteen different adaptive and maladaptive coping mechanisms in response to difficult situations at work (e.g., *I look for something good in what is happening*, or *I use alcohol or other drugs to make myself feel better*) (Carver, 1997). Each statement is ranked on a 4-item scale of *I don't do this at all*, *I do this a little*, *I do this somewhat*, and *I do this a lot* (García *et al.*, 2018) (**Appendix B**). The measure was developed as a shorter version of the 60-item COPE Inventory (Carver, Scheier, and Wientraub, 1989) to combat the lack of engagement with longer questionnaires, and the internal structure was tested on people in severely stressful situations, namely those recovering from Hurricane Andrew in the USA in 1992. It has been used widely since its creation to assess coping strategies in different groups of individuals (Kato, 2015) due to its theory-based approach to numerous coping behaviours. The Brief-COPE inventory has also been used in wellbeing

research involving medical professionals (e.g., Abdul Rahman, Bani Issa and Naing, 2021) and its use can be extrapolated to veterinary professionals due to the similarity between workplace stressors. The Brief-COPE has been criticised for being highly variable in different languages and based on the version used (situational or dispositional coping) and has been identified to represent a somewhat simplistic approach to coping that has been replaced with more holistic approaches since its creation in 1997 (Solberg, Gridley, and Peters, 2022). However, the purpose of the inclusion of this questionnaire was to facilitate recall of difficult workdays and to provide the interviewer with background knowledge of the participants' coping strategies before the interview began, and therefore its limits as a measure of coping are not relevant to the present study. No analysis of the responses occurred as its only purpose was to facilitate understanding and orientate participants prior to the interviews.

2.2.4 Qualitative Data Analysis

Data were analysed in NVivo 12 (QSR International, 2020) using Braun and Clarke's (2006) method of thematic analysis that is commonly used in workplace health and wellbeing research to identify recurrent themes and sub-themes across transcripts, i.e., issues raised by and pertinent to multiple interviewees (e.g., Houdmont *et al*., 2021; Jachens *et al*., 2018). Two thematic analyses were conducted, one for characteristics of a good workday and another for characteristics of a difficult day.

Analysis was conducted by myself under the supervision of two academic veterinary surgeons and a workplace health and wellbeing research expert to provide a reliability check. Supervision consisted of focused discussions on data interpretation, thematic coherence, and the interrelationships between thematic entities. The analysis began with initial immersion in the

data; each transcript was read several times to establish familiarity with the data and noted work characteristics that might be of potential interest. A process of coding followed whereby the entire dataset was searched for words or phrases that reflected work characteristics experienced by autistic vets. From these codes, subsequent candidate themes were developed, i.e., broad organising concepts that unified codes which recurred in the data and had meaning in relation to the research questions. Next, candidate themes and sub-themes were reviewed across transcripts to ensure that they accurately reflected the data, before being defined and named.

2.3 Quantitative Study

The quantitative study addressed the third, fourth, and fifth aims of the investigation concerning the quantification of exposure to stressors identified in the qualitative phase as well as mental wellbeing (Aim 3) and examination of linkages between stressor exposure and mental wellbeing (Aim 4). In addition, the study supported the ranking of the potential efficacy of interventions that employers could take to protect and promote the mental wellbeing of autistic vets (Aim 5).

2.3.1 Participants and Procedure

Respondents were required to (i) have a medical diagnosis of autism spectrum condition or self-identify as autistic, and (ii) work or have worked in the UK within the last two years to be included in the data analysis. The inclusion criteria encompassed those that self-identified as autistic and/or had concurrent neurodivergent conditions to recruit as many people as possible. Further, since the aim of the survey was to examine the frequency of exposure to different stressors faced by autistic vets, the inclusion of self-identified autistic people and those with concurrent conditions was not considered likely to affect the outcomes. Participants were invited to complete the survey through a link posted several times throughout April and May 2022 to the Facebook groups ‘Neurodiverse Vets’, ‘Vets Stay, Go, Diversify (VSGD)’, ‘Veterinary

Voices', 'Veterinary Spoonholders', and the British Veterinary Ethnicity and Diversity Society (BVEDS) page. Letters promoting the survey were also published in the Veterinary Record and the Veterinary Times. Individuals that had participated in the earlier qualitative study were also invited to participate in the quantitative study. The survey was open for a period of eight weeks, with marketing activities occurring at regular intervals throughout this period.

Data were collected via a cross-sectional online survey hosted on the JISC Online Surveys (Jisc, 2021) platform. The cross-sectional study design involves collecting data to draw conclusions about a population at a given time and it is commonly used in workplace wellbeing research (Hall, 2008). Cross-sectional research designs make an important contribution to the exploration of new ideas owing to efficiencies in time and funding requirements and an ability to demonstrate the existence of relationships between variables, which itself is a crucial first step towards establishing a causal link (Spector, 2019).

2.3.2 Measures

2.3.2.1 Socio- and Occupational Demographics

The initial questions explored whether respondents had a formal diagnosis of autism; if the response was *no*, they were asked if they self-defined as autistic. This enabled the exclusion of responses by those who were not autistic. This was followed by the question, *have you disclosed your autism to your employer?* and a free-text option to provide reason for disclosure/non-disclosure. The survey also included a dichotomous item asking whether respondents had another neurodivergent condition and followed up with a multiple-choice question with the possible answers: *attention-deficit/hyperactivity disorder (AD[H]D)*, *dyspraxia*, *dyslexia*, *dyscalculia*, *obsessive compulsive disorder (OCD)*, *Tourette's Syndrome,* and *other*

(accompanied by a *please specify* question). Other basic demographic information, namely age and gender identity (*male, female, other,* or *prefer not to say*), were collected.

For occupational-demographic characteristics, respondents were required to indicate if they currently work in the UK or had done in the last 2 years and state the number of years elapsed since qualification. Information was collected on job categories (*companion animal, farm animal, equine, mixed [large only], mixed [companion and large], zoo, government, public health, veterinary education, research,* or *other*) with a *please specify* free-text option if they selected *other*; and how many hours on average they work each week, excluding out-of-hours commitments. The final demographic question, *have you left the profession?,* was followed with *if you selected yes, how long ago (in years) did you leave?* with the response options from *less than 1 year* to *20* years. Participants were then asked to state why they had left the profession using a free-text option.

2.3.2.2 Mental wellbeing

Mental wellbeing was assessed using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) (**Appendix C**) which was developed by the Universities of Warwick, Edinburgh, and Leeds in conjunction with NHS Health Scotland. A non-commercial user license was obtained for its use in the survey (registration ID: 552638164). The WEMWBS is a psychometric scale that contains 14 statements worded specifically to address aspects of positive mental health, covering multiple concepts within mental wellbeing, including positive affect, psychological functioning, and interpersonal relationships. The frequency of exposure to each thought or feeling is ranked on a 1-5 Likert-type scale from *none of the time* to *all of the time*. Example statements include *I have been feeling positive about the future, I've been dealing with problems well,* and *I've been feeling close to other people*. The outcome is a total of each

of the scores; the minimum scale score is 14 and the maximum is 70 and is used as a measure of mental wellness, not mental ill-health. The measure was developed by a panel of experts using theory and UK focus groups (Tennant *et al.*, 2007). Initial validity testing concluded that it is a reliable and psychometrically robust scale that produced similar results to other tools for monitoring mental wellbeing at the population level. During its development, the WEMWBS significantly correlated with other psychological wellbeing measurement scales throughout criterion validity testing and was found to have strong test-retest reliability (Stewart-Brown and Janmohamed, 2008). It covers both hedonic (the subjective experience and life satisfaction) and eudaimonic (psychological functioning and self-realisation) aspects of wellbeing, giving a broad insight into the respondents' mental wellbeing. Some items in the scale, such as those related to spirituality, are debated as to their usefulness within the UK population and there has been debate within the literature about some items showing gender and age variability (Marmara, *et al.*, 2022). Despite this, the WEMWBS has been used extensively in the veterinary literature to investigate the wellbeing of veterinary staff, indicating its usefulness in the present study in providing reliable mental wellbeing data (Bartram, Yadegarfar and Baldwin, 2009a; Bartram, Sinclair, and Baldwin, 2012; Mair *et al.*, 2020).

2.3.2.3 Generic working conditions

Themes identified from the initial interview study showed that autistic veterinary surgeons commonly experienced stress from exposure to numerous generic organisational stressors. Exposure to these generic stressors was assessed using the Management Standards Indicator Tool (MSIT) (**Appendix D**) that was developed by the UK Health and Safety Executive to aid organisations in psychosocial risk assessments and approach work-related stress at an organisation level (Health and Safety Executive, n.d., Houdmont, *et al.*, 2013). The 35-item instrument assesses exposure to seven dimensions of the psychosocial work environment

(demands, control, managerial support, peer support, relationships, role, and change) that can cause harm to employees and organisations if not effectively managed (Ravalier, McVicar and Minn-Giddings, 2013). These seven domains have a foundation in stress literature and content validity testing has shown the MSIT to be a psychometrically robust scale when tested against stress and health indices (Marcatto, *et al.*, 2014; Cassar, Bezzina, and Buttigieg, 2020). The domains are as follows:

Demands focuses on employee perceptions of workload, work patterns and the work environment. An example item is *I have unachievable deadlines*.

Control is measured by six items (e.g., *I can decide when to take a break*) to indicate how the employee perceives the amount of input they have in the way that they work.

Managerial Support is measured by items that reflect encouragement and resources provided by an employer. An example item is *I can rely on my line manager to help me out with a work problem.*

Peer Support assesses the respondent's perceptions of encouragement they receive from their colleagues (e.g., *My colleagues are willing to listen to my work-related problems*).

Relationships refers to whether employees feel that positive working relationships are encouraged and whether management resolve conflicts and penalises poor behaviour, for example, *I am subject to bullying at work*.

The *Role* sub-scale examines whether employees are clear on what their job role is and understand what is expected of them (e.g., *I am clear what my duties and responsibilities are*).

Change is the final work characteristic and measures how organisational change is communicated to employees and their perceptions of their involvement in the process of change. An example item within this scale is *staff are always consulted about change at work.*

The first 23 items are measured on a 5-item Likert scale of *never* (1), *seldom* (2), *sometimes* (3), *often (*4), and *always* (5). The remaining 12 items are given a 5-item scale of *strongly disagree* (1), *disagree* (2), *neutral* (3), *agree* (4), and *strongly agree* (5). Where necessary, positively framed items (e.g., *My working time can be flexible*) were reverse scored to ensure that low scores indicated high stressor exposure. The MSIT has been used extensively to investigate associations between job stressors and mental wellbeing (e.g., Houdmont & Jachens, 2021), and has been shown to be effective in predicting three work-related stress outcomes (self-reported stress, job satisfaction and job motivation) (Marcatto *et al.*, 2014).

2.3.2.4 Context-specific working conditions

Data generated from the initial interview study informed the generation of a list of common workplace conditions that may contribute to a good or a difficult workday. Statements were developed corresponding to the major themes and sub-themes which emerged from the interviews. The same question format as per the MSIT was used, whereby respondents were asked to rank the frequency of exposure to each working condition on a 5- item Likert-type scale of *never* (1), *seldom* (2), *sometimes* (3), *often* (4), and *always* (5). The option to give more detail was provided via a free text question which asked respondents to describe the most stressful aspect of their work and quantify the frequency of exposure to this aspect on the same 5-item Likert scale. The 25 items were:

My work environment contains noise and other distractions

My work environment is cluttered

I have a dedicated workspace

I am able to organise my work environment as I like

I am able to take breaks alone in a quiet place

I receive negative client feedback

I have to spend more time than I would like speaking with clients over the phone

I avoid social interactions with people at work

I feel isolated from the people I work with

I chat with colleagues about non-work matters

I prefer to communicate with clients if a colleague is present

I get interrupted by colleagues while I am trying to focus on a task

My colleagues understand my needs as an autistic person

My colleagues respect my needs as an autistic person

The people I work with make appropriate accommodations for my needs

I have time to decompress between interactions with clients

I have time to decompress between interactions with colleagues

I hide my autistic traits at work

I experience last-minute changes to my schedule

I am faced with unpredictable situations

I have difficult conversations with clients

I avoid euthanasia consults

I am able to compartmentalise when dealing with difficult cases

I undertake out-of-hours work

My professional competence is reflected by successful case management

2.3.2.5 Workplace interventions

Data on difficult workdays gathered from the critical incident study were used to create a list of

11 workplace modifications designed to support mental wellbeing. These were ranked on a dichotomous scale based on perceived acceptability of each intervention. In this case, acceptability was defined as how acceptable the intervention would be to the respondents' employers and colleagues, regardless of whether these were already present at their workplace. The interventions were:

Provision of a dedicated workspace (i.e., own desk or consult room),

A quiet workspace, or a workspace with adequate soundproofing,

Reduced on-call hours,

Ability to contact clients through your preferred communication style (e.g., email, phone, letter)

Time for sufficient and restful breaks,

Altered out-of-hours commitments,

Ability to reduce specific sensory challenges,

Neurodiversity and disability training for colleagues,

Meaningful mental health support through an employee assistance programme,

Reasonable control over your own schedule,

Participation in practice decision making.

2.3.3 Quantitative Data Analysis

2.3.3.1 Descriptive Statistics

Survey results were imported to IBM SPSS Statistics (Version 28) (IBM, 2021) and responses were excluded from further analysis if they indicated that the participant did not have a clinical or self-diagnosis of autism or did not work as a veterinary surgeon in the United Kingdom. Descriptive statistics (*N* and %) were generated for all socio- and occupational-demographic

measures (age, gender, job category, years since qualification, and average number of hours worked per week) as well as status of autism diagnosis and other concurrent neurodivergent conditions. Due to the lack of a direct comparison population (autistic veterinary surgeons in the UK), demographic data on the general veterinary population (RCVS Survey of the Profession, 2019) were used as a point of comparison for the demographics of the current study. Further descriptive statistics were obtained for wellbeing (mean WEMWBS score), proportions of respondents with possible or probable depression, mean scores for the generic workplace stressors (MSIT) and the context-specific stressors, and level of acceptability of each proposed intervention (Study Aim 5). These results were then compared to data, where available, from the populations that the survey respondents were drawn from.

2.3.3.2 Analytical Approach

To examine associations between exposure to workplace stressors and mental wellbeing (Aim 3), Pearson's correlations were conducted to identify which, if any, of the 7 generic job stressors measured by the MSIT were statistically significant and meaningful. Data were first assessed for normality using skew statistic and were found to be approximately normally distributed according to George and Mallery (2008) who state that a skew statistic of less than +2.0 or more than -2.0 reflects an appropriate degree of normality (George and Mallery, 2008). Further, context- specific stressors which correlated with mental wellbeing above Cohen's threshold for real- world relevance (±0.3) (Cohen, 1988), were included in subsequent regression analyses. Hierarchical multiple linear regression analyses were conducted to quantify which generic workplace stressors correlated the most with mental wellbeing (Model 1) and the additional effect of workplace stressors specific to autistic veterinary surgeons (Model 2) (Study Aim 4). There were no covariates that significantly correlated with mental wellbeing and therefore did

not need to be controlled for in the regression analysis. Finally, independent t-tests were applied to identify significant differences between the mental wellbeing of respondents who had a clinical diagnosis of autism and those who did not, and between the wellbeing of respondents with and without one or more concurrent neurodivergent conditions. Analyses were performed in SPSS (Version 28).

2.4 Ethical Considerations

Ethical considerations are essential in psychological research, and to a greater degree in the present research since it involved the potentially sensitive topics of autism, psychological wellbeing, and stress. The University of Nottingham's ethical procedures were considered throughout the course of the investigation. This involved obtaining ethical approval from The University of Nottingham Ethical Review Committee (ref. 3369 210430) for both the qualitative and quantitative elements of the investigation.

Informed consent is where the researcher provides sufficient information about the research to enable participants to decide if they wish to take part. For the qualitative study, consent was obtained by virtual signature via Microsoft Forms which provided a brief overview of the interview and the university's General Data Protection Regulation (GDPR) policy. Once the interviewees agreed to take part, they were able to ask the researcher any further questions regarding the project via email or at the start of the interview. In accordance with the university policy, participants reserved the right to withdraw consent at any time and confidentiality was assured through all identifying information being removed before sharing beyond the study team. Interview recordings and transcripts were securely stored via inbuilt encryption on Microsoft Teams and all other personal information was encrypted and destroyed at the end of

the study. The questionnaire provided important information at the start of the survey and obtained consent by clicking *next* to proceed, and all survey data obtained were anonymous.

3 Results

3.1 Qualitative Study

A total of 16 interviews were conducted, lasting between 20 and 49 minutes. The socio- and occupational-demographic characteristics of the interview participants are summarised in **Table 1.**

Table 1

Socio- and Occupational-Demographic Characteristics of the Interview Participants

	N (%)
Gender	
Male	3 (20.0%)
Female	12 (80.0%)
Job Category	
Companion animal	8 (53.3%)
Farm animal	2 (13.3%)
Equine	2 (13.3%)
Mixed	1 (6.67%)
Other	2 (13.3%)
Years in Practice	
≤9	3 (20.0%)
10-19	3 (20.0%)
20-29	5 (33.3%)
≥30	3 (20.0%)
Not Specified	1 (6.67%)
Years Since Diagnosis	
<1	5 (33.3%)
1-5	8 (53.3%)
6-10	0 (0.00%)
>10	2 (13.3%)
Not Specified	0 (0.00%)

3.1.1 Difficult Workdays

Through analysis of the individual statements collected during the coding stage (N = 323), 5 major themes were identified as contributing to a difficult workday for autistic vets. These major themes, and a total of 10 sub-themes, are summarised in **Table 2**.

Theme 1: Professional interactions

This major theme is separated into four sub-themes: *client behaviour, colleague behaviour, communication styles,* and *others' lack of awareness of autism.* The theme was defined as any communication or interaction that occurs during the workday with both colleagues and clients, and the interviewees' perceptions of these interactions. When discussing difficult workdays, many interviewees described difficulties with interacting with each other; increasing their stress levels and making it more difficult to cope with other stressors in veterinary practice.

Sub-theme 1: Client behaviour includes situations where participants found that their clients' actions increased stress levels at work. It includes mentions of unpleasant behaviour and client complaints and intersects with the sub-theme of *others' lack of awareness of autism.* An example response from interview 7 below exemplifies this:

> Instead of chatting and pondering, I just get the dog and take it out and then vaccinate it, plop it back out for them and get on to the next one. And there are some people who really, really don't like that, and have complained and made proper complaints. And that's really upsetting because it feels very unjustified. *(Small animal vet, female)*

Table 2

Top-Level Themes and Sub-Themes Relating to a Difficult Workday, Including the Number of Respondents Who Mentioned Each Theme One or More Times and the Total Number of Referenced Statements.

Themes and Sub-themes	Description	Example quote	No. respondents mentioning this theme	Total statements mentioning this theme
Theme 1: Professional Interactions	Interactions with colleagues and clients that impact the workday.	*I've seen myself leaving the career just from some days of non-stop talking and interactions.*	**15 (100%)**	**112 (37.7%)**
Sub-theme 1: Client behaviour	Incidences where the actions of the clients cause feelings of stress.	*I guess [clients] being difficult or challenging me, or confrontational, that makes it more difficult and more stressful for me.*	9 (60.0%)	20 (6.73%)
Sub-theme 2: Colleague behaviour	Incidences wherein the behaviour of colleagues impact the workday.	*It's a communication with colleagues thing, and anxiety about communication with colleagues, whereas I don't have that at all with clients.*	14 (93.3%)	40 (13.5%)
Sub-theme 3: Communication styles	Differences in communication styles between participants and their clients and colleagues and difficulties with these differences.	*My nightmare would be our lunch break with everybody in the same room chatting away. I mean, I would be very stressed if that were to happen.*	14 (93.3%)	51 (17.2%)
Sub-theme 4: Others' lack of awareness of autism	Both colleagues' and clients' lack of understanding and awareness of autism leads to a sense of 'otherness.'	*Most people seem to think that my being autistic was something I should hide, and I found that really frustrating because I can't be supported unless people know.*	9 (60.0%)	19 (6.40%)
Theme 2: Feeling out of control	Lack of control over the workday.	*If I'm talking about bad days, it's when it's full-on constant stress, constant stuff, the whole day just feels like you're not done and it's just a little overwhelming.*	**14 (93.3%)**	**65 (21.9%)**
Sub-theme 1: Time pressure	Feeling rushed or pressed for time and changes to the schedule	*I get frustrated when things are expected of me in time that I don't have to give because that will stress me out.*	14 (93.3%)	56 (18.9%)
Sub-theme 2: Unpredictability	Unpredictable situations that cause unease.	*You think you can do something and then suddenly someone rings up and changes the day completely on its head and it might be something that is unpredictable.*	11 (73.3%)	31 (10.4%)
Theme 3: The physical environment	How the physical environment affects the workday.	*Trying to find somewhere that's decent to sit that's not cold or wet or has wasps or has a phone or that has people running past all the time just makes things worse.*	**13 (86.7%)**	**37 (12.5%)**
Sub-theme 1: Sensory overload	Overwhelming sensory input in a practice environment.	*But background noise, dogs barking and lack of quiet sometimes I think is just one of those things that kind of eats away underneath.*	12 (80.0%)	35 (11.8%)
Sub-theme 2: Surroundings	Organisation and layout of the surroundings.	*I find it really sort of discombobulating when things aren't quite in the right place.*	10 (66.6%)	15 (5.56%)
Theme 4: Role-specific challenges	Situations that are a normal aspect of veterinary medicine but are still challenging.	*A difficult day for me at work would be those high stakes, high pressured moments that are inevitable.*	**8 (53.3%)**	**45 (15.2%)**
Sub-theme 1: Emotionally challenging situations	Emotionally charged clinical cases.	*You feel like, you know, you're just Doctor Death.*	7 (46.7%)	26 (8.75%)
Sub-theme 2: Aspects of veterinary practice	Typical aspects of practising veterinary medicine which increase stress levels.	*I find on-call quite difficult because it's obviously unplanned and in the middle of the night.*	4 (26.7%)	20 (6.73%)
Theme 5: Self-doubt	Feelings of inadequacy and imposter syndrome.	*Going home from work, and thinking the job is not compatible with me as a human being and that somehow, I am a massive failure.*	**6 (40.0%)**	**16 (5.39%)**

Sub-theme 2: Colleague behaviour is similar to sub-theme 1 but it describes how the actions of the participants' colleagues increased their stress levels. Relationships and interactions with colleagues were reported to have a greater impact on their stress levels than interactions with clients; both the interactions colleagues have with each other and their behaviour towards the participants were mentioned.

> My take on most of the people, neurotypicals if you like, is that they spend a lot of time trying to score points off each other and I just can't get my head around that. Also, if there's a lot of that going on, it just makes me very uneasy. *(Mixed practice vet, male)*

Another factor in the sub-theme of *colleague behaviour* is unnecessary interruptions, which were reported by multiple interviewees to increase their stress levels. This was illustrated by the quote from interview 7:

> I'm quite bad with getting interrupted all the time […] if it's just some random stuff that could have waited till the end of consults, I've lost my train of thought. And I find it quite difficult being dragged away to go and do something different. *(Small animal vet, female)*

Sub-theme 3: Communication styles emerged as an important element since numerous interviewees discussed stressful situations that were exacerbated by differences in communication styles. Phone consultations were a major concern for the interviewees, and were described as a significant factor leading to difficult workdays, as shown by the extract below:

> I really, really hate speaking on the phone. I just about manage to hold it together at work, but if I'm trying to make calls then I can end up just in tears and like a complete mess from it. I had to make an official call yesterday and I was like shaking for half an hour. (*Small animal vet, female)*

The differences in communication styles and the difficulties with communication that are faced by autistic veterinary surgeons link with the minor themes *colleague behaviour* and *others' misunderstanding of autism*. Needing to be alone and not feeling able to engage in small talk are characteristics common to autistic people and this was often reported to be misunderstood by the participants' colleagues, an example of this is shown below:

> There are other days when they're all talking about what they're going to do on the weekend, and they're all going to go to a party. And I end up going I don't have anything in common with them sometimes, and it's hard to feel like part of the team when you're not in certain ways. (*Small animal vet, female)*

Sub-theme 4: Others' misunderstanding of autism was identified as an important element within the overarching theme *Professional interactions* as there were some (N = 19) reports of managers and colleagues not understanding or being ignorant of the participants' autistic traits and specific needs. A quote from interview 2 exemplified this:

> The worst days are when I open up to my colleagues about how hard a particular thing was, and then they brush it off. (*Small animal vet, female)*

Theme 2: Feeling out of control

This overarching theme consists of two sub-themes: *time pressure* and *unpredictability.* There are many unpredictable elements intrinsic to life in veterinary practice, for example, emergencies or case management not going as planned, however, this lack of control was found to increase stress levels.

Sub-theme 1: Time pressure was defined as feeling rushed during the day. The majority (N =

14) of the participants identified this as a substantial source of stress. The extract below exemplifies this:

> If I'm talking about bad days, it's when it's full-on constant stress, constant stuff, the whole day just feels like you're not done and it's just a little overwhelming that way. (*Small animal vet, female*)

In addition, there were cases where the participants mentioned how their colleagues did not understand how long it took for certain procedures or activities to take, which added to the pressure. The quote below illustrated this:

> I suppose things where there's lots of things piling up for the vet to do and other people don't seem to realise how long each thing seems to take and they're pressurising you to do three things at once. (*Equine vet, female*)

Over half (N = 9) mentioned that their most difficult days often did not include a lunch break, or at least not a restful one, as demonstrated by the following extract:

> I tend to skip lunch a lot because it's just too much to do, you know, phone calls, writing up cases. It just takes too much time and most of them don't put them in the diary properly, so I skip lunch, stay late, trying to finish everything off. (*Mixed practice vet, male*)

Further, this sub-theme intersects with the theme of *client behaviour,* as there were reports of clients turning up late for appointments that resulted in the schedule shifting for the rest of the day, as illustrated by the quote below:

> They turned up half an hour late into this 45-minute appointment and they were very angry that we said, you know, we're sorry we can't give you the value for the service that you need. (*Small animal vet, female*)

Sub-theme 2: Unpredictability was identified as an important sub-theme through reports of uncertain situations causing the participants to feel anxious, as displayed by the extract below:

> When you're on a farm, a different farm every day and sometimes you don't have much control over what's happening, although you're supposed to be in charge, so you have to adapt to a new set of circumstances every time you arrive on a farm, so that's a bit unsettling. (*Mixed practice vet, male*)

In general, people expressed that not having control over situations made their workdays more challenging, as demonstrated by this quote:

> I think the most important thing is having that control over what happens. When things go wrong, I don't have control over what happens, particularly if someone is trying to make me fit to a pattern that somebody else fits, and I don't, that causes a lot of anxiety, and that anxiety means that it's very easy to just tip off and everything goes wrong. (*Small animal vet, female*)

Theme 3: The physical environment

The major theme, *the physical environment,* consisted of two minor themes which were *sensory overload* and *surroundings.* This also intersects with theme 2, *feeling out of control*, as chaos and disorganisation in the participants' environments increased feelings of a loss of control.

Sub-theme 1: sensory overload includes factors relating to sensory overstimulation, which is a difficulty faced by many autistic people. The main factors mentioned were noise and strong smells, the most pertinent being noise, specifically repetitive noises such as beeping machines

or phones ringing. Everyone who mentioned this (N = 13) indicated that they could not focus on what they were doing while there were repetitive noises occurring in the background, for example:

> It's not just an autism thing but compounded with phones and fuzzy lights and cold and echoes and bangs, it just reduces your tolerance of things. Other days you roll your eyes and go, yeah, whatever, but because everything else just stacks on top of each other it just overwhelms you a bit. (*Small animal vet, female*)

This sub-theme also intersects with the theme of *professional interactions* as some people found that their colleagues or clients being 'chatty' or there being a lot of 'chaos' significantly increased their stress levels. An example of this can be found in the extract:

> I do find it very difficult, which is ironic because I'm talking like an idiot, but clients who cannot shut up. They put their dog on the table, I think they think they're not alive unless they're talking. I just need, tell me what's wrong and explain everything, a little bit of peace while I figure out what's going on. (*Small animal vet, male*)

Sub-theme 2: Surroundings involved mentions of the cleanliness and organisation of the participants' physical environments. For example:

> Recently the nurses reorganised one of the surgery rooms and put everything in bins, and I can't find anything now and they keep saying oh no, it'll be fine you know you get used to it. I'm going, it's been three months now, I still can't find anything because you hid it all. Then you didn't label the drawers. (*Small animal vet, female*)

In addition, the layout and organisation of the practice itself was found to increase feelings of stress at work by some interviewees. This relates to major theme *Professional interactions*

because if there is poor environmental organisation, people may not find proper places to have a break or find that they need to be in a busy area while trying to work, as shown by the extract below:

> It's difficult, we've got quite a small staff room and if there's more than three people in there, I don't stay, so I'll go back up and I work through [my lunch break] in front of my computer. And I can't do the chit chat stuff. I can talk work, but I can't do the gossipy stuff. (*Small animal vet, female*)

Theme 4: Role-specific challenges

This theme is made up of two sub-themes: *emotionally challenging situations* and *aspects of veterinary practice.* There are many aspects of veterinary practice which are unavoidable, yet these play a key role in job stress. This theme intersects with the themes of *Professional interactions* and *Feeling out of control* as these contain job elements that are unavoidable, however, this theme encompasses the elements that make up the core of veterinary practice, mainly working with patients.

Sub-theme 1: emotionally challenging situations was identified from the data as several ($N = 9$) interviewees mentioned difficult cases when discussing stressful workdays. Emotionally challenging cases are defined here as situations where cases do not go to plan or cases that end with the animal dying, for example:

> Dealing with animals that aren't doing well and the emotional toll that that takes, euthanasias and the rest of it. That would be a bad day. (*Small animal vet, female*)

In addition to the personal impacts of a difficult case, challenging cases also increase stress amongst colleagues, as exemplified below:

> […] It ended up with the nurse crying because she felt so compromised about the welfare of this foal and I'm then trying to keep the nurse calm saying it's OK, you can't help this, this is the situation we're in, it's not our fault, but at the same time, feeling exactly the same way as this nurse. (*Equine vet, female*)

Participants also explained that they felt emotionally exhausted after a tough case due to having to compartmentalise their emotions on top of camouflaging their autistic traits:

> I think a difficult day for me at work would be those high-stakes, high pressured moments that are inevitable that people think I seem very calm and very relaxed and very professional, but in reality, I find them very, very difficult. (*Equine vet, male*)

Sub-theme 2: Aspects of veterinary practice refers to features of practising veterinary medicine that the participants found difficult. The situations mentioned were out-of-hours commitments, difficulties with using equipment and dealing with difficult patients. For example:

> We couldn't get [the x-ray machine] to work and so then I get really, really stressed because this is a sick foal which is getting sicker by the minute, we're getting massively delayed 'cause equipment doesn't work. The nurse doesn't know how to get the equipment to work and then we have to call another vet in, the vet doesn't know it doesn't know why it's not working so we try for like probably an hour to take this x- ray, and end up having to get second x-ray machine in, take an x-ray and we can't get the factors right 'cause nobody knows what factors we should we should be using so all the time my stress is getting higher and higher and higher. (*Equine vet, female*)

Theme 5: self-doubt

Although mentioned by fewer participants ($N = 7$) than other themes, this was identified as an important theme as feelings of inadequacy and imposter syndrome can be very distressing and

may act as a factor in someone's decision to leave the veterinary profession. This theme was not split into sub-themes as all relevant references within the dataset reflected similar experiences of self-doubt.

Several interviewees described feelings of 'imposter syndrome' which is where high-achieving individuals fail to accept their accomplishments, despite their success, and experience consistent feelings of self-doubt (Bravata *et al*., 2020). The extract below reflects this:

> I ended up putting the horse asleep, but in a very suboptimal manner, so not managing to hit the vein consistently, the horse not dying within an appropriate amount of time, having to use repeat medication, so knowing that these kinds of very small one-off incidents can have a huge impact on my feelings and my confidence. (*Equine vet, male*)

In addition to doubting their professional abilities, several people described situations where they found themselves dwelling on what their colleagues have said and thinking that they were in the wrong:

> This is how my day goes, because every interaction with every individual is analysed and processed to determine whether I may or may not have done something to annoy or upset them, and so this is quite exhausting, mentally, this is a huge cognitive load that goes on. (*Small animal vet, male*)

3.1.2 Good Workdays

Analysis of participants' responses to being asked about what made a good workday led to the identification of 4 overarching themes and 8 sub-themes from 169 individual references, which are summarised in **Table 3.**

Theme 1: Positive interactions

This major theme was separated into two sub-themes which were *connecting with colleagues* and *good client interactions*. All 15 participants referred to the importance of positive communication and good relationships with both their clients and colleagues when discussing good workdays. Most people addressed how having 'safe' interactions and feeling 'comfortable' around certain colleagues reduced their levels of stress in the workplace.

Sub-theme 1: connecting with colleagues was identified as an important factor for reducing stress. It was found that most people felt less stressed at work when they could talk easily and freely to their colleagues and were able to connect with them.

> It's nice when I get a chance to talk to my team during the day and I feel like I'm part of the team as opposed to watching from the outside, so a good day's when the communication happens and is easy and I'm not feeling constantly like I'm having this speak another language to get them to understand what I'm asking or saying. (*Small animal vet, female*)

Similarly, participants mentioned how they preferred interactions with people when they were talking about work or teaching, as illustrated below:

> I'm not very social, I don't really know how to talk to people in terms of chit chat, but I know how to talk about animals and I know how to talk about medicine and I'm good at that so it's nice if I have a vet student I can go over cases, or where there's one of the young vets that I can help with one of their cases because then I get some human interaction, but in a way that I don't find awkward. (*Small animal vet, female*)

Table 3

Top-Level Themes and Sub-Themes Relating to a Good Workday, Including the Number of Respondents Who Mentioned Each Theme One or More Times and the Total Number of Referenced Statements.

Themes and Sub-themes	Description	Example quote	No. respondents mentioning this theme	Total statements mentioning this theme
Theme 1: Positive Interactions	Positive communication and forming strong relationships with colleagues and clients.	*Social interactions have always been a real problem for me but as a vet it's professional, it's much easier than social interaction.*	**15 (100%)**	**51 (32.5%)**
Sub-theme 1: Connecting with colleagues	Feeling part of the team and being able to connect with colleagues without feelings of social pressure.	*It's nice when I get a chance to talk to my team during the day and I feel like I'm part of the team as opposed to watching from the outside.*	14 (93.3%)	36 (22.9%)
Sub-theme 2: Good client interactions	Easily and successfully communicating with clients during consultations.	*The clients were all quite amenable. Everything was done in a good-natured manner, there's no nastiness, no criticism, no recrimination, or anything.*	11 (73.3%)	16 (10.2%)
Theme 2: Feeling in control	Feeling in control over situations at work and emotional regulation.	*A day where everything goes to plan, where what walks through the door is roughly what you're expecting.*	**14 (93.3%)**	**63 (40.1%)**
Sub-theme 1: The physical environment	Having control over the working conditions and organisation of the physical environment.	*I think controlling my environment makes a big difference. When I come in, I'll just tidy things up, then I don't have to think about them.*	8 (53.3%)	17 (10.8%)
Sub-theme 2: A touchstone amidst the chaos	Predictable and structured elements of the workday acted as a touchstone to help cope with difficult situations.	*Vet medicine is never going to be predictable but keeping some things steady as a touchstone helps me at least deal with the chaos of the rest of the day.*	14 (93.3%)	48 (30.6%)
Theme 3: Having enough time	Having time for restful breaks and to thoroughly complete any work.	*I have enough time to think about things properly, and I don't feel time pressured.*	**13 (86.7%)**	**41 (26.1%)**
Sub-theme 1: Time for breaks	Any break during the day away from work or social pressure.	*I might just need a bit of time away from everyone else in order to recharge so that I can put on a front for clients to act like a human.*	11 (73.3%)	22 (14.0%)
Sub-theme 2: A steady pace	Having enough time to do tasks properly without pressure from being rushed or over-booked.	*Not having other demands put on my time, having the time to do stuff, I took a lot longer to do stuff in practice than other people 'cause I did them really thoroughly.*	11 (73.3%)	20 (12.7%)
Theme 4: A sense of achievement	Feelings of success and self-worth.	*You get home and you feel like you've done it, you've done a good day's work.*	**11 (73.3%)**	**32 (20.4%)**
Sub-theme 1: Making a difference	Making a positive difference to the lives of clients and patients.	*Save some animals or make some animals feel better, or even end some lives really nicely so that the owners are going to remember that it was a beautiful death.*	6 (40.0%)	8 (5.10%)
Sub-theme 2: Feeling accomplished	Successfully ending an exciting or challenging case and feeling accomplished	*A day where it's absolutely manic, but you've coped with it and you go home, you're tired, but you've got that positive 'yes, we did it' type attitude.*	11 (73.3%)	27 (17.2%)

Sub-theme 2: good client interactions intersects with the previous sub-theme of *connecting with colleagues* as many participants attributed similar reasons for a good interaction with clients as with colleagues. Interviewees described how they felt safe when communicating with

clients as they are the professionals; the interactions are structured and therefore less anxiety-inducing, as shown here:

> I'm much more comfortable with communicating with clients, and I think it's because I'm in the role of the vet […] and automatically that puts me in much more confident footing. (*Mixed practice vet, male*)

The quote below illustrates how having a nurse in the consultation to handle the emotional side enabled the veterinary surgeon to feel more able to practice medicine:

> It's helpful to have nurses in, I have the communication skills of a cat and I know that. Sometimes with [put to sleep] I bring a nurse in to do the emotional bit and they can kind of do the client bit that I'm not very good at, so they'll pick up much easier if the client needs a pat on the back or wants to talk about something, or doesn't want to talk about something, whereas I tend to blunder into stuff. (*Small animal vet, male*)

Theme 2: Feeling in control.

Another overarching theme relating to good workdays is a feeling of control which is made up of 2 sub-themes: *the physical environment* and *a touchstone amidst the chaos*. Despite this being a broad theme, there is a clear common theme within the data of preferring consistency, routine, and a sense of control.

Sub-theme 1: The physical environment describes the participants' preferences for a clean and organised practice environment because it enabled them to be able to cope with other stressful

elements of their days.

> I think controlling my environment to a degree makes a big difference. So, when I come in, I'll just tidy things up, clean things, nothing drastic […] but all of those things mean then I don't have to think about them. (*Small animal vet, female*)

Sub-theme 2: A touchstone amidst the chaos describes how most interviewees felt that being able to control what is happening allows them to do their jobs more efficiently. The ability to control certain aspects of their days such as their interactions with their colleagues, their timetables, and having some predictable, routine cases allows them to manage the stress created by everything else. The excerpt below demonstrates this feeling:

> Vet medicine is never going to be predictable but keeping some things steady as a touchstone helps me at least deal with the chaos of the rest of the day. And some of the chaos is expected, it's always going to be there, but if we keep the rest of the things consistent and or planned, then that helps a huge amount. (*Small animal vet, female*)

Theme 3: Having enough time

This theme was identified as an overarching theme due to how often it was mentioned by the participants; it was also emphasised by several people as being the most important factor for a good day at work. This major theme consists of two sub-themes: *time for breaks* and *a steady pace*.

Sub-theme 1: Time for breaks illustrates how valuable time off during the workday was for reducing the participants' stress levels, as indicated by the following extract:

> I think it's really important that I get breaks. I think a worse day is one where I'm just on my feet the whole time and I never get to stop like I find I'm really frazzled and off by the end of the day when that happens. (*Small animal vet, female*)

Farm and equine veterinary surgeons felt similarly about their journeys in between visiting clients, as exemplified an extract shown below:

> You've obviously got the decompression time in the car as well […] I use that time when I'm driving between calls just to switch off because if I have two calls that are only five or ten minutes apart, I find those days really intense and really tough. (*Farm vet, female*)

Sub-theme 2: Working at a steady pace displays how having enough time to properly work on cases and consult with other vets if needed was identified as a source of reduced stress. A principal element within this sub-theme is understanding and being in control of the schedule, without too many interruptions or extra cases. An example of this is shown in the following excerpt:

> Not having other demands put on my time, having the time to do stuff, I took a lot longer to do stuff in practice than other people 'cause I did them really thoroughly. (*Equine vet, female*)

Theme 4: A sense of achievement

Theme 4 was separated into two sub-themes, which were *making a difference* and *feeling accomplished. A sense of achievement* describes how the participants recalled feelings of achievement and self-worth that played an important role in their good days at work.

Sub-theme 1: Making a difference contains instances where the participants felt that solving a

good case or helping the lives of animals and clients made them feel as if they had ‘made a difference’ in a positive way. These feelings were found to be associated not only with saving lives but also with giving some animals a ‘beautiful death’ through euthanasia. This is illustrated below:

> I was doing pregnancy diagnosing, per-rectum, taking blood samples, and dehorning. Everything pretty much went according to plan and the animals didn't experience any discomfort. So, the analgesia worked. That gives me quite a good feeling, a fulfilling feeling of satisfaction, like I made a difference. (*Mixed practice vet, male*)

Sub-theme 2: Feeling accomplished is comparable to sub-theme 1 but involves the participants’ feelings of achievement after an exciting or challenging case. It shows that the act of acknowledging that they had done something well allowed the participants to enjoy their work more and reduced feelings of imposter syndrome. The quote below demonstrates how completing a challenging task is fulfilling and makes a positive impact on his work life:

> We all like to feel that we're kind of having an impact, a positive impact in the role that we're doing, and inevitably when we’re pushed to have to perform better, we often perform at our best, and that's rewarding. (*Equine vet, mal*e)

3.2 Quantitative Study

3.2.1 Descriptive Statistics

3.2.1.1 Socio- and Occupational-Demographic Characteristics

A total of 107 surveys containing responses were submitted; 14 responses were excluded since the participants did not have an autism diagnosis or self-identify as autistic, did not work in the UK, or

had left the profession. This left 93 responses that were suitable for analysis. In the current investigation, I did not have access to the demographic characteristics of the population from which the sample was drawn (i.e., autistic veterinary surgeons in the UK) so the demographic data is compared to the general UK population of veterinary surgeons reported in the RCVS 2019 Survey of the Veterinary Profession (Robson *et al.*, 2019). The socio- and occupational- demographic characteristics of the sample in comparison to the UK veterinary population are outlined in **Table 4.**

Table 4

Survey Respondents' Socio- and Occupational-Demographic (*N* = 93) Compared to the UK Veterinary Profession

	Survey Respondents N (%)	*UK Veterinary Profession (2019) %*
Gender		
Male	10 (10.8%)	41.5%
Female	79 (84.9%)	57.4%
Other	3 (3.2%)	1.1%
Not specified	1 (1.1%)	
Age		
<30	15 (16.1%)	15.3%
30-39	32 (34.4%)	28.4%
40-49	27 (29.0%)	22.0%
≥50	19 (20.4%)	34.4%
Job Category		
Companion Animal	69 (74.2%)	52.6%
Farm Animal	6 (6.5%)	3.2%
Equine	2 (2.2%)	5.5%
Mixed (Equine and Farm)	1 (1.1%)	-
Mixed (Companion and Large)	3 (3.2%)	11.7%
Zoo	0 (0.0%)	0.7%
Government	1 (1.1%)	5.3%
Public health	0 (0.0%)	-
Veterinary Education	3 (3.2%)	5.9%
Research	1 (1.1%)	-
Other	5 (5.4%)	15.0%
Not specified	2 (2.2%)	-

Years Since Qualification		
≤9	31 (33.3%)	30.0%
10-19	27 (29.0%)	25.4%
20-29	27 (29.0%)	17.4%
30-39	8 (8.6%)	14.4%
≥40	0 (0.0%)	12.8%
Not specified	0 (0.0%)	
Average No. Hours Worked Per Week (excluding out-of-hours)		
≤18	1 (1.1%)	
19-28	15 (16.1%)	
29-38	23 (24.7%)	
39-48	35 (37.6%)	
≥49	16 (17.2%)	
Not specified	3 (3.2%)	

Note. Comparison data drawn from the RCVS Survey of the Profession (2019) that reported data as percentages only (*N* = 10,279)

Differences between the present sample and the RCVS 2019 survey sample were observed for gender; the current survey was 10.8% male, 84.9% female, and 3.2% other where the general population reported being 41.5% male, 57.4% female and 1.1% other. Further, there was a noticeable difference between the reported job categories, with the current study having a 74.2% majority of companion animal vets, compared to 52.6% in the general population, and an under-representation of equine and mixed species veterinary surgeons (2.2% and 3.2%, respectively) compared to the RCVS survey sample (5.5% and 11.7%, respectively). The differences in respondent demographics may indicate a response bias towards females and companion animal veterinary surgeons. However, these differences may, instead, indicate that there is a greater number of autistic females in the veterinary profession, or that companion animal practice is more common amongst autistic veterinary surgeons. Furthermore, there was a greater representation of respondents who selected 'other' in the gender category (*N* = 3, 3.2%) compared to the UK veterinary population (1.1%), which may be reflective of the increase in gender variance within the autistic community (George and Stokes, 2018). This may, instead, be reflective of recent societal changes concerning gender identity which have led to an improved

understanding of different genders. The working hours of the UK veterinary profession were not reported in categories in the RCVS survey, however, the mean number of hours worked was 37.8 hours, whereas it was 39.0 for the sample of the current survey. The small sample size in the present study and the absence of data on the population from which my sample was taken prevent any firm conclusions about these differences from being drawn.

Just under a quarter (*N* = 23, 24.7%) of the survey respondents reported that they had an official clinical diagnosis of autism and 75.3% (*N* = 70) were self-diagnosed or self-defined as autistic. Further, 35.4% reported having a clinical diagnosis or self-diagnosis of one or multiple concurrent neurodivergent conditions, with the most common being attention-deficit/hyperactivity disorder (AD[H]D) (*N* = 21), followed by dyslexia (*N* = 10), obsessive-compulsive disorder (OCD) (*N* = 7), dyspraxia (*N* = 5), and dyscalculia (*N* = 4). Another 8 respondents selected *other*, one stating they had potential AD(H)D and were seeking a diagnosis and one attention-deficit disorder (ADD), which were added to the pre-existing category for AD(H)D. Further, one respondent reported pathological demand avoidance (PDA) which is a presentation within autism so was removed from further comorbidity analysis and the remaining 5 respondents that selected *other* reported having post-traumatic stress disorder (PTSD), borderline personality disorder (BPD), and depression and anxiety comorbid to autism, all of which are not classed as neurodivergent conditions, so they have been excluded from further comorbidity data analysis. These data are shown in **Table 5.** There are no data on co-occurring neurodivergent conditions available for the UK veterinary population or the general population so no comparisons can be drawn between the sample and the population from which it was drawn.

Table 5

Prevalence of Autism and/or Another Concurrent Neurodivergent Condition (*N* = 93)

	N (%)
Diagnosed Autism	23 (24.7%)
Self-Defined Autism	70 (75.3%)
Other Neurodivergent Condition[a]	33 (35.4%)
AD(H)D	23 (24.7%)
Dyspraxia	5 (5.4%)
Dyslexia	10 (10.8%)
Dyscalculia	4 (4.3%)
OCD	7 (7.5%)
Tourette's Syndrome	0 (0.0%)
Other	0 (0.0%)

[a]Frequencies sum to greater than the total since respondents were able to select multiple answers.

AD(H)D Attention-Deficit/Hyperactivity Disorder

OCD Obsessive-Compulsive Disorder

3.2.1.2 Mental Wellbeing

The sum score on the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) was normally distributed (skew = 0.26). Scores for the current sample compared to UK veterinary surgeons (Robinson *et al.*, 2019; Mair *et al*. 2020), autistic adults (Arnold *et al.*, 2020), and the general UK adult population (NHS Digital, 2016), are presented in **Table 6.** The proportion of respondents in my survey with either possible or probable depression is also reported. A WEMWBS total score of 41-44 indicates possible depression and a score of ≤40.0 indicates probable depression (e.g., Bianca, 2012). The mean score for the current survey was *M* = 39.0 (*SD* = 8.68), with 17.3% (*N* = 16) showing possible depression and 57.0% (*N* = 53) showing probable depression, based on mean WEMWBS scores. The remaining 24 respondents (25.8%)

showed mean scores of ≥45 which indicates good mental wellbeing. A score of 60.0-70.0 would indicate excellent well-being (Warwick.ac.uk, 2022). None of the participants in this study scored within this category. Data on probable and possible depression are not available for the other populations and therefore no such comparisons are drawn in Table 6.

Table 6

Mental Wellbeing.

	Current Study	UK Veterinary Surgeons		Autistic adults	UK general adult population
		Survey of the profession (2019)	Mair *et al.* (2020)	(Arnold *et al.*, 2020)	(HSE Survey for England, 2016)
Sample size *N*	93	10,279	451	137	6,936
Total WEMWBS Score *M* (*SD*)	39.0 (8.68)	47.7	47.2	36.2 (9.25)	49.9
Skew	0.26	-	-	-	-
Proportion of respondents with possible depression *N* (%)	16 (17.2%)	-	-	-	-
Proportion of respondents with probable depression *N* (%)	53 (57.0%)	-	-	-	-

SD standard deviation,

M mean total WEMWBS score

The respondents to this survey (autistic veterinary surgeons) scored lower (39.0) than the general UK veterinary profession (47.7, 47.2) (Robinson *et al.*, 2019; Mair *et al.*, 2020) and the UK adult population (49.9) (HSE Survey for England, 2016), all of which fell above the threshold for good mental wellbeing. Autistic vets had generally better mental well-being compared to autistic adults (36.2) (Arnold *et al.*, 2019); however, this figure may be lower than expected since the

sample in the study by Arnold and colleagues (2019) reported WEMWBS scores from autistic individuals *with* a self-reported diagnosis of depression. The mean score and standard deviation were also reported for autistic adults *without* depression (N = 195) which were 43.96 and 9.44, respectively.

3.2.1.3 Generic Job Stressors

Descriptive data for the responses to the Management Standards Indicator Tool (MSIT) are presented in descending order of exposure in **Table 7**. Findings are also compared to the UK veterinary population in 2007 (N = 1,796) (Bartram, Yadegarfar, and Baldwin, 2009b). In addition, the Cronbach's alpha coefficient is given for each MSIT sub-scale. An alpha coefficient of $\alpha \geq 0.7$ indicates acceptable scale reliability (Bland and Altman, 1997). The skew statistic for each sub-scale is also included.

Table 7

Generic Stressor Exposures: Mean Scores, Standard Deviations, Alpha Coefficients and Skew.

	Current Survey M (SD)	*UK Veterinary Population M*	*α*	*Skew*
MSIT Sub-Scale				
Demands	2.70 (0.55)	2.96	0.67	0.027
Change	2.72 (0.90)	3.22	0.81	0.22
Control	3.01 (0.76)	3.47	0.82	0.35
Managerial support	3.02 (1.01)	3.14	0.91	-0.17
Peer support	3.49 (0.75)	3.75	0.80	-0.45
Relationships	3.67 (0.79)	4.01	0.79	-0.44
Role	3.80 (0.65)	4.21	0.83	-0.20

SD standard deviation

M mean score

The seven MSIT sub-scales are scored from 1-5 where a high score indicates better working conditions; thus, a low score indicates poorer working conditions (i.e., high job stressor

exposure). In the current survey, job demands (workload and working patterns) had the lowest score and were identified as the greatest risk factor contributing to work-related stress (2.70, *SD* = 0.55), followed by change (management and communication of organisational changes) (2.72, *SD* = 0.90), control (the extent to which individuals can control the way they do their work) (3.01, *SD* = 0.76), managerial support (level of support and encouragement from the organisation) (3.02, *SD* = 1.01), peer support (level of support and encouragement from colleagues) (3.49, *SD* = 0.75), relationships (the quality of relationships between colleagues) (3.67, *SD* = 0.79), and finally, role (understanding of duties and responsibilities) (3.80, *SD* = 0.65), was the lowest risk factor. These results are similar to those observed by Bartram et al. (2009b) in their survey of UK veterinary surgeons which found that job demands represented the highest risk for work-related stress, while also identifying managerial support as the second greatest risk factor. The current study sample also scored generally lower in every sub-scale compared to the general UK veterinary population which indicates lower (worse) levels of satisfaction across all categories in autistic veterinary surgeons compared to the profession in general. In my study, six of the seven scales were identified as having acceptable internal consistency ($\alpha \geq 0.7$); however, the Cronbach's alpha coefficient for the *demands* sub-scale fell slightly below the aforementioned threshold had ($\alpha = 0.67$).

3.2.1.4 Context-Specific Job Stressors

The mean scores and standard deviations for the twenty-five context-specific workplace stressors (listed in **section 2.3.2.4**) are indicated in **Table 8.** Negatively framed items were reverse scored (i.e., a low score indicated high exposure to the stressor) to match the scoring system of the MSIT. The item identified as the most problematic context-specific workplace stressor was labelled, *my colleagues understand my needs as an autistic person* with the lowest score of 1.88 (*SD* = 0.93), in this case

indicating that respondents found that their colleagues did not understand their needs, whereas the item labelled *I avoid euthanasia consults* was the least problematic stressor (4.61, *SD* = 0.68). These data were assessed for normality using a skew statistic, all with values of less than 2.0 or greater than -2.0 indicating that the dataset is normally distributed, the skew statistic for each stressor is shown.

Table 8

Mean Scores and Standard Deviations for the Frequency of Exposure to a Job-Specific Stressor in Ascending Order Where a Low Score Indicates High Exposure.

Job-specific stressor	*Mean Score M (SD)*	*Skew*
My colleagues understand my needs as an autistic person	1.88 (0.93)	0.60
I hide my autistic traits at work	1.89 (0.93)	-1.17
My work environment contains noise and other distractions	1.90 (0.92)	-0.73
My colleagues respect my needs as an autistic person	2.09 (1.06)	0.71
I am faced with unpredictable situations	2.10 (0.84)	-0.38
I get interrupted by colleagues when I am trying to focus on a task	2.12 (1.00)	-0.76
I have time to decompress between interactions with clients	2.13 (1.02)	0.62
I have difficult conversations with clients	2.18 (0.77)	-0.44
I have time to decompress between interactions with colleagues	2.22 (0.97)	0.65
My work environment is cluttered	2.25 (1.00)	-0.37
I am able to take breaks alone in a quiet place	2.34 (1.12)	0.49
I experience last-minute changes to my schedule	2.46 (1.00)	-0.39
The people I work with make appropriate accommodations for my needs	2.56 (0.93)	0.03
I have a dedicated workspace	2.65 (1.39)	0.35
I am able to organise my environment as I like	2.70 (1.17)	0.32
I have to spend more time than I would like speaking with clients over the phone	2.71 (1.19)	-0.25
I avoid social interactions with people I work with	2.74 (0.89)	0.13
I feel isolated from the people I work with	3.02 (1.07)	-0.07
I undertake out-of-hours work	3.24 (1.66)	0.22

I chat with colleagues about non-work matters	3.28 (0.88)	0.30
I am able to compartmentalise when dealing with difficult cases	3.40 (1.16)	-0.08
I receive negative client feedback	3.49 (0.77)	0.21
My professional competence is reflected by successful case management	4.01 (0.68)	-0.23
I prefer to communicate with clients if a colleague is present	4.07 (1.03)	0.82
I avoid euthanasia consults	4.61 (0.68)	1.50

SD standard deviation

3.2.1.5 Workplace Interventions

The survey participants were invited to consider the acceptability of 11 workplace modifications (listed in **section 2.3.2.5**) and were able to respond either *yes* or *no* to each statement. The proportions of each response to the 11 statements are shown in **Table 9**, in descending order of greatest to least acceptable (highest-to-lowest rate of *yes* responses). The most popular interventions identified in the survey were the *provision of a dedicated workspace (i.e., own desk or consult room)* (*N* = 83) and *time for sufficient and restful breaks* (*N* = 79). The interventions that were deemed least acceptable by respondents were the *ability to contact clients through your preferred communication style (e.g., email, phone, letter)* (*N* = 63), *reduced on-call hours* (*N* = 50), and *altered out-of-hours commitments* (*N* = 49). These results are consistent with the findings from the qualitative portion of this investigation since not taking proper breaks and not having to 'hot desk' (move between rooms) were identified as common causes of bad workdays. The other stressors (*reasonable control over your own schedule*, *neurodiversity and disability training for colleagues*, *participation in practice decision making*, *a quiet workspace or a workspace with adequate soundproofing*, *meaningful mental health support through an employee assistance programme*, and *ability to reduce specific sensory challenges*) were all deemed as acceptable by over 70% of the respondents, suggesting that they would be useful interventions to implement in a veterinary practice.

Table 9

Intervention Acceptability.

	Yes *N (%)*	*No* *N (%)*	*No Response* *N (%)*
Provision of a dedicated workspace (i.e., own desk or consult room)	83 (89.2%)	9 (9.7%)	1 (1.1%)
Time for sufficient and restful breaks	79 (84.9%)	13 (14.0%)	1 (1.1%)
Reasonable control over your own schedule	78 (83.9%)	12 (12.9%)	3 (3.2%)
Neurodiversity and disability training for colleagues	77 (82.8%)	15 (16.1%)	1 (1.1%)
Participation in practice decision making	76 (81.7%)	16 (17.2%)	1 (1.1%)
A quiet workspace, or a workspace with adequate soundproofing	75 (80.6%)	17 (18.3%)	1 (1.1%)
Meaningful mental health support through an employee assistance programme	71 (76.3%)	19 (20.4%)	3 (3.2%)
Ability to reduce specific sensory challenges	71 (76.3%)	20 (21.5%)	2 (2.2%)
Ability to contact clients through your preferred communication style (e.g., email, phone, letter)	63 (67.7%)	29 (31.2%)	1 (1.1%)
Reduced on-call hours	50 (53.8%)	39 (41.9%)	4 (4.3%)
Altered out-of-hours commitments	49 (52.7%)	40 (43.0%)	4 (4.3%)

3.2.2 Inferential Statistics

3.2.2.1 Mental Wellbeing and Exposure to Generic Job Stressors

Results of the correlation analysis between mental wellbeing (WEMWBS sum score) and exposure to generic job stressors (demands, control, managerial support, peer support, relationships, role, and change) are presented in **Table 10**. All items, other than *peer support* ($r(91) = 0.28$, $p<0.01$), correlated with wellbeing above Cohen's threshold for a medium strength relationship (±0.3) (Cohen, 1988) that is widely used as a practical relevance threshold.

Medium-strength positive correlations were observed between mental wellbeing and control (r = 0.44, p<0.01), role (r = 0.43, p<0.01), and managerial support (r = 0.43, p<0.01), which had the strongest linkages, followed by demands (r = 0.39, p<0.01), relationships (r = 0.39, p<0.01), and change (r = 0.37, p<0.01). These results indicate how high exposure to generic workplace stressors was associated with low mental wellbeing.

Table 10

Means, Standard Deviations and Pearson's Correlations Between Mental Wellbeing and Generic Job Stressors

	M	*SD*	1	2	3	4	5	6	7
1. Mental Wellbeing	39.0	8.68	-						
2. Demands	2.69	0.55	0.38**						
3. Control	3.01	0.76	0.43**	0.16					
4. Managerial Support	3.02	1.01	0.42**	0.45**	0.54**				
5. Peer support	3.49	0.75	0.31**	0.30**	0.27*	0.57**			
6. Relationships	3.67	0.77	0.41**	0.52**	0.31**	0.49**	0.66**		
7. Role	3.80	0.65	0.44**	0.28**	0.48**	0.48**	0.51**	0.43**	
8. Change	2.72	0.90	0.37**	0.42**	0.44**	0.68**	0.46**	0.42**	0.54**

*p<0.05. **p<0.01

3.2.2.2 Mental Wellbeing and Exposure to Context-Specific Job Stressors

Some of the context-specific job stressors correlated with mental wellbeing above the threshold for practical relevance. These are presented in **Table 11**; all relationships were statistically significant. Two items, *I have time to decompress between interactions with clients* and *I have time to decompress between interactions with colleagues*, were combined into one item, labelled *I have time to decompress between interactions with colleagues and clients* since they were very strongly correlated when initial univariate analysis was completed. The results showed a medium-strength positive correlation between mental wellbeing and avoiding social situations at work, r (91) = 0.40, p<0.01, indicating that the survey respondents who reported avoiding social interactions at work had generally lower levels of mental wellbeing. There were similar relationships between mental wellbeing and feeling isolated at work (r (91) = 0.37, p<0.01),

having time to decompress between social interactions ($r = 0.36$, $p<0.01$), ruminating on difficult cases ($r = 0.31$, $p<0.01$), and taking breaks ($r = 0.30$, $p<0.01$) suggesting that increased exposure to these stressors (i.e., lower scores) reduced the respondents' mental wellbeing. The items relating to getting interrupted by colleagues ($r = 0.29$, $p<0.01$) and compartmentalising difficult situations ($r = 0.29$, $p<0.01$) were exceedingly close to the threshold and were therefore deemed appropriate to include in the analysis.

Table 11

Means, Standard Deviations and Pearson's Correlations for Mental Wellbeing and Job-Specific Stressors

	M	*SD*	1	2	3	4	5	6
1. Mental Wellbeing	39.0	8.68						
2. Taking Breaks	2.34	1.12	0.30**					
3. Avoid social interactions	2.74	0.89	0.40**	0.12				
4. Decompression	2.17	0.95	0.36**	0.41**	0.29**			
5. Isolation	3.02	1.07	0.37**	0.14	0.39**	0.33**		
6. Interruption	2.12	1.00	0.29**	0.17	0.23*	0.31**	0.33**	
7. Compartmentalise	3.40	1.16	0.29**	0.10	0.19	0.25*	0.27*	-0.06

*$p<0.05$, **$p<0.01$

3.2.2.3 Exposure to Generic and Job-Specific Stressors and Linkages with Mental Wellbeing

Prior to the application of linear regression to further explore relations between job stressor exposure and mental wellbeing, correlation coefficients were calculated for relationships between socio- and occupational-demographic characteristics and mental wellbeing. As shown in **Table 12**, none of these characteristics demonstrated a significant correlation with mental wellbeing and, as such, were not controlled for in subsequent analyses.

Table 12

Means, Standard Deviations, and Pearson's Correlations Between Mental Wellbeing, Age, Years Qualified, and Hours Worked Per Week

	M	*SD*	1	2	3
1. Mental wellbeing	39.0	8.68			
2. Age	44.7	9.54	0.01		
3. Years qualified	15.0	9.90	0.04	0.96**	
4. Hours worked	38.9	10.5	-0.19	-0.11	-0.14

**p<0.01

The results for the regression analysis with mental wellbeing as the criterion variable are shown in **Table 13**. Exposure to generic job stressors explained 46% (41% adjusted) of the variance in mental wellbeing (Model 1) which was statistically significant, F (7, 74) = 8.94, p<0.001. Control over the job and role uncertainty were the only generic job stressors that made a significant contribution to the regression model (β=*0.28,* p<0.05, and β=0.28, p<0.05, respectively). The addition of frequency of exposure to job-specific stressors (Model 2) explained a further 4% of the variance in mental wellbeing compared to Model 1 (R^2 = 0.50; adj. R^2 = 0.40), which was statistically significant, F (13,68) = 5.28, p<0.001. Therefore, the vast majority of the explained variance in mental wellbeing was accounted for by generic job stressors, specifically control and role uncertainty, indeed, the addition of veterinary workplace-specific stressors only accounted for relatively minor variance in wellbeing.

Table 13

Cross-Sectional Hierarchical Multiple Linear Regression Analysis for Mental Wellbeing Due to the Frequency of Exposure to Generic and Job-Specific Stressor Exposure

	Model 1			Model 2		
	B	SE *B*	β	*B*	SE *B*	β
Model 1						
Demands	2.87	1.62	0.19	1.92	1.84	0.13
Control	3.06	1.26	0.28*	2.40	1.38	0.22
Managerial Support	-0.02	1.25	-0.003	0.10	1.39	0.01
Peer Support	-0.11	1.49	-0.01	-0.22	1.72	-0.02
Relationships	1.46	1.43	0.14	1.37	1.53	0.13
Role	3.72	1.50	0.28*	2.79	1.69	0.21

Change	0.50	1.23	0.05	-0.05	1.29	-0.01
Model 2						
Take Breaks				0.84	0.74	0.11
Avoid social interactions				1.15	1.06	0.12
Isolation				0.36	0.91	0.05
Interruption				0.10	0.92	0.01
Decompression				0.57	1.06	0.06
Compartmentalise				0.65	0.71	0.0
R^2	0.46			0.50		
ΔR^2	0.46***			0.04***		
adj. R^2	0.41			0.40		

*p<0.05, **p<0.01, ***p<0.001.

B, unstandardized regression coefficient; SE *B*, standard error of unstandardized regression coefficient; β, standardized beta coefficient; R^2, explained variance; adj. R^2, explained variance adjusted; ΔR^2, change in explained variance.

3.2.2.4 The Relationship Between Mental Wellbeing and a Clinical Diagnosis of Autism

Independent sample *t*-test results are presented in **Table 14**, which shows that survey respondents with a clinical diagnosis of autism reported lower levels of mental wellbeing than those who self-identified. However, the difference failed to reach statistical significance (p>0.05). Additionally, Table 14 shows that those with one or more concurrent neurodivergent conditions reported lower WEMWBS scores (M = 37.2) than those without (M = 39.9), which was not statistically significant (p>0.05), but it indicates that having another neurodivergent condition was associated with lower mental wellbeing. The difference between the means is 2.7 points on a 70-point scale, representing a small effect.

Table 14

Comparison of Mental Wellbeing Scores for Those with a Clinical Diagnosis of Autism and Those Who Self-Identify as Autistic, and Those with a Concurrent Neurodivergent Condition

Variable	*N*	*M*	*SD*	*t*	*df*	*p*	*d*
Clinical diagnosis of ASC	68	36.9	8.05	-1.33	89	0.19	0.32
Self-Identified ASC	23	39.7	8.83				
Concurrent neurodivergent condition	32	37.2	8.73	-1.41	89	0.16	0.32
No concurrent neurodivergent condition	61	39.9	8.59				

*$p<0.05$

SD standard deviation

Note. This table indicates differences in WEMWBS scores (*M*) between survey participants who had a clinical diagnosis of autism and those who self-identify (i.e. do not have a clinical diagnosis but still consider themselves autistic), and those with or without another neurodivergent condition (e.g. AD[H]D).

4 Discussion

4.1 Main Findings

This study represents the first investigation to be conducted among autistic veterinary surgeons concerning the relationships between their mental wellbeing and exposure to organisational and occupational stressors. The aims of the investigation were to identify pertinent workplace stressors, quantify exposure to said stressors, and examine links with mental wellbeing. Moreover, the study sought to identify reasonable and realistic adjustments and interventions that could support the mental wellbeing of autistic vets. My investigation consisted of a qualitative, interview-based study and a subsequent quantitative survey. During the qualitative study, I found that the most common factors leading to difficult workdays were centred around professional interactions, predominantly those with the participants' colleagues, as well as lack of control. The survey responses supported the qualitative findings with high exposure to the Management Standards dimensions of job control and role clarity being significantly associated with poor mental wellbeing. The quantitative study further revealed that mental wellbeing in autistic vets was poorer than that of the general veterinary profession and the general UK population. Finally, the interventions that were deemed most acceptable by survey respondents reflected the themes identified from the interviews and concerned the provision of a dedicated workspace, having reasonable control over one's schedule and being given the opportunity to take restful breaks.

4.1.1 Links with Organisational Stressors

The results of my study revealed that most of the variance in the mental wellbeing of autistic veterinary surgeons was explained by organisational stressors, which are the environmental demands directly associated with the organisation within which an individual is working. The

model used in the MSIT describes seven categories of job stressors: demands, control, managerial support, peer support, relationships, role, and change. Survey results revealed that the MSIT domain of job demands (i.e., perceptions of workload and work patterns) had the lowest score indicating that most respondents felt that they were exposed to high job demands. Conversely, role (whether employees are clear on what their job role is and understand what is expected of them) had the highest score, indicating that most survey respondents felt they were clear on their job role. However, I identified role clarity and job control (decision latitude) to be the only organisational stressors that were significantly linked with mental wellbeing. The results from the qualitative investigation reflected the survey outcomes, with job control being identified as one of the most important factors that influenced workplace wellbeing. Most of the autistic veterinary surgeons that I interviewed mentioned that time pressure and not being able to control their work schedule led them to perceive their workdays as difficult. Further, uncertainty and unpredictability were frequently cited as important stressors; certain factors such as clients turning up late, last-minute schedule changes, and unpredictable cases were common themes throughout the interviews. Social interactions and soft skills are highly variable elements of the veterinary job which may lead to a lack of job control. Since *Role* was the highest-scoring MSIT subscale, it seems that autistic veterinary surgeons have a good understanding of their roles. This is likely because the primary elements of the veterinary job (i.e., treating patients and monitoring animals) are very clear and invariable. The association between role clarity and mental wellbeing in this study might indicate that autistic veterinary surgeons' mental wellbeing could be improved through the enhancement of their understanding of what is expected of them at work.

The results of the qualitative investigation revealed that autistic veterinary surgeons do not

experience undue stress as a result of role-specific (occupational) factors as they are generally clear on what is expected of them, and the difficult elements are accepted as part of the job. The survey results showed that factors such as performing euthanasia, emotionally challenging cases, and case management were the least problematic factors, whereas those related to the respondents' autism, such as camouflaging, colleagues' lack of understanding, and sensory challenges, were the most problematic. This may suggest that it is not the veterinary job itself that is associated with poor mental wellbeing in autistic veterinary surgeons, but rather the fact that they are working in environments that are not accommodating for their autism. Furthermore, these occupational factors accounted for negligible variance in mental wellbeing in the study sample. Veterinary surgeons tend to receive training for coping with these factors as students and through professional development opportunities and become more accustomed to these as they gain experience within the role. This may provide an explanation for the relatively minimal associations between occupational factors and mental wellbeing comparative to organisational demands and generic job stressors.

4.1.2 Poor Mental Wellbeing

My results indicate that mental wellbeing in autistic veterinary surgeons is poor. Almost all of the survey respondents had a WEMWBS score of ≤45.0, above which is generally accepted to be the threshold for good wellbeing (Warwick.ac.uk, 2022). Further, almost three-quarters of respondents showed scores indicating possible or probable depression, signifying they are a group at a high risk of becoming depressed. Since these figures are lower (worse) than observed in non-autistic veterinary surgeons and similar to those observed in the wider autistic population (see Table 6 in Section 3.2.1.2), I suggest that the causes of poor mental health in autistic veterinary surgeons might be relevant to the entire population of autistic workers. A large

proportion of the sample (75.0%) did not have a clinical diagnosis of autism, and rather self-identified as autistic, and, although there was some (non-significant) statistical indication that these respondents had slightly better mental wellbeing, there is a chance that the mental strain of seeking a diagnosis in the UK due to long wait times (Rutherford *et al.*, 2016) and not being able to access support services that come with a clinical diagnosis (Wigham *et al.*, 2022) could be a reason for the generally poor mental wellbeing scores within the sample, and a reason for the lower scores in those with a clinical diagnosis. Having another neurodivergent condition, most notably AD(H)D, was also associated with poorer mental wellbeing and this might be because it increases a person's risk of psychological distress and the risk of facing discrimination or an unsupportive environment (Patton, 2009; Robbins, 2017). Further investigation into the impacts of seeking diagnoses and concurrent neurodivergent conditions on mental wellbeing of autistic individuals would be required to quantify these suggestions since it is beyond the scope of the current investigation to make any definite conclusions to that effect.

4.1.3 Interventions

The qualitative element of my investigation provided an opportunity to generate a list of interventions that were subsequently included in the survey and rated by the respondents in terms of their acceptability, regardless of whether they had experienced these interventions previously. Most of the suggested interventions, other than altering out-of- hours commitments and reducing on-call hours, were deemed acceptable by the majority of respondents. The most popular intervention was to provide veterinary surgeons with their own dedicated workspace, thus most of the survey respondents felt they would benefit from always using the same consult room or having their own desk. This would increase the level of control that they have over their workspace and enable them to consistently reduce sensory challenges by keeping it organised or removing items such as clocks, or replacing them with silent clocks, which would provide a

noise distraction. This may be a realistic intervention for veterinary surgeons who work full time and do not have to share a room with others but may be more difficult to implement for those who work part-time or as locums. This intervention, however, may not be feasible in many instances since it is likely that most veterinary surgeons share spaces in practices with limited space. Instead of the provision of a dedicated workspace, an alternative would be to ensure each workspace, for example, a consult room, has as similar a layout as possible which would make it easier to locate equipment and help people feel familiar with whichever room they are in. This would also be useful for any veterinary surgeon in a stressful situation, such as an emergency consultation, as it would reduce the likelihood of wasting time finding things by having equipment accessible and easy to find. Changes to a workspace would need to be highly individualised, and the best way to implement an intervention of this nature would be to advocate for an inclusive environment where autistic staff feel able to request alterations, and work with practice managers to make appropriate changes.

Other interventions that were deemed acceptable by most of survey respondents were related to decision latitude (i.e., being given the opportunity to control their duties and how they perform tasks) through involvement in practice decision-making and controlling their own work schedule and method or being given sufficient and restful breaks. These interventions should, theoretically, be straightforward to implement given that it may be as simple as increasing the level of communication between practice managers and staff. Once again, it would require an open and safe environment for autistic individuals to feel able to communicate their needs and work with the other staff to come to a mutually beneficial solution. Similarly, the final area of intervention was related to organisation-level interventions by providing neurodiversity and disability training for staff and mental health support through an employee assistance

programme. The aim of these would be to create a work environment that is more accepting and understanding of autism and other conditions and supportive of autistic veterinary surgeons before a further reduction in mental wellbeing occurs (i.e., preventative and ameliorative, rather than reactive, interventions). Such interventions might benefit not only autistic veterinary surgeons but the wider workforce as well, by creating a more supportive and accepting work environment. This, I believe, is a very important intervention since it would allow veterinary workplaces to create an environment where autistic people are able to communicate their needs without fear of being misunderstood or judged and come to a solution with their teams. The concern with an intervention such as this is that it would not be a simple, 'quick fix' intervention. It could take a lot of funding and organisation to implement such training, but such a scheme may be very beneficial in improving the workplace wellbeing of autistic and non-autistic veterinary surgeons. A simpler alternative could be to generate a resource to be disseminated to veterinary practices so that staff may gain some basic understanding of neurodiversity and how to be inclusive.

4.2 Findings Compared to the Literature

There are countless explanations for the outcomes of my investigation to be found in the existing literature. Since this study represents the first of its kind amongst autistic veterinary surgeons, I must interpret my findings in the broader context of non-autistic veterinary surgeons and, more generally, autistic workers.

First, I found crucial differences between the mental wellbeing (WEMWBS scores) of the sample and that of UK veterinary surgeons. Non-autistic veterinary surgeons are reported to have better mental wellbeing than autistic vets and had a mean score of ≥45.0 which indicates generally good mental wellbeing (RCVS Survey of the Profession, 2019; Mair *et al.*, 2020).

Since the raw data from previous studies were not available, I cannot comment on the statistical significance of these differences. The issues faced by the veterinary profession include increased suicide rates (Fritschi *et al.*, 2009; vande Griek *et al.*, 2018) and higher rates of burnout and compassion fatigue (Lloyd and Campion, 2017) which is reflected in the fact that vets have lower wellbeing scores than the general UK population (HSE Survey for England, 2016). Furthermore, it has been previously established that there is a higher prevalence of autism within the medical profession (Brugha *et al.*, 2016; Price *et al*., 2019). Medical doctors experience many of the same workplace stressors as veterinary surgeons, such as working long hours, clinical decision making, moral distress, and burnout, and doctors have generally poor psychological wellbeing (Jabbar and Marshall, 2022). Jabbar and Marshall (2022) found the mean WEMWBS score for medical professionals to be 43.2, and though there were considerable differences between genders and those working in Scotland versus England, these scores are lower than the general population. The fact that the current sample scored markedly lower than medical doctors and non-autistic vets implies that autistic individuals are at greater risk of psychological distress within these professions. They may be less able to cope with burnout and compassion fatigue since they will also need to cope with working in a poorly adapted environment. Autistic workers have been found to have poorer mental wellbeing due to camouflaging their traits (Cook *et al.*, 2021), discrimination from peers, and differences in managing social stressors (Weiss and Fardella, 2018). The results of my study showed that the majority of autistic veterinary surgeons are at risk of depression, with 57.0% showing signs of probable depression. This is higher than the reported prevalence of depression in autistic people which was found by Hollocks and colleagues (2019) to be between 27.0% and 42.0%. Arnold and colleagues (2020) utilised WEMWBS to measure mental wellbeing and found a mean score of 36 amongst autistic adults with depression and a mean score of 44.0 for those without depression but did not report a figure for the whole group. Thus, there is no meaningful difference between the mental wellbeing of autistic vets and autistic

non-vets, and it can be concluded that mental health in autistic vets is the same or may even be worse than in autistic adults.

In response to higher rates of depression and suicide in veterinary surgeons, authors such as Bartram and colleagues (2010) have investigated the adjustments and interventions that could be used to mitigate these risks. They proposed organisation-oriented interventions that included participation in practice decision-making, taking regular breaks and other changes to work practices, and provision of support services; these are similar to the interventions addressed in the present study. This investigation by Bartram and colleagues (2010), among others, also suggested reducing working hours as a method to promote mental wellbeing in veterinary surgeons. The respondents to my survey worked for an average of 39.0 hours per week, which included those working part-time or flexible hours. The UK Working Time Directive (1998) (Gov.uk, n.d.) states that employees cannot work over 48.0 hours per week, unless it is the person's own decision, as there is a strong association between mental and physical ill-health and long working hours (Houdmont & Randall, 2016). This has been shown to be true amongst veterinary surgeons by Bartram (2010) and Trimpop (2000) and has also been found to reduce medical errors in human medicine (Datta and Davies, 2014). In this study, only 16 survey respondents worked over 48.0 hours per week and working long hours did not significantly affect the variance observed in mental wellbeing. Therefore, in autistic veterinary surgeons, it could be concluded that long working hours are not linked to mental wellbeing to the same extent as not having sufficient breaks or support at work, however, since only a handful of veterinary surgeons in this sample were working long hours this would need to be investigated further to draw a definitive conclusion.

My results clearly indicated that the MSIT domains of *Control* and *Role* had a significant

association with poor mental wellbeing in autistic veterinary surgeons. In the current study, the *Role* subscale had the highest score which indicates that higher role clarity is linked with lower workplace stress. This has been found in the veterinary profession (Bartram, Yadegarfar, and Baldwin, 2009b), and in the general workforce (Edwards *et al.*, 2008; Edwards and Webster, 2012; Magnavita, 2012). However, my results showed that the *Demands* subscale had the lowest score, followed by *Control*, which was also significantly associated with poor mental wellbeing, whereas data in the literature do not necessarily reflect this. Bartram, Yadegarfar, and Baldwin (2009b) also found that job demands were linked with the greatest risk of workplace stress, but this was not a significant finding in my study. The authors identified many stressors experienced by veterinary surgeons that are not covered in the MSIT subscales; the *Demands* subscale only measures psychosocial demands (i.e., workload) and not emotional or physical demands, which are vital to the experiences of healthcare professionals (de Jonge, Mulder, and Nijhuis, 1999). It is for this reason that I believe that the MSIT domain of *Demands* was not found to be significantly linked with poor mental wellbeing in my sample, since many of the key stressors relevant to veterinary surgeons are not covered by this model. These veterinary-specific stressors that were identified as problematic by Bartram, Yadegarfar, and Baldwin (2009b), for example, dealing with the possibility of complaints and legal action, long working hours, clinical decision making, and managing clients' emotions, were not found to be as important to my sample autistic veterinary surgeons' mental wellbeing as the generic stressors of role clarity and job control.

The *Control* subscale has had variable results across different populations. My results indicated that high job control was significantly associated with improved mental wellbeing in autistic veterinary surgeons, however, Bartram, Yadegarfar, and Baldwin (2009b) did not find such a trend, and they speculated that this may be because this subscale does not cover factors relating to skill discretion (i.e., opportunities for professional development and use of skills) which have

been found by others to be important for veterinary surgeons' wellbeing (Mastenbroek *et al*., 2014). Elevated levels of job control have been linked to decreased distress in the general population (Edwards *et al.*, 2008; Magnavita, 2012), however, a study conducted by Hayakawa and colleagues (2015) suggested that autistic employees had a better quality of life when they had reduced job control. This particular study only focused on employees of one organisation and therefore these conclusions cannot be generalised to the entire population of autistic employees or applied to autistic veterinary surgeons.

Another possible explanation for the poor mental wellbeing observed in the survey respondents may be due to the fact that 70.0% had not disclosed their condition at work. Lindsay and colleagues (2021) found that disclosure enabled autistic employees to access adjustments and support. These respondents indicated that the fear of judgement or discrimination, or not being believed prevented them from disclosing. This is reflected in the literature by Flower, Dickens, and Hedley (2021) who found that the benefits of disclosing did not necessarily outweigh the risks of discrimination and othering treatment by colleagues and Romualdez and colleagues (2021) who suggested that disclosure was only beneficial in environments that already had support services in place. By not disclosing their conditions, autistic veterinary surgeons may find that they are camouflaging their traits more and not accessing support or reasonable adjustments at work, and thus experience more stress. On the other hand, those who have disclosed their condition may be subject to othering behaviour or discrimination from colleagues, or not be given the support they need by their employers which may also negatively impact mental wellbeing. My study and the literature indicate that non-disclosure and disclosure may both have unfavourable consequences, and many workplaces are yet to be accepting and welcoming enough to make disclosure the safest option. Further, since many of the current

survey respondents did not have a formal diagnosis of autism, it might be challenging to disclose their conditions without a formal diagnosis, particularly if employers are less inclined to accept disclosure without a formal medical diagnosis, or if proof is required.

A major difference between my results and results of previous studies on veterinary workplace wellbeing was observed in the fact that mental wellbeing in the sample did not improve with age and years practising. Investigations by Fairnie (2005) and Babaoğlu and colleagues (2014) showed that occupational stress decreased with age, despite additional stressors that come with age such as increased caring responsibilities, ill-health, financial issues, and providing for a family, all of which could potentially have a negative impact on mental wellbeing. There was, conversely, no association between wellbeing and years qualified in my sample. There are several potential reasons for this trend: veterinary surgeons become used to animal suffering and other stressful aspects of the job over time; with more experience comes greater job security or taking up roles with more control and decision latitude; and developing coping strategies with increased experience. My sample showed no association between wellbeing and age, which suggests that exposure to stressors specific to autistic veterinary surgeons do not decrease with time spent in practice, and there are no coping strategies helpful to autistic vets. Occupational stress factors, for instance, euthanasia and animal suffering, were not found to affect autistic veterinary surgeons as much as non-autistic veterinary surgeons, but this may be because they are eclipsed by impactful autism-specific stress factors, such as difficulties with social interactions and time pressure.

In terms of interventions to improve mental wellbeing, previous research has focused on occupational and personal factors to explain poorer mental wellbeing in autistic employees. The study results show that organisational stressors are more impactful on mental wellbeing than

job-specific and personal stressors. The literature displays a heavy focus on interventions targeted at the autistic individual through vocational skills training (e.g., Fong *et al*., 2021) and behavioural support (e.g., Schall, 2010). These studies reflect the views held by wider society that autistic people's traits should be altered or suppressed in order to fit in with an environment, instead of creating an environment that allows autistic workers to flourish. Some of the interventions identified in my study were also found by Lindsay and colleagues (2021) to improve the work environment for autistic employees, such as schedule flexibility, changes to light or noise levels, and Bowman (2010) who implemented awareness training for staff. Moreover, Scott and colleagues (2019) placed emphasis on adjusting environmental and external factors, including employer attitudes, peer support networks, and autism-specific training. The outcomes of their review showed that pulling focus away from attempts to 'solve' autism and instead improve acceptance and accommodation for autistic people may improve employment outcomes. The present study is one of the few investigations that does not treat ASC as a medical impairment that requires the individual to adjust their workplace but instead aims to investigate how organisations can improve workplace wellbeing for autistic employees.

4.3 Practical Implications

Poor mental wellbeing has profound consequences for autistic veterinary surgeons and the whole profession since it may lead to high turnover and elevated rates of mental illness and suicide. My findings indicate that most autistic vets are suffering from poor mental wellbeing, with over half having WEMWBS sum scores of ≤40.0, indicating probable depression. This points toward a need to radically change the psychosocial work environment for these individuals to improve mental health. I found significant links between poor wellbeing and job stressors within the domains of role clarity and job demands, which could be addressed through interventions

surrounding improving the communication of role definitions and support through ill-defined aspects of the veterinary role and providing higher levels of control over the vets' work schedules and clientele. It might be difficult to address these factors since many veterinary practices are independently owned, small businesses and may not have human resources teams that could affect these changes. However, it is becoming more common for veterinary practices in the UK to be run by larger corporate groups which might make it more practical to implement these changes on a national scale, since information dissemination to practices may be more practical if run by these groups. Further testing would be required to confirm whether certain interventions are easier to effect in corporate-owned practices since this is beyond the scope of the present study.

Simple practical changes could also have a positive impact on the wellbeing of autistic veterinary surgeons. Respondents to the current survey ranked having dedicated workspaces, having breaks, and providing neurodiversity training for staff as the most acceptable of the interventions listed. Ensuring employees have regular breaks and flexible working hours could protect them from psychological distress, as shown by the outcomes of my study and of an investigation by Bartram and colleagues (2010) into accommodations that would improve mental health in veterinary surgeons. The results of the current study identified some other very straightforward accommodations, including the provision of a dedicated or quiet workspace, reasonable control over the work schedule, and participation in practice decision-making. These would be very simple to implement in a veterinary work environment and only necessitate minor changes to how the organisation is run. There are other potential workplace interventions which would be more costly and complex to implement, such as mental health support available to all individuals. There are many unique stressors experienced by veterinary surgeons: compassion fatigue and

burnout; dealing with others' emotional distress; moral distress and euthanasia; as well as long, unsociable working hours and a high workload (Bartram, Yadegarfar, and Baldwin, 2009b; Lloyd and Campion, 2017). Therefore, unique and individually tailored mental health could be more impactful than general mental health awareness training or non-specific psychological support.

Other interventions that promote an improvement in mental wellbeing in autistic veterinary surgeons could focus on comprehensive neurodiversity training for all veterinary professionals. There has recently been a rise in the popularity of neurodiversity awareness within the veterinary community, in the same way that mental health and suicide awareness are becoming more commonplace. However, since there is little consistency in employee support and soft- skills training between practices, the burden to seek out training and support lies with the individual practice, or even the individual veterinary surgeon. There may also be a lack of motivation for practices to complete training and therefore it should be implemented on a country-wide level through changes to veterinary school curricula and veterinary practice policy. Earlier studies on autism-specific workplace interventions (e.g., Scott *et al*., 2018) have shown that improving employers' knowledge of autism improved employment success and job satisfaction for autistic employees. Even though Scott and colleagues (2018) found that their tool designed to improve employers' self-efficacy in modifying the workplace for autistic employees did not significantly improve employer attitudes towards workplace modifications, they highlighted that the employer is a potential target for improving workplace wellbeing in autistic staff. In the current context of autistic veterinary surgeons, providing employers and managers with the knowledge required to make appropriate accommodations may be meaningful for improving wellbeing of autistic vets. The study outcomes showed that many autistic veterinary surgeons believed that disability and neurodiversity training would be an acceptable intervention. Since much of the

variance in mental wellbeing in the sample was due to organisational factors, namely role clarity and job control, there is a reasonable chance that educating employers on the needs of autistic vets would reduce the impact of these stressors if they were given the tools to make appropriate adjustments. In addition, neurodiversity awareness training for staff has been previously shown to improve job satisfaction in autistic employees (Bowman, 2020; Lindsay *et al*., 2021), which is also suggested by the results of the current study. Responses to the interviews and survey suggested that a lack of understanding of autism from veterinary colleagues was a major factor in reducing workplace wellbeing, especially in the context of forming positive workplace relationships and accessing peer support. Training programmes for employers and staff need not be costly or time-consuming, and providing them with the basic understanding required to help integrate their autistic colleagues into the workplace would meaningfully improve autistic veterinary surgeons' wellbeing.

4.4 Limitations and Suggestions for Future Research

The strengths of this study lie in its use of established measurement instruments and the breadth of knowledge obtained through a mixed-methods approach. Nevertheless, the methodological limitations of this study must be recognised.

4.4.1 Study Sample

Although thematic saturation was reached relatively quickly during the interview analysis, the limited number of interviews conducted may have led to missing perspectives of different groups, such as zoo/exotic veterinary surgeons and younger male vets in their early careers. The size of the survey sample had similar impacts: I missed gaining knowledge about vets from less popular sectors, and statistical significance was harder to reach with a smaller sample size. Additionally, a response bias was observed since my survey sample predominantly consisted of

women and small animal veterinary surgeons. Participants in both the interview and survey elements of this project predominantly represented the small animal sector, with only small numbers from farm and equine medicine. During the interviews and thematic analysis, it was apparent that there is a large overlap in the stressors experienced by autistic vets across small animal, farm and equine practice, allowing for the conclusion that thematic saturation had been achieved. There were instances where different context-specific stressors were identified; for example, those related to traveling to different farms or yards, but these were encompassed by the same themes which emerged from the data collected from small animal vets. However, due to the limited numbers of farm and equine practitioners, it is possible that there were role-specific themes related to these jobs that were missed from the analysis, and a larger sample size may have allowed for the stratification of data by species specialism. Therefore, the conclusions drawn from the present study can primarily be applied to small animal veterinary surgeons. Future investigations would benefit from the greater involvement of vets that work in farm and equine practice, as well as other unrepresented sectors.

There are several potential explanations for these differences in sample size and constitution. First, the advertisement for interview participation and distribution of the survey occurred online, primarily via Facebook pages and the Veterinary Record; these will have only captured those who were most active on social media. Also, some posts will have been quickly lost on social media pages with high levels of traffic. Some autistic individuals may find participating in online communication difficult or may feel uncomfortable with participating in an interview over video or phone call which prevented people from engaging with the study. The process of being interviewed or completing the survey may have been perceived as overly time- consuming and those with longer working hours or caring responsibilities may have been less likely to

participate in the study, despite being at particularly high risk of burnout. Since the topics covered in the interviews and survey were sensitive, some potential participants may have been deterred by the emotionally challenging and personal nature of the study, especially with the interviews since they were not anonymous. These recruitment limitations would be difficult to mitigate in future investigations since there is no database on which to find autistic veterinary surgeons. However, in a situation with less of a tight time limit, future investigations into the wellbeing of autistic veterinary surgeons could advertise for longer time periods which would help reach more media platforms and recruit more participants.

Although findings from the present study support the hypothesis that autistic veterinary surgeons experience worse workplace wellbeing than the general veterinary population, some caution should be taken in interpreting these results in a wider context. The study sample was limited to UK veterinary surgeons, and mainly those in small animal practice, preventing generalisation to the international veterinary surgeon workforce or other species areas. The limited study sample raises some questions as to the generalisability to neurotypical veterinary surgeons or the general population of autistic workers; however, since other studies of these populations have shown similar outcomes, I can potentially apply these results to the wider populations. Additionally, there is a possibility of a healthy worker effect having produced an underestimation of the strength of association between exposure to workplace stressors and mental wellbeing. Autistic veterinary surgeons dealing with burnout or depression may not have been engaging with the platforms used for participant recruitment at the time or may have left their careers in veterinary medicine because of this. However, the opposite is more likely to be true in my study; since I focused on negative aspects of veterinary work, I may have inadvertently selected for respondents that were struggling more in the workplace or who were dealing with poorer mental

wellbeing. The interview process and survey will have offered a chance for autistic veterinary surgeons to make their issues known, whereas those who are not struggling at work may not have been as motivated to participate in my study. Survey participants who had left the profession were not included in the analyses since poor workplace wellbeing may have affected them more than those who were still working, and their recall of events may be more negative after spending time away from the veterinary workplace.

4.4.2 Study Design

Firstly, it should be noted that data were collected during the Coronavirus (COVID-19) pandemic and during times of economic downturn. This may not be a limitation, but the context of social upheaval may have influenced the study results. Mental wellbeing in the present study sample may be poorer than it would be if data were collected during times of social and economic stability, and it would be worthwhile to repeat the findings in 'normal' times. The study by Mair *et al*. (2021) that was used as a comparison point for the present data focused on the mental health of equine veterinary surgeons during the COVID-19 pandemic. It showed some differences between the WEMWBS scores for their study population and veterinary surgeons before the pandemic, and it being lower (worse) was attributed to the drastic public health control measures put in place as a result of the pandemic (e.g., social distancing and furloughing). Many of the differences between individual items of the WEMWBS questionnaire were, however, not statistically significant, and this reflects the (non-significant) differences found between the results in the present study and the Mair *et al.* (2021) study. There has since been research regarding the mental wellbeing of vets during the pandemic which showed higher frequencies of ethically challenging situations, known to have a negative impact on mental wellbeing (Quain, *et* al, 2021). Other studies have used also WEMWBS to assess the negative effect of the

pandemic on the mental wellbeing of the general population (Rolland, *et al.*, 2020), or have reported higher rates of anxiety and depression (Ahmed, *et al.*, 2020). The present results regarding workplace mental wellbeing were not dissimilar to studies conducted previously on veterinary surgeons (e.g., Bartram, Yadegarfar, and Baldwin, 2009) and autistic employees (e.g., Arnold *et al.*, 2019), suggesting the pandemic did not have an impact on the mental wellbeing of autistic veterinary surgeons. However, since there is no population with which to draw a direct comparison, there is a possibility that the COVID-19 pandemic did affect the results.

The cross-sectional design of my investigation allowed me to explore a new avenue of veterinary workplace wellbeing and demonstrate relationships between workplace stressors and mental health of autistic vets. However, cross-sectional studies are limited since they are unable to detect causal relationships between variables and only indicate the presence of said relationships. For example, it is possible that increased stressor exposure does not cause a reduction in mental wellbeing but rather that poor mental wellbeing causes autistic veterinary surgeons to be less able to cope with their workload and therefore perceive their jobs as more stressful. Since workplace wellbeing in autistic veterinary surgeons is an unresearched topic, there is value in cross-sectional research since it has established the association between mental wellbeing and exposure to workplace stressors, which is a necessary first step before future research is used to establish the direction of the association. The purpose of the current study was to identify reasonable adjustments and workplace interventions for autistic veterinary surgeons which will pave the way for future longitudinal investigations involving a causal order of variables whereby the implementation of reasonable adjustments would improve mental health in the population. Additionally, my study relied on self-report measures, which is considered a limitation by some since it is argued that they tend to overestimate the associations between variables (common

method variance). An investigation into common method variance by Spector (2006) refutes these claims since they found that self-report methods did not guarantee statistically significant associations and mono-method correlations were not necessarily stronger than multi-method correlations. Based on these findings, I conclude that common method variance did not significantly bias the results, and, besides, there are no valid alternative methods for assessing some of the main variables (e.g., personal experiences).

Finally, the Management Standards Indicator Tool (MSIT) included in the survey to measure exposure to generic workplace stressors may not be entirely reliable for use with the study sample of autistic veterinary surgeons. The 35-item questionnaire contains some statements that are not entirely relevant to veterinary practice; many veterinary practices are independently owned and have small teams with only a handful of veterinary surgeons, nurses, and other staff members and the MSIT was designed using the context of larger organisations with a more traditional work environment. For example, items relating to line managers (*I can rely on my line manager to help me out with a work problem* and *my line manager encourages me at work*) or departments (*I am clear about the goals and objectives of my department*) are not relevant to veterinary work and the answers to these items will have affected the overall scores. However, since the vast majority of the MSIT items were relevant to workplace stressors identified in the qualitative study and using a structured set of questions used in other studies enabled me to compare my results to similar populations and therefore I did not consider this a major limitation of the investigation. Furthermore, locums (veterinary surgeons who stand in temporarily for others at different practices) are not subject to the same demands and workplace dynamics as those who work in one practice. Research and anecdotal reports have suggested that locums experience lower levels of compassion fatigue (Oxilia, 2020) and greater flexibility and freedom to choose

their place of work and when to take time off (Hillam, 2005). However, locum work is also associated with challenges such as difficulties with finding full employment, complex financial administration, and a lack of security and benefits, including the cost of CPD and training. I received feedback from some survey participants stating that the ability to have flexible working hours and conditions greatly improved their ability to cope with veterinary work as autistic individuals, yet these were not explicitly addressed in the survey questions. I acknowledge this as a limitation of the present study, especially since there seems to be a marked increase in the number of locum vets every year (Kier, 2020). In future, it would be pertinent to include the experiences of locums in research on autistic veterinary surgeons, since it is possible that some may choose this career path due to the reduction of specific stressors such as rigid working hours and practice policies. Additionally, the MSIT was created in 2004 so the survey may simply be outdated since workplace culture has likely changed in the 18 years that have passed since. With the development of more sophisticated technologies for interacting with clients and staff and improved access to online support systems, it would be pertinent for an updated version of the MSIT to be created which would better reflect the work environment of the present day. Some of the differences between my results and those that have been cited in my thesis may be due to the changes in workplace culture that have occurred over time, such as the study by Bartam, Yadegarfar, and Baldwin (2009b) which used data collected in 2007.

4.5 Conclusion

This is the first study to investigate the occupational health of autistic veterinary surgeons in the UK. The current study has provided initial insight into the workplace stressors experienced by autistic veterinary surgeons and their associations with mental wellbeing. Overall, there were five objectives in this study and the qualitative and quantitative methods used have fulfilled these

aims, there were also aims concerning the development of a profile of mental wellbeing and generic psychosocial hazard exposures in autistic veterinary surgeons. Two sources of data were used for the research and the data have provided a comprehensive understanding of mental wellbeing and occupational stress in autistic veterinary surgeons. This investigation found that mental wellbeing is generally lower in this group compared to non-autistic veterinary surgeons and the general population and that the main workplace factors affecting mental wellbeing were within the domains of job control and role clarity. The data highlighted the imperative for future research to focus on longitudinal approaches to identify cause-effect relations between mental wellbeing and workplace stressors and a need to directly compare autistic and non-autistic veterinary surgeons to establish the significance of the observed differences. This study also identified areas of reasonable adjustment and intervention that could be implemented by veterinary employers, primarily within the small animal sector, with a particular focus on providing dedicated workspaces, proper restful breaks, and autism awareness and sensitivity training for all veterinary staff. In this way, future research into the efficacy and impact of these interventions for the promotion of mental wellbeing in autistic vets would help generate improvements to the occupational health of autistic veterinary surgeons in the UK.

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6 Appendices

Appendix A: Interview structure with prompts for critical incident study.

Thank you for participating in this study. We want to learn more about the characteristics which define a good and a difficult day at work for you. Take as much time as needed to respond thoroughly and accurately to the questions.

1. Demographic information:
    a. How long have you been working in practice?
    b. What kind of practice do you work in and what is your role?
    c. How long has it been since you received a diagnosis?

2. How would you define a good day at work?

3. Can you recall a specific **good** day at work? Please can you describe this event including the preparation, during and post-event details?

    a. Prompts

        i. Can you describe the timeline of events that occurred starting from the preparation stage?

        ii. Please can you describe the day from start to finish?

        iii. What happened then?

        iv. What environmental factors played a role? For example, lighting, noises, seating, weather.

        v. What equipment factors played a role?

            1. Were you comfortable with the equipment?

            2. Was it working well?

        vi. What human factors played a role?

            1. Yourself

            2. Owners

            3. Colleagues

            4. Managers

        vii. What communication factors played a role?

        viii. Any other factors? E.g., support from colleagues or managers

4. Can you recall a specific **difficult** day at work? Please can you describe this event including the preparation, during and post-event details?

    b. Prompts

        i. Can you describe the timeline of events that occurred starting from the preparation stage?

        ii. Please can you describe the day from start to finish?

        iii. What happened then?

        iv. What environmental factors played a role?

        v. What equipment factors played a role?

        vi. What human factors played a role?

            1. Vet

            2. Owner

            3. Colleagues

            4. Managers

        vii. What communication factors played a role?

        viii. Any other factors?

5. Is there anything else you would like to mention regarding these events?

6. Could you tell me about the support you have at work? Have you disclosed your diagnosis and if so, what support do you get?

Thank you for your time. We appreciate your participation in this study.

Appendix B: Brief-COPE Questionnaire Structure

	I don't do this at all	**I do this a little**	**I do this somewhat**	**I do this a lot**
I concentrate my efforts on doing something about the situation I'm in	☐	☐	☐	☐
I take action to try to make the situation better	☐	☐	☐	☐
I try to come up with a strategy about what to do	☐	☐	☐	☐
I think hard about what steps to take	☐	☐	☐	☐
I try to see a bad situation in a different light, to make it seem more positive	☐	☐	☐	☐
I look for something good in what is happening	☐	☐	☐	☐
I accept the reality of the fact that it has happened	☐	☐	☐	☐
I learn to live with it	☐	☐	☐	☐
I make jokes about it	☐	☐	☐	☐
I make fun of the situation	☐	☐	☐	☐
I find comfort in my religious or spiritual beliefs	☐	☐	☐	☐
I pray or meditate	☐	☐	☐	☐
I get emotional support from others	☐	☐	☐	☐
I get comfort and understanding from someone	☐	☐	☐	☐
I try to get advice or help from other people about what to do	☐	☐	☐	☐
I get help and advice from other people	☐	☐	☐	☐
I turn to work or other activities to take my mind off things	☐	☐	☐	☐
I do something to think about it less, such as going to movies, watching TV, daydreaming, sleeping, or shopping	☐	☐	☐	☐
I say to myself "this isn't real"	☐	☐	☐	☐
I refuse to believe that it has happened	☐	☐	☐	☐
I say things that let my unpleasant feelings escape	☐	☐	☐	☐

I express my negative feelings	☐	☐	☐	☐
I use alcohol or other drugs to make myself feel better	☐	☐	☐	☐
I use alcohol or other drugs to help myself get through a stressful situation	☐	☐	☐	☐
I give up trying to deal with it	☐	☐	☐	☐
I give up the attempt to cope	☐	☐	☐	☐
I criticise myself	☐	☐	☐	☐
I blame myself for things that happen	☐	☐	☐	☐

Appendix C: The Warwick-Edinburgh Mental Well-being Scale

Below are some feelings about feelings and thoughts.

Please tick the box that nest describes your experience of each over the last 2 weeks.

	None of the Time	Rarely	Some of the Time	Often	All of the Time
I've been feeling optimistic about the future	☐	☐	☐	☐	☐
I've been feeling useful	☐	☐	☐	☐	☐
I've been feeling relaxed	☐	☐	☐	☐	☐
I've been feeling interested in other people	☐	☐	☐	☐	☐
I've had energy to spare	☐	☐	☐	☐	☐
I've been dealing with problems well	☐	☐	☐	☐	☐
I've been thinking clearly	☐	☐	☐	☐	☐
I've been feeling good about myself	☐	☐	☐	☐	☐
I've been feeling close to other people	☐	☐	☐	☐	☐
I've been feeling confident	☐	☐	☐	☐	☐
I've been able to make up my own mind about things	☐	☐	☐	☐	☐
I've been feeling loved	☐	☐	☐	☐	☐
I've been interested in new things	☐	☐	☐	☐	☐
I've been feeling cheerful	☐	☐	☐	☐	☐

Appendix D: The Management Standards Indicator Tool

Instructions: it is recognised that working conditions affect worker well-being. Your responses to the questions below will help us to determine our working conditions now and enable us to monitor future improvements. In order for us to compare the current situation with past or future situations, it is important that your responses reflect your work in the last six months.

		Never	Seldom	Sometimes	Often	Always
1	I am clear what is expected of me at work	☐	☐	☐	☐	☐
2	I can decide when to take a break	☐	☐	☐	☐	☐
3	Different groups at work demand things from me that are hard to combine	☐	☐	☐	☐	☐
4	I know how to go about getting my job done	☐	☐	☐	☐	☐
5	I am subject to personal harassment in the form of unkind words or behaviour	☐	☐	☐	☐	☐
6	I have unachievable deadlines	☐	☐	☐	☐	☐
7	If work gets difficult, my colleagues will help me	☐	☐	☐	☐	☐
8	I am given supportive feedback on the work I do	☐	☐	☐	☐	☐
9	I have to work very intensely	☐	☐	☐	☐	☐
10	I have a say in my own work speed	☐	☐	☐	☐	☐
11	I am clear what my duties and responsibilities are	☐	☐	☐	☐	☐
12	I have to neglect some tasks because I have too much to do	☐	☐	☐	☐	☐
13	I am clear about the goals and objectives for my department	☐	☐	☐	☐	☐
14	There is friction or anger between colleagues	☐	☐	☐	☐	☐
15	I have a choice in deciding how I do my work	☐	☐	☐	☐	☐
16	I am unable to take sufficient breaks	☐	☐	☐	☐	☐
17	I understand how my work fits into the overall aim of the organisation	☐	☐	☐	☐	☐
18	I am pressured to work long hours	☐	☐	☐	☐	☐

19	I have a choice in deciding what I do at work	☐	☐	☐	☐	☐
20	I have to work very fast	☐	☐	☐	☐	☐
21	I am subject to bullying at work	☐	☐	☐	☐	☐
22	I have unrealistic time pressures	☐	☐	☐	☐	☐
23	I can rely on my line manager to help me out with a work problem	☐	☐	☐	☐	☐
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
24	I get help and support I need from colleagues	☐	☐	☐	☐	☐
25	I have some say over the way I work	☐	☐	☐	☐	☐
26	I have sufficient opportunities to question managers about change at work	☐	☐	☐	☐	☐
27	I receive the respect at work I deserve from my colleagues	☐	☐	☐	☐	☐
28	Staff are always consulted about change at work	☐	☐	☐	☐	☐
29	I can talk to my line manager about something that has upset or annoyed me at work	☐	☐	☐	☐	☐
30	My working time can be flexible	☐	☐	☐	☐	☐
31	My colleagues are willing to listen to my work-related problems	☐	☐	☐	☐	☐
32	When changes are made at work, I am clear how they will work out in practice	☐	☐	☐	☐	☐
33	I am supported through emotionally demanding work	☐	☐	☐	☐	☐
34	Relationships at work are strained	☐	☐	☐	☐	☐
35	My line manager encourages me at work	☐	☐	☐	☐	☐

Appendix E: Ethical Approval

Reference number: 3369 210430