DISSERTATION

THE COST OF CONFORMITY: MASKING AMONG NEURODIVERGENT WORKERS AND THE RELATIONSHIP WITH MENTAL HEALTH AND JOB ATTITUDES

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ABSTRACT

THE COST OF CONFORMITY: MASKING AMONG NEURODIVERGENT WORKERS AND THE RELATIONSHIP WITH MENTAL HEALTH AND JOB ATTITUDES

Neurodivergent individuals are an important, but underrepresented, part of the workforce who face a number of challenges when it comes to obtaining and maintaining employment. Masking, defined here as the strategies used to conceal neurodivergent traits in an effort to conform to neurotypical norms, has been shown to have negative repercussions for individuals' well-being, but has limited empirical research tied to the workplace. Using self-determination theory, the present study investigated how masking is related to worker mental health and job attitudes. Self-determination theory, and more specifically, basic psychological needs theory, has been used to explain motivation and well-being through the satisfaction of three basic needs: autonomy, competence, and relatedness. In this study, I hypothesized that masking would be associated with negative consequences for workers at least in part due to the active frustration of these needs, such that the experience of masking actively thwarts basic needs for autonomy, competence, and relatedness, and is likely associated with lower satisfaction of these needs as well. N=293 neurodivergent participants completed an online survey regarding their masking behaviors, perceptions of basic psychological needs, well-being, and job attitudes. Data were analyzed using higher-order structural equation modeling to test the hypothesized models regarding the associations between masking, needs frustration, need satisfaction, and individual mental health and job attitudes and found initial evidence for the role of need frustration and need satisfaction as atemporal and partial mediators between masking, mental health, and job

attitudes. These results may inform future research and theory regarding the psychological process of masking used by a variety of neurodivergent individuals and its presence in the workplace. Results may also be used to inform HR policy and training programs to better support neurodivergent workers and increase broader understanding and knowledge for neurotypical leaders, managers, and coworkers.

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INTRODUCTION

During the last two decades, a growing number of researchers, practitioners, and media have increased their attention on neurodiversity. Neurodiversity is an umbrella term typically used to describe the naturally occurring neurological differences within the human population (LeFevre-Levy et al., 2023; Singer, 1999; Sumner & Brown, 2015). Terms such as neurodiverse, neurodivergent, neuroatypical, neurominority, etc. are often used interchangeably, and can be used to describe people with a number of different neurological conditions or variations, including autism spectrum disorder (ASD), attention-deficit hyperactivity disorder (ADHD), dyslexia, dyspraxia, dyscalculia, and Tourette syndrome (Brinzea, 2019; Camden et al., 2024). Neurodivergent individuals represent an important segment of the world's population, with estimates as high as 15-20% of the global population (Doyle, 2020) and around 17% of the U.S. workforce (Korn Ferry, 2024). This percentage has increased in recent years due to increased awareness of varying experiences with neurodiversity, improved assessment and diagnostic methods, and increased access to community-based resources and support that were previously unavailable (Moses, 2023).

Neurodiversity in the workplace has also become an increasingly popular topic in practice and within the business press (Austin & Pisano, 2017), with growing coverage of targeted inclusion programs from large companies such as SAP, Microsoft, Ford Motor Company, Google, Dell, and Deloitte (Austin & Pisano, 2017; Bernick, 2022; Johns Hopkins University, 2022). Since the early 2010s, a network of major employers has developed targeted employment initiatives and protocols to increase recruitment efforts of neurodivergent individuals, as well as to improve the effectiveness of these efforts, and integrate neurodivergent

individuals into their companies. Although neurodiverse individuals make up a significant portion of the population and workforce, the extant research in applied psychology, industrial-organizational psychology, human resource management, and business literatures is still limited and lagging behind practice (Doyle & McDowall, 2022; LeFevre-Levy et al., 2023).

Existing research on neurodiversity at work has primarily focused on autistic job seekers and employees, and has only recently broadened to include other types of neurodivergent individuals (de Beer et al., 2022; Fuermaier et al., 2021; Lauder et al., 2022). Consistent with other areas of diversity and discrimination research (Markus, 2008), many organizational researchers tend to conceptualize neurodiversity in predominantly between groups terms (i.e., comparing neurodivergent vs. neurotypical, autistic vs. not). This has led to the neglect of research about types of within group diversity (i.e., individuals with a variety of neurodiverse conditions). Currently, applied psychological research and human resource practices have honed in on the importance of recruiting and assessing neurodivergent talent. That is, a large percentage of research focuses on individuals who have autism who are not yet employed or are actively seeking employment (Camden et al., 2024; Davies et al., 2023; Patton, 2019). However, much less is known about neurodivergent workers' experiences at work once they are employed. In order to retain neurodiverse workers, accessibility and inclusivity must extend beyond the recruitment process (Casey, 2020), and this must be reflected in our research focus.

The goal of this dissertation is to fill an important gap in the literature by investigating neurodiversity in the workplace and specifically, the role of masking among employed neurodivergent workers. Masking refers to the strategies used to conceal neurodivergent traits in an effort to conform to neurotypical norms. In this chapter, first I define neurodiversity and describe many of the conditions that comprise neurodiversity. Then I briefly describe what we

know about neurodiversity in the context of work and employment, detailing previous findings from extant literature on neurodiversity in the workplace. I then define and describe the phenomenon of masking by neurodivergent individuals, highlighting existing research on masking in the workplace. Next, I describe several theoretical perspectives and findings that have been previously offered to explain the role of masking and how they might explain the psychological experience of masking at work. Lastly, I present the overall conceptual model and hypotheses I will test in this research.

Explaining Neurodiversity

As reviewed by Doyle (2020), the term neurodiversity was constructed and influenced by biodiversity and by the social model of disability, highlighting the need for and strengths of a diverse ecosystem and population (Krcek, 2012). Neurodiversity highlights the naturally occurring variations in neurological and cognitive functioning within the population. Neurodiversity can be defined as any type of cognitive processing or manner of making sense of the world that deviates from "typical" forms of thinking and being (Rollnik-Sadowska & Grabińska, 2024). Originally, this term covered only autism spectrum disorders (ASD), but the current perception is much broader and has more recently included individuals with ASD, attention-deficit hyperactivity disorder (ADHD), dyslexia, dyspraxia, dysgraphia, dyscalculia, Alzheimer's disease, epilepsy, and Tourette syndrome. Sometimes mental health conditions like depression, generalized anxiety, and/or phobias, as well as traumatic brain injuries (TBIs), are included under the neurodiversity umbrella, but not consistently, and it is not well agreed upon in research. For the purpose of the present study, mental health conditions and TBIs will not be included in the definition of neurodiversity to avoid overlap and the common co-occurrence of mental health conditions within the neurodivergent population. Consistent with more recent

reviews of neurodiversity literature, I will focus on the main developmental neurominorities, including ASD, ADHD, dyslexia, and Tourette syndrome (Doyle & McDowall, 2022).

Neurodiversity encompasses many different types of skills, abilities, and functional profiles, and neurocognitive abilities, such as processing emotions, attention, executive functioning, memory, literacy, as well as others not included here (Dawson et al., 2022; Hutson & Hutson, 2023). As noted by many autism researchers, there are vast individual differences among neurodivergent individuals, even amongst those who share the same condition. The present study seeks to examine the experiences of individuals who have at least one of the four primary developmental neurominority conditions (autism spectrum disorder, attention deficit hyperactivity disorder, dyslexia, and Tourette syndrome). Although an in-depth analysis of each condition is beyond the scope of the current study, next, I provide a brief overview of each condition's prevalence, common work-related difficulties, and typical work-related strengths.

Autism Spectrum Disorder

Autism spectrum disorder (ASD) is diagnostically characterized by difficulties in social interactions and communication, sensory sensitivities, as well as restricted or repetitive patterns of thought and behavior. There is a great degree of heterogeneity within the autistic community, with varying frequency and intensity of autistic traits both between and within individuals. ASD affects 75 million people globally, or about 1% of the worldwide population (Zeidan et al., 2022). Prevalence estimates suggest that 1 in 45 adults in the United States are diagnosed with autism, which corresponds to around 5.5 million adults and 2% of the U.S. population (CDC, 2023). Recent estimates just released by the CDC showed that autism spectrum disorder incidence was 1 in 31 for U.S. children aged 4-8 years (CDC, 2025). The average age of diagnosis is 5 years old (National Survey of Children's Health, 2016-2019), and more than

70,000 young adults with autism reach an employable age annually in the United States (Centers for Disease Control and Prevention, 2023). Individuals with ASD often struggle with social and communication requirements in the workplace, managing multiple competing priorities and concentration, time management, and have a strong need for routine. However, they often have superior innovative thinking and detail observation, strong memory capabilities, efficiency and high productivity, and other 'specialist individual skills' like reading, music, drawing, and computation (Doyle, 2020).

Attention-Deficit Hyperactivity Disorder

Attention-deficit hyperactivity disorder (ADHD) is one of the most common neurodevelopmental conditions, characterized by difficulty sustaining attention, hyperactivity-impulsivity, or a combination of both. Globally, it has been estimated that approximately 5% of children and adolescents have ADHD (Catalá-López et al., 2017), and potentially up to 11% of children and adolescents in the United States (Danielson et al., 2018). As of 2020, more than 366 million adults worldwide have ADHD (Song et al., 2021) and an estimated 8.7 million adults in the U.S. (Schein et al., 2021), yet adult ADHD receives significantly less empirical attention compared to ADHD in children and adolescents. The average age for an ADHD diagnosis is just 7 years old (Visser et al., 2014), but varying symptom presentation is a common problem for receiving a diagnosis by a medical professional. Individuals with ADHD often experience challenges with concentrating, staying organized, managing time, short and long-term memory, and emotional dysregulation. However, individuals with ADHD are often attributed with having excellent visual-spatial reasoning ability, creativity and innovation, hyper-focus and concentration on tasks that they find interesting or rewarding, and a strong sense of justice and entrepreneurial spirit (Doyle, 2020).

Dyslexia

Dyslexia is a specific type of neurodivergent condition associated with poor reading and spelling skills, thought to be tied to an underlying phonological processing difference or deficit (Lyon et al., 2003; Snowling et al., 2020). Dyslexia is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities (Lyon et al., 2003; Wagner et al., 2021). Dyslexia is a lifelong condition and affects individuals across the IQ range, with evidence suggesting that up to 10% of people globally have dyslexia (Wissell et al., 2022; Yang et al., 2022), or about 780 million people worldwide. Research suggests this estimate may be lower than the true number of individuals living with dyslexia due to misdiagnosis or lack of diagnosis in childhood (Snowling et al., 2020). Individuals with dyslexia often have challenges with slower processing speeds, slower reading and writing, difficulty with spelling, and poor memory for details, but have been shown to have strength in holistic information processing, can more easily make connection and see the bigger picture, and often show above- average higher-order thinking and problem solving skills (LeFevre-Levy et al., 2022).

Tourette Syndrome

Tourette syndrome (TS) is a neurological condition that may cause sudden unwanted and uncontrolled rapid and repeated movement and/or vocal sounds called tics (National Institute of Neurological Disorders and Stroke, 2024). The first symptoms of tics usually occur between the ages of 5 and 10 years, generally in the head and neck area, and motor tics usually occur before the development of vocal tics (NINDS, 2024). Most people with TS experience their worst tic symptoms in their early teens, but symptoms typically lessen and become controlled by late teens to early 20s. However, for some people, TS can be a chronic condition with symptoms that last throughout adulthood. Recent research from the CDC suggested that about 1 in 50 children aged

5-14 years in the U.S. and about 1.4 million people in the U.S. may be affected by TS (Centers for Disease Control and Prevention, 2024). Although individuals with TS may struggle with verbal or physical outbursts, hyper-arousal, or distractibility, they also tend to have increased creativity, focus, and written communication abilities (Forbes, 2020).

Neurodiversity: A Paradigm Shift

Altogether, considering the prevalence and most commonly exhibited behaviors of different neurodivergent conditions, it is important to note that typecasting and stereotyping of the neurodiverse population is still highly prevalent, and problematic. Societal archetypes, such as the "autistic tech savant" and "hyper-focused individual with ADHD", have influenced researchers to take shortcuts to true inclusion efforts by typecasting neurodivergent individuals into occupations based on their assumed functioning strengths and weaknesses (Doyle, 2020; Lefevre-Levy et al., 2023). Typecasting does not reflect the complexity of neurodivergence, given that many developmental differences often overlap and co-occur (Rong et al., 2021), and job fit recommendations based on neurodivergent stereotypes may seemingly leave individuals with multiple neurodivergent traits or dual conditions without any suitable industries or careers (Praslova et al., 2023). Further, for neurodivergent workers who have chosen non-stereotypical industries or roles, there may be additional pressure to mask their identities (Praslova, 2021a). Researchers who study neurodiversity and identify as neurodivergent are wary of this tendency; they emphasize that researchers should instead engage in critical examination of industries and organizations with higher proportions of neurodivergent employees to identify what inclusion and management strategies have supported the retention of neurodivergent workers (Doyle, 2020; Praslova et al., 2023). The variety of stressors neurodivergent individuals may face in their day-to-day warrants additional research to better understand their lived experiences, and a

critical need to identify how to best support their active involvement so they can thrive in society.

Knowledge about neurodiversity has grown from its historical roots of advancing autism spectrum rights in the late 1990s, when neurodiversity was coined by sociologist Judy Singer (1998) in a book chapter on disability and autism. Neurodiversity has been studied in a variety of disciplines, including but not limited to psychiatry, disability studies, developmental psychology, and rehabilitation. The neurodiversity movement is a social and cultural movement that advocates for the acceptance and inclusion of neurological differences as a natural part of human diversity (den Houting, 2019; Leadbitter et al., 2021). The emergence of the neurodiversity movement, and existing research to date, has largely occurred in the United States, the United Kingdom, and Australia. The movement saw an upsurge in popularity in the 2010s from a variety of contextual and societal factors. The rapid growth of the internet and social media in the early 2010s allowed for neurodivergent individuals and social justice activists to find one another and collaborate to amplify the voices of neurodivergent people and increase societal awareness and advocacy efforts. Additionally, changes in diagnostic criteria for ASD and ADHD in the updated DSM-V (American Psychiatric Association, 2013) led to a broader understanding of these neurodiverse conditions and the people who had historically been overlooked and underdiagnosed (i.e., women, people of color, socioeconomically disadvantaged individuals, adults who had not received diagnoses as children) (Angell et al., 2018; Haney, 2016). For example, revised diagnostic criteria for ASD have explicitly included sensory processing differences, added the consideration of masking and other compensatory strategies for managing neurodivergence, and now are designed to apply across the lifespan (rather than disproportionately focusing on diagnosing children) (APA, 2013; Hull et al., 2020). Similarly,

the broadened criteria for ADHD acknowledge that symptoms like inattentiveness may manifest differently for adults and are less likely to be associated with hyperactivity, which historically had biases diagnoses toward young boys (APA, 2013; Hinshaw & Scheffler, 2014; Ramsay & Rostain, 2015). In the broadening of criteria for both ASD and ADHD, which allowed individuals without co-occurring intellectual disabilities to be more easily recognized, the DSM-V also allowed for autism and ADHD to be simultaneously diagnosed; before this change, clinicians had to choose one or the other. Additionally, technological and methodological advances in research led to more savvy research methodologies and tools, such as brain imaging, cognitive testing, and machine learning, to better understand the neurological differences associated with a variety of neurodiverse conditions. Finally, the increased awareness of the strengths of the neurodivergent population (rather than focusing solely on the deficits of their functioning) have led organizations, government agencies, and foundations to prioritize funding for research, as well as targeted workplace initiatives, for neurodivergent individuals.

The current approach to neurodiversity has pushed for a shift away from a purely medical model of neurodivergence as disability, which historically focused on treating the perceived deficits of functioning in an attempt to "cure" or minimize differences exhibited by neurodivergent individuals to fit in to a neurotypical society. Specifically, the medical model of disability categorizes disability as something internal to an individual that the individual should strive to "fix" and remediate to "remove" the disability if possible (Areheart, 2008; Lefevre-Levy et al., 2023). The medical model of disability defines neurologically based disabilities (otherwise referred to as ‘differences’ or ‘neurodivergent conditions’ throughout this paper to reflect the preference of the neurodivergent community) in terms of the deficits of behavior and functioning of neurodivergent people in comparison to neurotypical people, identifying what "should" be

changed in order to best assimilate. Research has suggested that the medical model of disability actually has negative implications for individuals and their perception of themselves, hindering a positive disability identity and the ability to build self-efficacy (Hahn & Belt, 2004; Rivera & Bennetto, 2023).

In contrast to the medical model, the social model of disability has been embraced by the neurodiversity movement, emphasizing that disability is a social construct. According to the social model of disability, it is not the pattern of functioning itself that is inherently a disability, but the comparison of that pattern of functioning with what society has deemed "acceptable" or "normal" that results in someone being categorized as "disabled" (Comberousse, 2019). Under this lens, the extent to which variation in neurological functioning is seen as a difference (i.e., neurodiversity, diversity) or a deficit (i.e., disability) should be based on the lived experience and personal preference of each individual (Dirth & Branscombe, 2018, 2019). The social model of disability emphasizes how society can support and include those who are neurodiverse through formal and informal accommodations, fostering community knowledge around neurodiversity, as well as recognizing and building upon the unique skills and benefits that the neurodivergent community already possesses.

Neurodiversity in the Workplace

There are a variety of reasons why the issue of neurodiversity has become more relevant to and important in the workplace. According to the University of Connecticut Center for Neurodiversity and Employment Innovation, rates of unemployment for adults with neurodivergent conditions are as high as 30-40%. These rates are three times higher compared to groups with other disabilities, and eight times higher than the rate for people without disabilities (Luc, 2024). The heterogeneity of the neurodiverse population warrants diverse organizational

and HR solutions to attract, select, and retain them as talent, rather than a "one size fits all" approach (Ezerins et al., 2023).

Reviews about neurodiversity/autism in the workplace are becoming increasingly common in the organizational sciences literature (Doyle & McDowall, 2022; Ezerins et al., 2024; Lefevre-Levy et al., 2023), and highlight important areas for future research. Emerging research about neurodiversity at work to date, while richly descriptive, has been largely atheoretical and predominantly qualitative (Ezerins et al., 2024).The literature has not made attempts to culminate findings and test psychological theories across domains until recently. Neurodiversity studies have utilized existing theories in organizational psychology such as the job demands-resources model (Demerouti et al., 2001), social identity theory (Tajfel & Turner, 1979), and person-environment fit (Kristof, 1996; Kristof-Brown, 2005), and will be covered in more depth below as they relate to masking.

Autism is the dominant form of neurodiversity that has been studied in applied psychology and organizational sciences (Doyle, 2020). Many of the conclusions drawn about best practices for gaining, maintaining, and sustaining employment for the neurodivergent population (i.e., the employee perspective, Ezerins et al., 2024), as well as discussions on the management of neurodiverse talent (i.e., the employer perspective, Priscott & Allen, 2021; Wen et al., 2024), are based on findings from study samples that are predominantly or exclusively autistic (as opposed to including and/or specifically examining multiple neurodiverse conditions). Research on ADHD (Adamou et al., 2013; Fuermaier et al., 2021; Murphy & Latham, 2022; Nagata et al., 2019), dyslexia (Costantini et al., 2020; De Beer et al., 2022; Wissell et al., 2022), and Tourette syndrome (Averns et al., 2012; Scharf et al., 2015; Shady et al., 1995) in the context of employment has begun to grow in recent years. However, these

studies lack richness in testing organizational psychology theories, and are less likely to be published in applied psychology or occupational health peer-reviewed journals. For studies that have utilized existing theories, many have found that our commonly-cited theoretical models do not accurately capture the full range of experiences that neurodiverse workers have. In conclusion, the extant research on neurodiversity in the workplace remains relatively scarce, has limited quantitative examinations of the experiences of neurodiverse employees, lacks generalizability, and is ripe for additional contributions to investigate issues that have received insufficient attention to date. One of the topics that warrants additional research is the phenomenon of masking, which I explain next.

Neurodiversity & Masking

One of the most commonly shared experiences among neurodivergent individuals, particularly in social environments or in interaction with others, is the phenomenon of masking (Davies et al., 2023; Kidwell et al., 2023). Masking, also referred to as camouflaging, social camouflaging, compensation, and/or assimilation in the autism literature, is a construct that is receiving increasing attention outside of applied psychology but limited research within the field of organizational psychology (Kidwell et al., 2023). Masking occurs when individuals use psychological, behavioral, and/or cognitive strategies to hide or down-play their neurodivergent traits from others and to conform to societal (i.e., neurotypical) norms for behavior (Barkley, 2010; Cook et al., 2021; Hull et al., 2017). Masking can occur consciously or unconsciously for many neurodiverse individuals, especially those who are undiagnosed and are just perceived as "different" (Pearson & Rose, 2021). For example, some neurodiverse individuals may learn to imitate common social behaviors during social interactions, such as maintaining eye contact when speaking and listening, smiling and nodding at specific times to indicate active listening or

engagement, or having more open body language, even if these behaviors don't feel natural in order to avoid being perceived as rude, inattentive, or different. In addition to learning and adding behaviors that are deemed socially acceptable, neurodiverse individuals also are likely to hide or minimize other behaviors that are not in accordance with neurotypical norms. The suppression of stimming behaviors (e.g., tapping fingers, rocking, fidgeting, picking at skin, etc.) which are often used by neurodiverse individuals to self-regulate during stressful or overwhelming situations (Steward, 2015), is one of the most common ways that the neurodiverse community reports masking to avoid drawing attention or being seen as unprofessional in environments like the workplace or social gatherings (Kapp et al., 2019). In line with the preferences of the autistic community, I will utilize the term masking, rather than camouflaging, throughout this study (Milton & Sims, 2016; Pryke-Hobbes et al., 2023).

Neurodivergent conditions are often considered to be concealed at work, although certain symptoms or their behavioral manifestations, as well as medication side effects, can make these conditions more or less concealable (Brohan et al., 2012). For neurodiverse individuals, the process of disclosure is often a voluntary or proactive matter, and for workers with largely concealable neurodivergent identities, there are often questions of whether and/or when to voluntarily disclose. In addition to the commonly discussed costs associated with disclosure (e.g., fear of stigma, discrimination, the likelihood of receiving specific accommodations, etc.), the experience of masking remains a cost even for those who choose to disclose, and especially for those who do not (Kidwell et al., 2023).

Although the DSM-V acknowledges that autistic symptoms “may be masked by learned strategies,” no guidelines exist for detecting masking strategies or specifying whether or not they should be encouraged (American Psychiatric Association, 2013). Masking has been most

commonly studied in the autistic community (and thus comprises the majority of research on masking cited here), yet recent neurodiversity scholars have opened a discussion that masking is not unique to autism (van der Putten et al., 2024; Wicherkiewicz & Gambin, 2024), and occurs in other neurodiverse populations as well. For example, individuals with ADHD may attempt to suppress impulsive behaviors, like interrupting or switching between tasks rapidly (de Beer et al., 2014), whereas dyslexic individuals report memorizing text when possible to avoid appearing slower in reading comprehension (Fuermaier et al., 2021; Kirby & Gibbon, 2018). For the purpose of the present study, masking will refer to any sort of behavior identified by neurodivergent individuals to conceal their neurodiverse identity, whether that is generating new social behaviors, regulating or minimizing existing behaviors, like decreasing "socially unacceptable" behaviors like stimming and increasing "socially desirable" behaviors like smiling, or both.

Present Study Goals

The goal of this study was to develop a better understanding of how masking relates to worker well-being and work experiences. Given the high rates of mental health concerns among neurodivergent adults (Hollocks et al., 2019; Hossain et al., 2020) which have been linked to masking (Hull et al., 2021; Zhuang et al., 2023), it is imperative to study the underlying mechanisms that may help explain how work experiences are linked to well-being in this population. Further, neurodiverse workers have higher unemployment and turnover than their neurotypical peers (Antshel, 2018), and research is needed to examine factors that might predict or reduce turnover (Kuriyan et al., 2013), such as job attitudes. Using a self-determination theoretical framework, I investigated how basic psychological needs (conceptualized as need satisfaction and need frustration) are related to masking, job attitudes, and well-being. In this

study, I aimed to test the conceptual model depicted below (see Figure 1). This model and the rationale for the study hypotheses are described later in the introduction.

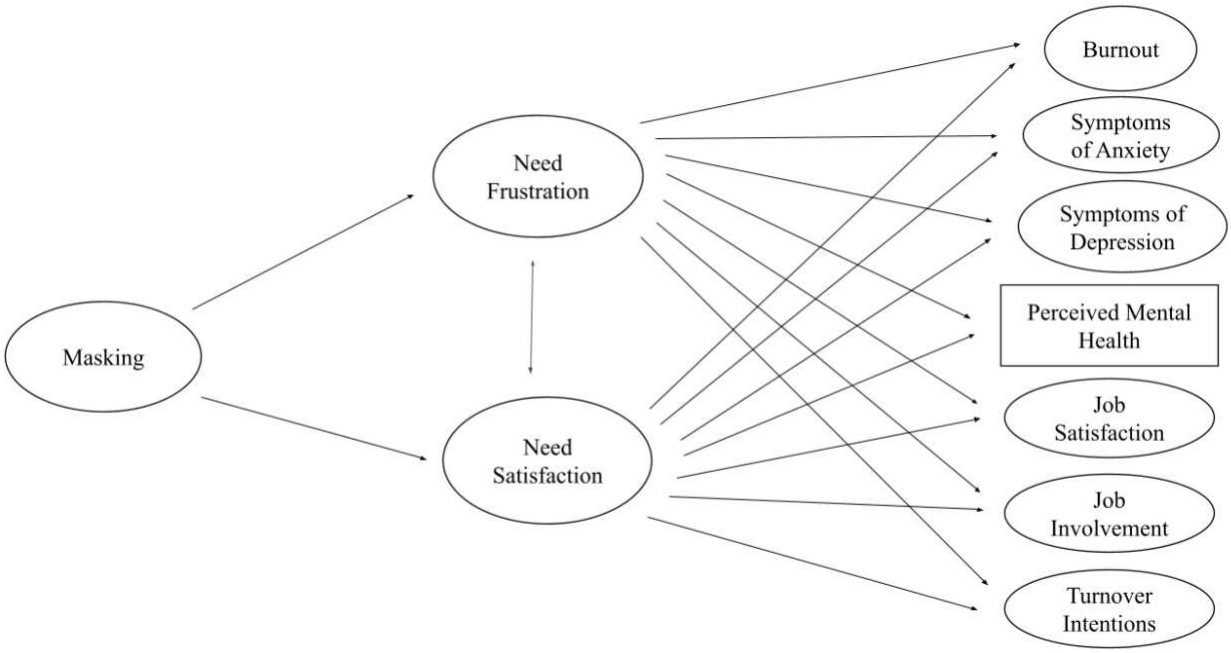

Figure 1. *Conceptual Higher-Order Model of Masking, Need Frustration, Need Satisfaction, Mental Health, and Job Attitude Variables*

Next, I introduce self-determination theory (SDT), a theory that has become dominant in understanding motivation, in addition to understanding optimal vs. non-optimal functioning among individuals. As a novel contribution to the literature, I suggest SDT can help researchers and practitioners understand and interpret masking and its associated repercussions among neurodivergent workers.

Self-Determination Theory & Basic Psychological Needs

Self-determination theory presents a framework for understanding human motivation and behavior, as well as what leads to flourishing versus degradation (Ryan & Vansteenkiste, 2023). Although SDT is most often used to explain motivation, as it has helped to describe and predict the conditions in which people's interests and engagement will vary (Ryan & Deci, 2017), it can

also be used to understand how certain situations or behaviors impact individuals' adjustment and well-being through their basic psychological needs (Ryan et al., 2010). The vast majority of research has supported the tenets of the theory, and the framework of SDT has continued to grow in recent years (Ryan & Deci, 2019; Ryan, 2023).

Basic Psychological Needs Theory

Basic psychological needs theory (BPNT) is one of six mini-theories of SDT, and helps serve as the glue between the more specific theories that comprise the overarching SDT framework (Ryan & Deci, 2017, 2019). BPNT argues that variation in people's functioning can be traced to the satisfaction and frustration of a set of underlying basic needs: the needs for autonomy, competence, and relatedness. Different contexts that support, or thwart, these needs will have an impact on wellness and optimal functioning. BPNT argues that all three needs are essential, and have to be satisfied for people to grow, flourish, and be physically and psychologically well. Conversely, if these needs are not satisfied, or if any of the three are actively thwarted, there will be distinct physiological and psychological costs to an individual. Autonomy refers to the experience of willingness and authenticity in one's actions, thoughts, and feelings. When frustrated, a sense of pressure and inner conflict arise, resulting in feeling pushed in an unwanted direction. Competence denotes the experience of effectiveness and confidence in one's abilities to attain desired outcomes. When frustrated, a sense of failure and helplessness can occur. Relatedness concerns the experience of bonding, warmth, and caring for and feeling cared for by others. When a need for relatedness is frustrated, a sense of social alienation, exclusion, coldness from others, and loneliness results.

BPNT has served as a unifying framework across the other mini-theories of SDT, facilitating their connection as the framework of SDT has grown. The basic psychological needs

for autonomy, competence, and relatedness account for the development and maintenance of intrinsic motivation, which forms the basis of Cognitive Evaluation Theory (Reeve, 2023). BPNT also accounts for the gradual internalization of regulations, norms, and attitudes, covered in Organismic Integration Theory (Pelletier & Rocchi, 2023). These needs also help make sense of the differential effects of life aspirations in Goal Contents Theory (Bradshaw, 2023), the factors characteristic of healthy and mature relationships in Relationship Motivation Theory (Knee & Browne, 2023), and the basis of foundational personality differences in Causality Orientation Theory (Koestner & Levine, 2023). For an in-depth review of each mini-theory, please refer to a recent Oxford Handbook publication on Self-Determination Theory (Ryan, 2023).

Decades of empirical research on need satisfaction have shown the benefits of need satisfaction for growth, functioning, physical and psychological wellness, and motivation (Ryan & Deci, 2017; Vansteenkiste et al., 2020), and recent reviews of BPNT show that the satisfaction of psychological needs for autonomy, competence, and relatedness is important for subjective well-being, over and above general life satisfaction (Tay & Diener, 2011). A meta-analysis by Van den Broeck and colleagues (2016) showed that psychological need satisfaction in the workplace is positively related to general well-being, life satisfaction, engagement, and work effort, as well as proactivity, creativity, and task performance, and negatively related to negative affect, strain, burnout, deviance, and absenteeism. Research on BPNT has shown that psychological need satisfaction predicts more positive outcomes, whereas psychological need frustration predicts more negative outcomes (Gillet et al., 2019), highlighting that need frustration is not merely the absence of need satisfaction, but a distinct construct. More specifically, need frustration can be experienced when the basic psychological needs are actively

undermined as a result of contextual influences (Vansteenkiste et al., 2020). For example, an individual may not experience relatedness with colleagues at work, and consequently experience less meaningful work, whereas in contrast, an individual that feels actively rejected and excluded by colleagues may experience symptoms of stress, anxiety, and depression (Rouse et al., 2019). In this way, need frustration is conceptualized in an asymmetrical relation to need satisfaction, where the absence of need satisfaction does not necessarily imply the presence of need frustration, but the presence of need frustration does indicate the absence of need satisfaction (Olafsen et al., 2017). Recent studies have confirmed the empirical distinction between (low) need satisfaction and need frustration through measurement testing with factor analyses (Chen et al., 2015), as well as through exploratory structural equation models (István et al., 2018), highlighting the importance to study these experiences simultaneously and separately (Forest et al., 2023). Based on this, the present study does not conceptualize need satisfaction and need frustration as merely opposites, but seeks to explore the relationship between the two. A wealth of empirical evidence exists to support the positive consequences of psychological needs satisfaction, but less research exists on need frustration, and the consequences of need frustration for psychological dysfunction and work-related variables (Rouse et al., 2019; Vansteenkiste & Ryan, 2013). I aim to contribute to this literature by studying need frustration and need satisfaction as separate and distinct constructs to the growing conversation on masking in the workplace. Based on this, I hypothesize the following:

H1: Need frustration and need satisfaction will be moderately and negatively correlated with one another, representing related but distinct constructs.

Masking & Self-Determination Theory

In a recent review on the utilization of SDT in organizational research, Forest and colleagues (2023) concluded that compensation, interpersonal relationships and leadership, and job design have been the three primary antecedent groupings to studying need satisfaction and/or frustration in the workplace. The current study contributes to the literature on SDT by presenting a novel antecedent to need satisfaction/frustration through the examination of masking by neurodivergent workers. Additionally, research specific to self-determination experiences for neurodivergent people, and especially based on the perspective of neurodivergent people, is still relatively limited (Chou et al., 2016; Thompson-Hodgetts et al., 2023; Qian et al., 2022). Further, the existing literature on managing neurodiversity in the workplace has consistently called for more theories, methods, and contexts in future research to support neurodivergent employees (Doyle & McDowall, 2022; Ezerins et al., 2024; Rollnik-Sadowska & Grabińska, 2024; Wen et al., 2024). Rollnik-Sadowska and Grabińska (2024) specifically argue that SDT is a theory ripe for future research in neurodivergent human resource management, and would benefit from more studies on social contexts as catalyzers to enhance or impede personal well-being of neurodivergent workers. Little empirical attention has been devoted to understanding the underlying mechanisms by which the negative outcomes of masking may occur, such as through the relationship between masking and basic psychological need frustration and/or low need satisfaction.

Masking & Need Frustration

In their qualitative study on masking neurodiversity in the workplace, Pryke-Hobbes and colleagues (2023) inadvertently sparked inspiration for the present research and the interest in incorporating psychological need frustration from one of their thematic findings: masking someone's "true self" consistently at work can create feelings of inadequacy about who they

really are. One autistic participant was quoted with regards to this theme, saying "*You feel your real self is worthless because if it wasn't, you wouldn't have to pretend to be someone else*" (Pryke-Hobbes et al., 2023, p. 13). Importantly, themes from their study touched on thwarted perceptions of autonomy, competence, and relatedness, and will be discussed in further detail below.

Frustrated perceptions of autonomy was a theme in Pryke-Hobbes and colleagues' (2023) qualitative study as it related to the extent to which participants felt that they had a choice in the decision to mask (particularly compared to the extent of control they felt during social masking). A key difference between masking in the workplace and more routine social masking for their participants was that they felt professionally bound to mask throughout the working day, rather than having the ability to walk away, take a reprieve from masking, or remove themselves from situations when they felt over-stimulated or fatigued. Moreover, in social contexts, participants were able to choose who they spent their time with (typically people with whom they shared similarities), and commented that this often was not the case with workplace colleagues (Pryke-Hobbes et al., 2023). Conceptually, it makes sense that masking would have a negative impact on perceptions of autonomy, given that masking requires individuals to suppress or alter their identity to conform to neurotypical social norms. The frequency and intensity of masking that occurs in workplaces, especially when already fatigued or overstimulated, is likely to lead neurodiverse individuals to feel that they have lost or diminished their personal agency and lead to feelings of inauthenticity and eroded autonomy.

A theme around competence (or lack thereof), was specifically mentioned by Pryke-Hobbes and colleagues (2023) as it related to why participants reported masking so frequently at work. While some participants used masking to maintain others' perceptions of their

competency, others felt that masking acted as a prerequisite to being considered capable in their job role. These participants felt that their non-typical behaviors (e.g., stimming, reduction in eye contact, sensory sensitivities) would be perceived by their employers as undermining their ability to meet the demands of their job. Further, participants often attributed their professional success in the workplace to their ability to mask successfully, rather than to their job-related knowledge, skills, and abilities. Although they were able to achieve professional success, some participants were resentful of this, and expressed that they felt "trapped into masking" due to a desire to further their career. The previously highlighted comment from a study participant regarding feelings of worthlessness also emphasizes the implications of competence being frustrated over time; internalized self-doubt, particularly if individuals feel their natural approaches to communication or problem-solving are devalued by those around them, can undermine confidence and a sense of achievement. Indeed, autistic adolescents frequently report masking to avoid being perceived as mentally deficient and less competent by others (Bernardin et al., 2021; Cremone et al., 2023).

Finally, relatedness was discussed by Pryke-Hobbes and colleagues (2023) as it tied to participants' desire to be authentically understood by their colleagues, but feeling undermined by their need to mask. Unable to develop genuine connections with others, participants reported feeling socially disconnected in the workplace. For participants who did develop friendships in the workplace, many expressed dissatisfaction that these connections were based on their masking persona, rather than what they viewed as their true self. This disparity between participants' true self and others' perceptions of them also led a number of participants to doubt whether colleagues would accept them if they chose to unmask in the future. The comments that summarized a thwarted need for relatedness go directly against many "anti-social", "isolated", or

"social hermit" stereotypes that are typically cast upon autistic individuals. In reality, many neurodiverse individuals share the same need for relatedness as their neurotypical counterparts, but may just have different preferences for meeting that need, and benefit from environments where these preferences could be honored. Initial research suggests this might be true; autistic participants report seeking environments that were accommodating of their autistic characteristics, such as workplaces in which non-social abilities were more important than social skills (Livingston et al., 2019). Further, autistic people report fewer social-communication difficulties during interactions with other autistic people (Gernsbacher et al., 2017), suggesting that autistic *and* non-autistic people have difficulties understanding each other (rather than unsuccessful social interactions solely being attributed to autistic people's social-communication difficulties; Edey et al., 2016; Mantzalas et al., 2022).

Neurodiverse individuals may experience less need satisfaction, and likely more active need frustration due to the very nature of their conditions, particularly conditions in which executive functioning is impaired (Morsink et al., 2022). Executive functioning encompasses a variety of cognitive abilities that allow for self-regulation, such as impulse control, working memory, organization, and planning (Barkley, 2015). Since individuals with ADHD and autism often experience difficulties with executive functioning, and therefore with self-regulation, they have typically developed different types of self-regulatory behaviors, like stimming. However, if these self-regulatory behaviors are suppressed by masking, it is reasonable to believe that the difficulties faced by neurodiverse individuals may impact need fulfillment and facilitate more opportunities for need frustration. Further, the act of masking itself is not merely a passive obstruction of basic psychological needs, but likely is better represented as an active undermining of needs when done frequently, intensely, and for long periods of time. Based on

research that incorporates the voices of those who engage in masking behaviors, the effort of masking contributes to withdrawal to avoid social rejection (Hull et al., 2017), identify confusion (Pearson & Rose, 2021), and chronic exhaustion (Higgins et al., 2021). Based on this, I hypothesize the following:

H2: Masking is positively related to the frustration of autonomy, competence, and relatedness, and the higher-order latent variable of need frustration.

Masking & Need Satisfaction

Neurotypical and neurodivergent individuals alike may initially perceive masking as beneficial for meeting or satisfying basic psychological needs. In other words, masking is a strategy that allows neurodiverse people to navigate challenging environments and meet societal expectations in the short term. For example, it is plausible to imagine how masking could enable individuals to control how they are perceived, aligning their behavior with social norms and giving the illusion of autonomy by providing a sense of agency over how they "fit in." Masking may also temporarily help neurodiverse workers appear more competent by conforming to expected behaviors and improving interactions with supervisors, leading to better social acceptance and improved ratings of performance. As previously mentioned, masking may help to foster surface level connections by avoiding behaviors that might be stigmatized, reducing feelings of rejection, or promoting a sense of belonging. These cost-benefit calculations describe why masking has been considered both a demand and a means of resource gain in recent research (Mantzalas et al., 2022).

Despite its potential short-term benefits, long-term masking can harm the well-being of neurodiverse individuals (Hull et al., 2017), conceal support needs (Baldwin & Costley, 2016), and contribute to the misdiagnosis and under-diagnosis of neurodiverse conditions, especially

autism among women and people of color (Livingston et al., 2019, Miller et al., 2021). Moreover, masking may interfere with opportunities to authentically engage in experiences that promote psychological growth and well-being. For example, individuals who habitually suppress their preferences, communication styles, and work styles to conform may not feel a true sense of volition, even if they appear to be making active choices. In this way, masking may quietly erode autonomy through a persistent mismatch between behavior and internal values (rather than through overt pressure). Similarly, masking may limit the experience of competence, not by causing failure, but by disconnecting success from one's authentic abilities. If performance is attributed to one's ability to "pass" as neurotypical, rather than to one's genuine skill or effort, the resulting sense of achievement may feel hollow or disconnected. Finally, masking may yield polite, socially acceptable, but surface-level interactions that leave neurodivergent individuals feeling unseen or misunderstood, especially if acceptance and relatedness are contingent on continued performance of an inauthentic or false self.

Thus, even when masking is socially rewarded, it may impede the fulfilment of basic psychological needs by replacing deeper experiences of autonomy, competence, and relatedness with surface-level approval from others. Based on this, it is plausible that masking is more likely to be associated with low need satisfaction, rather than high need satisfaction. Thus, I hypothesize the following:

H3: Masking is negatively related to the satisfaction of autonomy, competence, and relatedness, and the higher-order latent variable of need satisfaction.

Further, I believe masking is best theoretically conceptualized as a predictor of active need frustration, rather than merely diminished or absent need satisfaction. While need satisfaction refers to the presence of positive psychological experiences, need frustration reflects

the presence of active conflict, pressure, or alienation, all of which are experiences commonly described by neurodivergent individuals who feel compelled to mask (Miller et al., 2021). Masking often involves suppressing authentic behaviors and expressions, and is often attributed to fear of external stigma or discrimination from others, highlighting the role of the environment in thwarting authentic self-expression (Rivera & Bennetto, 2023). Thus, need frustration may more accurately reflect the harmful psychological outcomes associated with masking. However, to contribute to the growing literature capturing need frustration and need satisfaction as distinct constructs, I include both for further information about the nuances of neurodiverse individuals' experiences. Based on the previous research on the outcomes of masking, particularly those highlighted through qualitative research on the lived experience of autistic individuals, I propose the following:

H4: The positive association between masking and need frustration will be stronger than the negative association between masking and need satisfaction.

Masking as a Job Demand & Mental Health

A plethora of research exists on the individual consequences of masking among individuals with autism, with a resounding theme that suppressing autistic traits and masking has been shown to significantly contribute to anxiety, depression, burnout, a diminished quality of life, greater mental and physical exhaustion, lower self-esteem, and suicidality (Beck et al., 2020; Cage et al., 2018; Cage & Troxell-Whitman, 2019; Evans et al., 2024; Hull et al., 2017, 2019; Miller et al., 2021). Masking has also been associated with negative repercussions among individuals with ADHD, including lower life satisfaction and increased depressive symptoms (van der Putten et al., 2024; Wicherkiewicz & Gambin, 2024), suggesting that masking serves similar psychological functions across differing neurodiverse groups. Further, a recent study on

the experience of stigma for adults living with Tourette Syndrome in the UK found that 75% of participants attempted to cope with stigma and discrimination by concealing their condition and attempting to suppress or mask their tics (Malli & Forrester-Jones, 2022). Similarly, a qualitative study on dyslexia disclosure among college students found that many chose to conceal their dyslexia, and this led to identity conflict, low self-esteem, and low academic self-concept (Clark, 2024). However, comprehensive quantitative research has yet to be done to investigate the association between masking and mental health and well-being among individuals with ADHD, dyslexia, or Tourette Syndrome in the workplace.

Qualitative research has repeatedly shown that autistic people experience burnout and often experience poor mental health, wellbeing, and quality of life. Based on autistic adults' descriptions of their lived experiences, Mantazalas and colleagues (2022) created a conceptual model and theoretical framework of autistic burnout, based on the social model of disability within the neurodiversity paradigm (previously described above), the job-demands resources model (Bakker et al., 2001), and the conservation of resources theory (Hobfoll, 1989). The job-demands resources model is a theory of workplace stress that classifies work attributes as either job demands or resources. According to the JD-R, resources can act as a buffer between demands and exhaustion, but exhaustion and burnout can occur if job demands consistently exceed job resources (Bakker et al., 2001). The conservation of resources theory posits that individuals strive to acquire, protect, and replenish resources, and stress and burnout can occur if an investment in resources does not produce expected returns (Hobfoll, 1989). Further, resource loss can trigger "loss spirals" that lead to further resource loss. In their framework, Mantazalas and colleagues (2022) argued that masking, sensory sensitivities, and autistic traits serve as personal demands, while social support, self-awareness, special interests, and stimming all serve

as social resources. Based on this framework, the authors hypothesized that masking contributes directly to autistic burnout and indirectly to increased mental strain (conceptualized in their model as depression, anxiety, and stress) and decreased wellbeing (conceptualized in their model as life satisfaction and community). Based on this framework, if an employee utilized masking strategies to suppress stimming (a social resource) in the workplace, there would be compounding resource loss, resulting in worse consequences or outcomes for the individual.

In one of the more thorough applications of theory to the study of neurodiversity in the workplace, Hayward and colleagues (2020) examined the relevance of job demands-resources theory (Bakker et al., 2001; 2017) to autistic individuals in the workplace, and explored how demands and resources differ between autistic and non-autistic individuals. This research showed that job demands have a greater impact on well-being for autistic employees compared to neurotypical employees, and that autistic employees also face a unique set of job demands that are largely social and communication-oriented in nature (Hayward et al., 2020). Specifically, lack of social acceptance and understanding, decoding expectations from others, relationships, pressure to fit in, and masking were highlighted as unique demands that may have a greater impact on employee well-being and experiences at work. More specifically, masking theoretically serves as a hindrance demand to neurodiverse workers, conceptualized as an energy-draining job demand linked to exhaustion and disengagement, rather than a motivating or engaging challenge demand (Van den Broeck et al., 2010). Workplace masking has thus been highlighted as a job demand that can have negative consequences for neurodiverse individuals' well-being, including burnout and reduced well-being (Tomczak & Kulikowski, 2023).

The strength model of self-control, or ego-depletion theory, (Baumeister et al., 1998) posits that individuals have a limited pool of self-regulatory resources. When self-control is

exerted in one domain, individuals become depleted and are less able to regulate themselves in other domains (Baumeister & Vohs, 2016). Applied to the current context, when neurodiverse workers have to engage in masking at work, they will have to spend more time and effort thinking about and addressing masking. This might involve overcoming urges to physically or verbally stim, etc., all of which require attentional, cognitive, and self-control exertion (Mani et al., 2013). Neurodiverse individuals, who already struggle with executive functioning and self-regulation, are left exhausted when they mask frequently and withdraw from their pool of self-regulatory resources. Qualitative research from Livingston and colleagues (2019) demonstrated evidence of this, with autistic participants reporting that the cognitive demands of using masking strategies throughout the working day affected the participants' ability to perform daily living tasks, so they incurred personal costs even after they were no longer masking.

In this study among a broader population of neurodiverse workers, I expect to find consistent effects that align with previous research and theory relevant to masking and well-being. Based on the theories and previous research described above, I hypothesize the following:

H5: Masking will be positively related to depressive symptoms;

H6: Masking will be positively related to anxiety symptoms;

H7: Masking will be positively related to burnout; and

H8: Masking will be negatively related to perceived mental health.

Masking as a Job Demand & Job Attitudes

As described above, existing research has identified key individual consequences of masking related to well-being. However, very limited research has considered how this might be affected by the social context in which masking is employed, such as the workplace. Since existing research indicates that masking is particularly prevalent in formal social contexts, such

as in the company of colleagues and employers, and significantly motivated by employment-based goals (Cage & Troxell-Whitman, 2019; Pryke-Hobbes et al., 2023), it is reasonable to hypothesize that an investigation of masking within the workplace is likely to reveal additional experiences and consequences associated with masking. Consistent with Kidwell and colleagues' (2023) future research recommendations, foundational knowledge about the organizational risks and consequences associated with masking in the workplace are largely unknown. Although the anticipated findings may not all have been applied directly in the context of neurodiversity and the workplace, they help shed light on what can be hypothesized regarding masking in the workplace and work-related consequences of interest.

To date, there are only a handful of studies that have explicitly examined masking in the workplace setting, and few have explicitly studied job attitudes such as job satisfaction, turnover intentions, or job involvement as constructs of interest. A recent qualitative study by Pryke-Hobbes and colleagues (2023) sought to understand the motivations, consequences, and contextual differences of workplace masking compared to other social contexts, and found that autistic and non-autistic neurodivergent participants experienced unique pressures to mask, which they attributed largely to the limited understanding of neurodiversity in the workplace. Additionally, these participants faced challenges when attempting to suppress stimming behaviors and sensory sensitivities while at work.

A key, yet concerning, theme from this research showed that most, if not all, participants believed that masking was not only desired, but required, for successfully obtaining employment, fulfilling work responsibilities, and developing professionally (Pryke-Hobbes et al., 2023). One of the work-related variables identified in their findings was that participants felt the quality of their work suffered due to the energy and effort that was necessary to mask. One of the

qualitative comments from their study regarding this thematic finding was the following: "*Masking sacrifices my abilities; I hear less, I miss things, I burn more energy, and I cannot use my mind in ways that I know I can do very well*" (Pryke-Hobbes et al., 2023, p. 13). Based on these findings, it is plausible that masking may have positive effects on *others'* perceptions of a neurodivergent employee's performance (particularly as it relates to social and communication-based job demands and neurotypical norms for these demands), but have negative effects on sustained work performance across a variety of job demands over time.

Qualitative studies have identified that masking in the workplace often has negative repercussions, such that employers and colleagues hold neurodivergent employees to a neurotypical standard (Livingston et al., 2019). Each time an individual masks to conform to neurotypical norms and thus "passes" as a neurotypical person, implicit pressure to maintain that external persona grows (Londero, 2021). This implicit pressure may lead to the development or exacerbation of imposter syndrome-like feelings, negatively impacting their organizational experience. Further, when errors do occur, such as social context clues being missed, these errors are less likely to be interpreted in the context of autism. Additionally, although masking can be seen as socially motivated and helpful for *gaining* employment, it has been found to not always be sufficient for *maintaining* employment, and switching jobs may be more common in the neurodivergent population compared to the general population (Livingston et al., 2019). The authors also described that when autistic individuals successfully masked, and then disclosed their neurodiversity and/or requested workplace accommodations, they were less likely to be believed or to receive accommodations because of their neurotypical presentation.

Although there has been limited research on masking neurodiversity and job attitudes in the workplace, similarities can be drawn between masking and other relevant constructs, such as

surface acting or authenticity at work. Surface acting, a type of emotional labor that individuals engage in to regulate emotional expressions, has been shown to be negatively related to performance (Grandey, 2017; Ozcelik, 2012), job satisfaction (and exacerbated at high levels of surface acting) (Bhave & Glomb, 2016), and positively related to turnover intentions (Wang et al., 2023), absenteeism (Nguyen et al., 2016), presenteeism (Song et al., 2021), and emotional exhaustion (Grandey, 2017; Ozcelik, 2012). Thus, it is probable that masking, a form of labor that also regulates expressions and behaviors, would exhibit similar relationships to these constructs. Additionally, authenticity at work, typically defined as employees' perception of their ability to experience their true selves, has become an increasingly popular area of study in workplace research, especially as it relates to organizational efforts around diversity, equity, inclusion, and psychological safety (Gardner et al., 2022; Phillips et al., 2018; Smith et al., 2012). Employees who perceive they have the ability to be authentic at work report higher job satisfaction (Metin et al., 2016; Van den Bosch & Taris, 2014), and better performance (Kuntz & Abbott, 2017), and authenticity at work has been theoretically tied to organizational commitment (Cable et al., 2013), motivation (Leroy et al., 2013), and turnover intentions (Madera et al., 2012). Neurodiverse workers who engage in frequent masking report feeling inauthentic to themselves and in their workplace (Doyle, 2020; Pryke-Hobbes et al., 2023). Based on this, it is plausible that the relationship between masking and these variables would be the reverse of their relationship with authenticity. Due to the similarities among the constructs of masking and surface acting, and the novelty of studying masking in the context of the workplace, I hypothesize the following:

H9: Masking will be negatively related to job satisfaction;

H10: Masking will be negatively related to job involvement;

H11: Masking will be positively related to turnover intentions.

Need Frustration, Need Satisfaction, & Mental Health

The previously mentioned theories help to explain the experience of masking in the workplace, and its associated outcomes, through a variety of conceptualizations. Masking can be seen as a unique job demand for neurodiverse workers (job-demands resources model), or a choice made in an effort to protect necessary resources by gaining and maintaining employment (conservation of resources theory). Further, it is a socially-motivated decision to reduce likelihood of biases and discrimination as a result of being part of an "out-group" (social identity theory). In addition to these theories, SDT and BPNT help to understand these relationships through the construct of need frustration.

One of the key propositions within BPNT is that need frustration acts as a vulnerability factor for ill-being, not merely due to the absence of need satisfaction but as an active undermining of psychological functioning (Ryan & Deci, 2017). When individuals perceive their autonomy, competence, or relatedness to be persistently obstructed, the resulting frustration of these needs has been associated with increased stress, depressive symptoms, symptoms of anxiety, and burnout (Campbell et al., 2017, Ferrand & Maratinent, 2020; Haraldsen et al., 2020). Need frustration has also been linked to various forms of executive dysfunction, including worry, rumination, catastrophizing, and obsessive thinking (Vahlstein et al., 2020), as well as lower levels of subjective happiness and multiple forms of maladjustment (Bartholomew et al., 2011; Ryan et al., 2016). Despite these consistent patterns between need frustration and various negative mental health experiences, there remains limited research examining how these dynamics operate in organizational contexts and with neurodivergent populations, who may be especially susceptible to environments that thwart basic psychological needs.

While need frustration has been shown to be more strongly predictive of distress, low need satisfaction may also play a meaningful role in the mental health of neurodivergent individuals. Although need satisfaction is not simply the inverse of need frustration (Bartholomew et al., 2011), a lack of opportunities to satisfy autonomy, competence, or relatedness can create environments where individuals feel underutilized, disconnected, or unsupported, contributing to worse mental health outcomes. Further, given that need satisfaction has been associated with greater emotional stability and overall psychological health (Vansteenkiste & Ryan, 2013), need satisfaction should thus be negatively related to indicators of psychological ill-being like depression, anxiety, and burnout.

Understanding how need frustration contributes to psychological distress is crucial for addressing the unique challenges faced by neurodiverse workers, and follows a call to address the void in the literature on basic psychological need frustration (Van den Broeck et al., 2016). Building on this theoretical foundation and consistent with a growing body of research highlighting the unique roles of need frustration and need satisfaction, I hypothesize the following:

H12: Need frustration will be positively related to depressive symptoms;

H13: Need frustration will be positively related to anxiety symptoms;

H14: Need frustration will be positively related to burnout; and,

H15: Need frustration will be negatively associated with perceived mental health.

H16: Need satisfaction will be negatively related to depressive symptoms;

H17: Need satisfaction will be negatively related to anxiety symptoms;

H18: Need satisfaction will be negatively related to burnout; and,

H19: Need satisfaction will be positively associated with perceived mental health.

Need Frustration, Need Satisfaction, & Job Attitudes

Beyond the consequences that need frustration and low need satisfaction have for individual well-being, there are work-related implications to consider as well. SDT posits that need satisfaction supports optimal functioning and well-being, while need frustration actively undermines functioning, leading to disengagement, withdrawal, and other maladaptive outcomes (Deci & Ryan, 2000; Ryan & Deci, 2017). Importantly, the work environment plays a central role in either supporting or thwarting workers' needs (Gagné & Deci, 2005). In recognition of this, Vansteenkiste and Ryan (2013) emphasized the importance of examining need frustration, not just the absence of need satisfaction, as a unique predictor of negative workplace outcomes. Despite increasing calls to complement the study of need satisfaction with need frustration, research on need frustration in the work context is relatively new and scarce, only showing up within the last decade.

Although empirical research on need frustration in organizational contexts is relatively recent, initial findings point to a wide range of adverse outcomes linked to need frustration. High need frustration among employees has been shown to have a significant relationship with work-related stress, somatic symptoms, emotional exhaustion, work-family conflict, and poor sleep (Campbell et al., 2018; Gilet et al., 2015; Huyghebaert et al., 2018; Jang et al., 2016; Olafsen et al., 2017). It has also been tied to disengagement at work, job insecurity, work dissatisfaction, absence due to sickness, counterproductive work behavior, and turnover intentions (Olafsen et al., 2017; Trépanier et al., 2015; Unanue et al., 2018; Van den Broeck et al., 2010, 2014).

In addition to the minimal research that exists on need frustration and its consequences in the workplace, related theory can help to theoretically guide the present study's hypotheses. For example, the conservation of resources theory states that resource loss can lead to "loss spirals",

and subsequent and more distal loss of resources (Hobfoll, 1989). Within this framework, the psychological experience of need frustration is a resource loss that can lead to further loss due to the needs of autonomy, competence, and relatedness being thwarted, and contribute to organizational disengagement. Neurodiverse individuals who feel they are not in control of their own behaviors or living in accordance with their morals and values (autonomy), who do not feel confident in their knowledge, skills, and abilities, or do not believe their skills and abilities are valued (competence), and who struggle to build and maintain authentic relationships (relatedness) are less likely to be satisfied with their work than those whose needs have been actively met and satisfied. Their need frustration and subsequent loss spirals (whether at work or not) may lead to absences from work that are less likely to be pre-excused, or result in attendance at work with reduced engagement and psychological investment. Finally, chronic need frustration at work may serve as an impetus to seek out other employment with opportunities to meet basic psychological needs.

Conversely, when workplaces support employees' basic psychological needs, workers are more likely to thrive. A recent meta-analysis found that the satisfaction of basic psychological needs at work is significantly associated with higher life satisfaction and job satisfaction, as well as work engagement (Van den Broeck et al., 2016). Satisfying the need for autonomy helps workers feel that their actions align with personal values and interests, which has positive implications for job satisfaction, job involvement, and retention (Hetland et al., 2017). Similarly, satisfying a need for competence enables workers to feel effective and capable at their jobs, while satisfying relatedness fosters meaningful, authentic relationships with others, both of which are positively related to job satisfaction and organizational commitment (Gillet et al.,

2015). Together, these fulfilled needs encourage employees to invest more of themselves in their work, report greater satisfaction with their work, and experience higher levels of commitment.

Despite growing evidence in support of these patterns, limited research has explored how need satisfaction and need frustration function among neurodiverse populations in workplace contexts. Addressing this gap, the present study examines how these constructs related to key job attitudes, and I hypothesize the following:

H20: Need frustration will be negatively related to job satisfaction;

H21: Need frustration will be negatively related to job involvement; and,

H22: Need frustration will be positively related to turnover intentions.

H23: Need satisfaction will be positively related to job satisfaction;

H24: Need satisfaction will be positively related to job involvement; and,

H25: Need satisfaction will be negatively related to turnover intentions.

The Indirect Effect of Need Frustration and Need Satisfaction

As described in the previous sections, masking can be understood as a complex, effortful behavior that may help neurodivergent employees manage external perceptions in the workplace, but often at a psychological cost. While masking may support short-term goals such as obtaining employment and inclusion, it is also likely to interfere with the fulfillment of basic psychological needs through active need frustration and reduced need satisfaction. As such, masking may indirectly lead to poor psychological functioning not merely due to its direct emotional toll, but also because it undermines core psychological needs that are essential to well-being and motivation.

Self-determination theory provides a clear theoretical pathway for these dynamics. According to this framework, need satisfaction promotes well-being and psychological

flourishing, while need frustration serves as a key vulnerability for distress. Following the logic of the previously outlined hypotheses, it is plausible that need frustration and need satisfaction may serve as partial mediators to the relationship between masking, mental health, and job attitudes. Much like how the presence or absence of satisfaction and/or frustration of needs has been found to predict a wide variety of outcomes across contexts, it is reasonable to expect that these psychological needs can also help explain why masking is associated with heightened distress and diminished job-related attitudes (Forest et al., 2023). SDT offers insight into the internal processes by which masking may negatively impact self-determination and well-being through actively undermined or reduced perceptions of competence, autonomy, and relatedness.

This theoretical framing is particularly useful in early-stage, cross-sectional research that aims to build a foundation for future, longitudinal studies and more complex methodology. Given the intricacies of neurodiverse experiences, the use of cross-sectional data limits my ability to draw causal conclusions or temporal directionality. Additionally, potential multicollinearity among related constructs in my study must be taken into account. For these reasons, I propose that need frustration and need satisfaction will partially, rather than fully, mediate the associations between masking and mental health criteria (e.g., depressive symptoms, anxiety symptoms, burnout, perceived mental health), as well as job attitudes (e.g., job satisfaction, job involvement, and turnover intentions). Based on this, I propose the following:

H26: Need frustration will partially mediate the relationship between masking and depressive symptoms, such that masking will have both a direct effect on depressive symptoms and an indirect effect through need frustration.

H27: Need frustration will partially mediate the relationship between masking and symptoms of anxiety, such that masking will have both a direct effect on anxiety symptoms and an indirect effect through need frustration.

H28: Need frustration will partially mediate the relationship between masking and burnout, such that masking will have both a direct effect on burnout and an indirect effect through need frustration.

H29: Need frustration will partially mediate the relationship between masking and perceived mental health, such that masking will have both a direct effect on perceived mental health and an indirect effect through need frustration.

H30: Need frustration will partially mediate the relationship between masking and job satisfaction, such that masking will have both a direct effect on job satisfaction and an indirect effect through need frustration.

H31: Need frustration will partially mediate the relationship between masking and job involvement, such that masking will have both a direct effect on job involvement and an indirect effect through need frustration.

H32: Need frustration will partially mediate the relationship between masking and turnover intentions, such that masking will have both a direct effect on turnover intentions and an indirect effect through need frustration.

Figure 2

Proposed Indirect Effect of Need Frustration

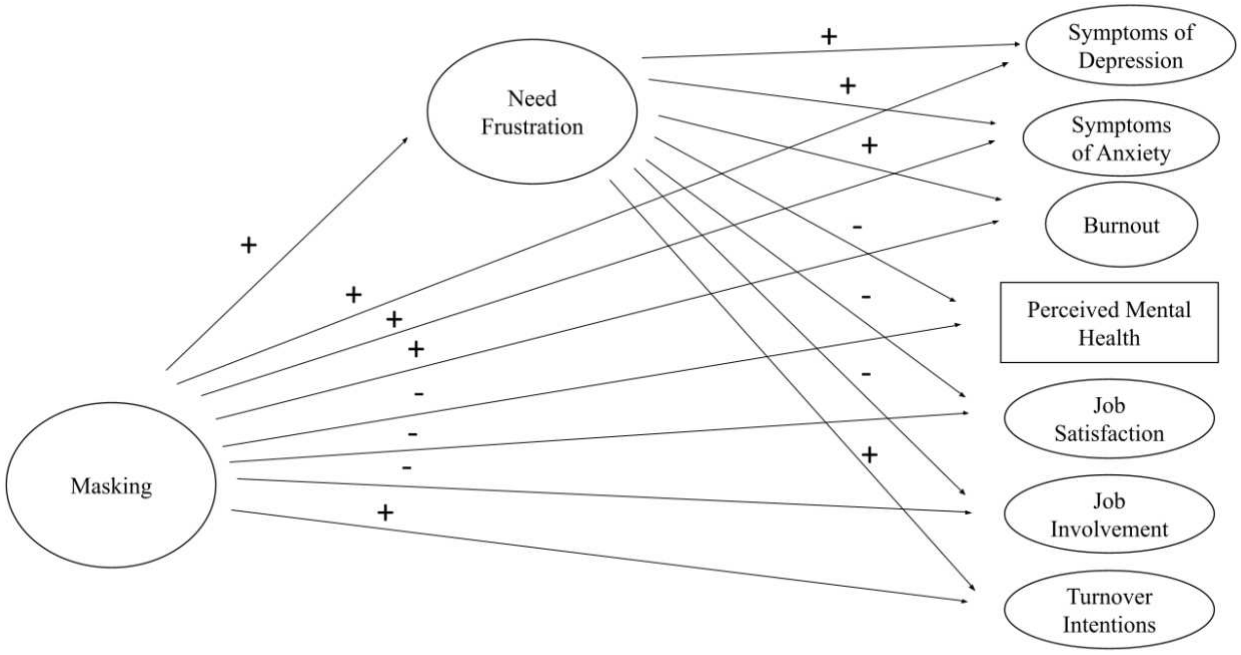

Figure 2. *Proposed Indirect Effect of Need Frustration*

H33: Need satisfaction will partially mediate the relationship between masking and depressive symptoms, such that masking will have both a direct effect on depressive symptoms and an indirect effect through need satisfaction.

H34: Need satisfaction will partially mediate the relationship between masking and symptoms of anxiety, such that masking will have both a direct effect on anxiety symptoms and an indirect effect through need satisfaction.

H35: Need satisfaction will partially mediate the relationship between masking and burnout, such that masking will have both a direct effect on burnout and an indirect effect through need satisfaction.

H36: Need satisfaction will partially mediate the relationship between masking and perceived mental health, such that masking will have both a direct effect on perceived mental health and an indirect effect through need satisfaction.

H37: Need satisfaction will partially mediate the relationship between masking and job satisfaction, such that masking will have both a direct effect on job satisfaction and an indirect effect through need satisfaction.

H38: Need satisfaction will partially mediate the relationship between masking and job involvement, such that masking will have both a direct effect on job involvement and an indirect effect through need satisfaction.

H39: Need satisfaction will partially mediate the relationship between masking and turnover intentions, such that masking will have both a direct effect on turnover intentions and an indirect effect through need satisfaction.

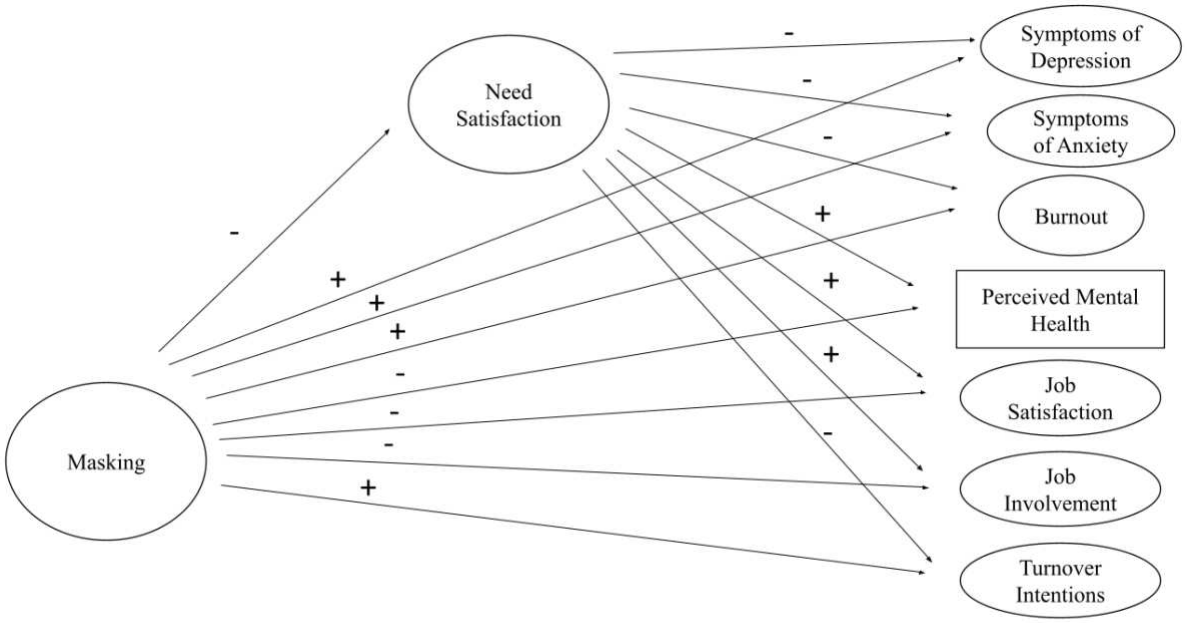

Figure 3. *Proposed Indirect Effect of Need Satisfaction*

Need Frustration and Need Satisfaction as Related, but Distinct Constructs

Although need satisfaction and need frustration are both rooted in the same psychological framework, increasing research has emphasized that they are not simply opposite ends of a continuum, but instead represent conceptually and empirically distinct constructs (Bartholomew

et al., 2011; Vansteenkiste & Ryan, 2013). This distinction is important, as recent findings suggest that each construct may be differentially predictive depending on the nature of the outcome examined, especially when comparing positively vs. negatively valenced experiences of psychological adjustment (Rouse et al., 2019; Tindall & Curtis, 2019). In the context of masking, which typically involves sustained efforts to suppress or alter authentic self-expression, the likelihood of experiencing need frustration may be especially high. This means need frustration could be a particularly potent mechanism to explain how masking is related to poorer mental health and less favorable job attitudes. While need satisfaction could potential serve as a protective factor from masking if needs are consistently met, need frustration may serve as the more direct pathway through which the harmful effects of masking are enacted. Further, prior research suggests that need frustration may activate stronger maladaptive psychological processes, such as self-doubt and emotional exhaustion, that can carry over into various aspects of employees' work and well-being (Trépanier et al., 2015).

Few studies to date have tested both constructs simultaneously or explicitly compared the strength of these relations across criterion variables. The current study responds to calls for greater empirical clarity on the overlapping but unique roles of need frustration and need satisfaction in the context of the workplace, given that the negative consequences associated with need frustration have received less empirical attention than the benefits associated with need satisfaction (Deci et al., 2017; Van den Broeck et al., 2021), particularly in the workplace (Rouse et al., 2019; Nunes et al., 2024). Further, given the limited examination of need satisfaction and need frustration in tandem, the present study seeks to provide evidence for their distinct conceptualization and potential differences in variance explained in the outcomes of interest by examining both in a single study. Based on the extant literature distinguishing need satisfaction

and need frustration, and the previously outlined review of constructs associated with need frustration and need satisfaction, I propose the following:

H40: Need frustration will have stronger relationships with negatively valenced constructs (i.e., depressive symptoms, anxiety symptoms, burnout, and turnover intentions) compared to need satisfaction.

H41: Need satisfaction will have stronger relationships with positively valenced constructs (i.e., perceived mental health, job satisfaction, and job involvement) compared to need frustration.

H42: The indirect effect of need frustration will be stronger than the indirect effect of need satisfaction across all mediated relationships.

Summary of Study Contributions

The present research was designed to explore a variety of individual variables associated with workplace masking and potential atemporal mediators of these relationships based on SDT. Prior research has provided compelling and consistent evidence that masking in general (i.e., not specific to the workplace) is associated with negative physical, mental, and emotional experiences (Cook et al., 2021; Libsack et al., 2021), particularly for autistic individuals. Thus, the first contribution of this project is that it helps to determine the extent to which these relationships are comparable when examining masking specifically in the workplace. The second contribution is by examining if and how these relationships are comparable among a variety of neurodivergent individuals, emphasizing the shared undue burden of masking regardless of neurodivergent condition. The third and final contribution highlights how self-determination theory may partially explain the relationship between workplace masking and individual mental health and job attitudes, as there is strong theoretical reason to suspect that masking, as an

attempt to reduce potential stigma, discrimination, and loss of resources, actively thwarts and/or inadvertently limits individuals' basic psychological needs of competence, relatedness, and autonomy.

METHOD

Study Design

Given the dearth of information about masking in the workplace, as well as limited quantitative studies on masking and no previous research about the organizational consequences of masking, a cross-sectional study is an appropriate first step to help identify initial trends and potential findings to inform future studies, including longitudinal research (Spector, 2019). Additionally, a cross-sectional design that utilizes an online survey at one time point will reduce concerns about sample attrition. Given that many individuals in the neurodivergent population may already struggle with executive functioning tasks and working memory, collecting data at one time point will reduce the risk of non-random missing data. Additionally, a cross-sectional study can be used to gain initial insight into the timing of relationships between these variables by using qualitative open-ended questions to probe as necessary.

To determine an approximate sample size for the study, I conducted an a priori SEM power analysis using pwrSEM (Wang & Rhemtella, 2021). I estimated factor loadings at .70 and medium effect sizes of .10 (Bosco et al., 2015) to achieve an acceptable level of power (β =.80). and pwrSEM suggested a sample size of 300-500 participants depending on the number of simulations that were conducted, which varied from 400-1000 simulations.

Participants

Participants ($N = 293$) were individuals who were 18 years of age or older, living and working in the United States, working at least 20 hours a week, able to speak English well enough to read and complete a self-administered online survey to be eligible for this study, and self-identified as having at least one of the neurodivergent conditions highlighted in this study (i.e., autism, ADHD, Tourette's, and/or dyslexia). To be eligible, participants did not need to have received a formal, clinical diagnosis for any of these conditions, but did need to self-disclose having at least one neurodiverse condition. The decision to not require a formal clinical diagnosis was intentional to facilitate recruitment efforts, and in recognition that women, people of color, and those who are socioeconomically disadvantaged are typically under-diagnosed, misdiagnosed, and/or diagnosed at much later ages compared to young, white, boys from advantageous socioeconomic backgrounds (Angell et al., 2018; Durkin et al., 2017; Haney, 2016).

Participants were asked to select which neurodivergent condition(s) they identified with, and were then prompted with a follow up question to determine if the condition(s) selected had been formally diagnosed by a medical professional, or self-diagnosed. The most prominent neurodivergent condition selected was ADHD (82%), followed by autism (54%), dyslexia (12%), and Tourette's (6%). 11% of participants also wrote in conditions under a qualitative "Other" option, although this must have been in addition to one of the previous four conditions in order to be retained for analysis. Any potential respondents who only selected "Other" were redirected to the end of the survey to preserve study focus on the highlighted conditions of interest. 39% of participants selected more than one neurodivergent condition, highlighting the comorbidity between conditions. Across the entire sample of 293 individuals, 79% of participants reported having received at least one formal diagnosis. For those with autism ($n =$

104), 56% had received a formal diagnosis, whereas 44% had not. For individuals with ADHD (n = 240), 79% had received a formal diagnosis, whereas 21% had not. Those with dyslexia (n = 35) were the only condition sub-group to have a majority without formal diagnoses, as only 40% had received a formal diagnosis, while 60% had not. Finally, for the individuals with Tourette's (n = 18), 67% had received a formal diagnosis, while 33% had not.

Participants were predominantly white (87% white, 5% African American, 6% Asian/Asian American, 8% Hispanic/Latinx, 2% Native American, 8% biracial), female (75% female, 19% male, 6% non-binary), and highly educated (27% reported earning a college degree, 37% reported earning a Master's degree, and 21% reported earning a doctorate degree, which is considerably higher than the national percentage of doctoral degrees at roughly 2%). On average, participants were 34.38 years old (SD = 9.4 years, range: 18-71 years old), were predominantly romantically partnered (73% were married, living with a romantic partner, or in a committed relationship, 5% were separated, divorced, or widowed, and 22% were single), and were less likely to report having children (66% childless, 34% parents).

Professionally, participants reported working an average of 39.2 hours per week (SD = 8.55 hours, range: 20-75 hours), and the majority worked full-time (72% reported working 40 or more hours/week, 28% reported working 20-39 hours/week). Participants typically reported one primary source of income (81% reported working 1 job, 17% reported working 2 jobs, and 2% reported working more than 2 jobs). Participants were asked to select which industry best represented their primary work out of a list of 15 options from the North American Industry Classification System (U.S. Bureau of Labor Statistics, n.d.); the most common industries included Educational and Health Services (35%) and Professional and Business Services (23%). Participants reported an average of 4.06 years spent with their current employer (SD = 4.82

years, range: 0-35), and 3.19 years in their current role (SD: 4.07 years, range: 0-35), but a wider array of years of previous work experience (30% had less than 3 years of work experience, 47% had between 4-10 years, and 23% had 11+ years of work experience). Full details regarding personal and professional demographics collected can be found in Table 2.

Procedure

I disseminated an anonymous online survey on the Qualtrics survey platform to participants through convenience sampling and snowball sampling. More specifically, participants were recruited through social media pages or groups dedicated to neurodivergent individuals, including (but not limited to) Reddit, Facebook, X (formerly Twitter), Threads, BlueSky, and Instagram, as well as LinkedIn. A general post was made on various group pages, indicating that an anonymous survey to support graduate student research was available for anyone willing to participate (see Appendix A). Convenience sampling (and consequently snowball sampling) was utilized by asking colleagues and personal contacts to disseminate the survey to their existing networks. An email and LinkedIn post were generated and shared with colleagues and personal contacts, inviting them to participate in the survey and share the survey link with anyone who meets the eligibility requirements.

To encourage participation and survey completion, participants were given the opportunity to opt into a raffle for one of twenty $10 gift cards. Email addresses were collected separately from survey responses to protect confidentiality, and were only tied to survey data after initial assessment of the data for completion and passing attention checks. Participants who answered the survey completely and passed 2/3 attention checks were eligible to be randomly selected to win one of the gift cards. Email addresses were discarded after selecting and contacting winners of the raffle.

Based on pilot testing, the survey was expected to take an average of 15-20 minutes to complete. Participants were debriefed after completion by means of a debriefing form attached to the end of the survey and given an approximate timeline for when winners of the raffle would be notified. Participation was completely voluntary, and anyone who felt uncomfortable providing information for the survey was able to elect not to participate or discontinue their participation at any time.

Data with identifiers (i.e., demographic information) were saved on a password-protected, secure computer that could only be accessed by me as the principal investigator. Data from the survey were separated from any email addresses that were collected for providing incentives to participants.

Measures

A complete list of survey measures and item content is presented in Appendix C. When examining the validity of the measures in this study, I considered several things. First, I ran confirmatory factor analyses for each measure to assess whether the items in the measure behaved consistently with the previously proposed and validated structures of each measure, as well as with the overall conceptual nature of the constructs (DeVellis, 2017). To do this, I examined model fit using the chi-square statistic (χ^2), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and the standardized root mean squared residual (SRMR). The recommended cut-off scores suggested by Bentler (1990) were used to assess model fit (CFI > .90, TLI > .90, RMSEA < .10, SRMR < .08). More rigorous cutoffs also exist (CFI > .95, TLI > .95, RMSEA < .08, SRMR < .08) (Hu & Bentler, 1999), but were used as a guideline rather than a firm cut-off since measures with a higher quantity of items are less likely to meet these standards (Goretzko et al., 2023). Thus, any modifications made to

improve model fit were evaluated against the firm cut-off scores, while maintaining conceptually relevant items. After examining fit, I reviewed the factor loadings of items and item residuals, looking for factor loadings that fell below the absolute value of .30 and item residuals that were outside of the range of -.10 to .10 (Raykov & Marcoulides, 2010). Factor loadings below the absolute value of .30 indicate that not much of the variance in an observed variable can be explained by the factor, whereas item residuals outside of the range of -.10 to .10 indicate items are correlating with each other more than expected (and thus capturing redundant content). Additionally, I examined item content to triangulate with factor loadings and item residuals. In an iterative process, I removed items one-by-one, rather than all at once, to determine the differential impact of individual items on model fit, and to retain as many items as possible while maximizing model fit. Once model fit improved, I conducted Cronbach's alpha for each measure to assess internal consistency reliability.

Masking

Masking was measured using the Camouflaging Autistic Traits Questionnaire (CAT-Q; Hull et al., 2019). The original, full scale consists of 25 items, comprising a three-factor structure: Compensation (defined by the authors as strategies used to compensate for social and communication difficulties), Camouflaging (defined by the authors as strategies used to present a non-autistic or less autistic persona to others), and Assimilation (defined by the authors as strategies used to fit in to uncomfortable social situations). The original validation for the total scale ($\alpha = .94$), and for each of the factors: Assimilation ($\alpha = .93$), Compensation ($\alpha = .92$), and Camouflaging ($\alpha = .86$) demonstrated high internal consistency (Hull et al., 2019). A sample item for Compensation is "In my own social interactions, I use behaviors that I have learned from watching other people interacting" whereas a sample item for Camouflaging is "I monitor

my body language or facial expressions so that I appear relaxed" and a sample item for Assimilation is "In social situations, I feel like I'm 'performing' rather than being myself." Participants responded on a 5-point Likert-type scale of strongly disagree (1) to strongly agree (5).

The measure was developed and validated with both autistic and non-autistic (neurotypical, as well as those with ADHD) samples (Ai et al., 2024; Hull et al., 2019), but has not been explicitly examined with other neurodiverse identities. However, the three-factor higher-order model of the measure is beneficial for studying how additional neurodiverse identities, like dyslexia and TS, engage in various masking behaviors and strategies, and for further strengthening of validation efforts of the entire scale and the various factors. In the present study, the original 3-factor model fit with no modifications was unacceptable: $\chi^2(272) = 1032.80$, $p = 0.00$; CFI = 0.80; TLI = 0.78; RMSEA = 0.09; SRMR = 0.08. Next, I computed a single-factor CFA to compare model fit statistics to determine whether the 3 factor structure was appropriate for the sample, and the single-factor model fit demonstrated worse fit than the 3-factor model across all model fit indices: $\chi^2(275) = 1894.37$, $p = 0.00$; CFI = 0.57; TLI = 0.53; RMSEA = 0.14; SRMR = 0.12. To compare the fit of the models statistically, I ran a chi-square difference test to determine if the difference in chi-square values (i.e., a measure of model fit) was significantly different; a significant result suggests a meaningful difference, favoring the model with a lower χ^2 value (Zheng & Bentler, 2025). This test confirmed that the 3-factor model fit the data significantly better ($\chi^2_{diff}(3) = 861.56$, $p < .001$). Thus, I returned to the 3-factor model and reviewed factor loadings, inter-item correlations, item discrepancies, item-total correlations, and item content to determine which items were most strongly contributing to the poor model fit. I computed and evaluated multiple models using confirmatory and exploratory

factor analyses to compare the effects of modifications while still retaining the theoretical premise of the previously-validated construct. In the final iteration of the measurement model, two items were removed due to factor loadings below .30 (15R, 18), and five items (2, 10, 11, 19R, 21) were dropped because they were determined to be related to other items/cross-loading onto multiple factors. This resulted in one item being dropped from the Compensation factor, four items from the Camouflaging factor, and two items from the Assimilation factor. These modifications resulted in a substantially improved model fit while preserving the theoretical foundation of the measure: $\chi^2(132) = 287.92$, $p = 0.00$; CFI = 0.93; TLI = 0.92; RMSEA = 0.06; SRMR = 0.06, and all factor loadings above .40. This was also supported by a chi-square difference test comparing the original 3-factor model to the revised 3-factor version ($\chi^2_{diff}(140) = 744.88$, $p < .001$), although it should be noted that since the models are based on a different set of observed variables, the simpler model (i.e., the model with fewer observed variables) will almost always fit better. The final, modified version of the scale had acceptable internal consistency for the total scale (α = .89), and for each of the factors: Assimilation (α = .85), Compensation (α = .88), and Camouflaging (α = .79).

Need Frustration and Need Satisfaction

Need frustration and need satisfaction were measured using the Basic Needs Satisfaction and Frustration At Work Scale (Chen et al., 2015; Schultz et al., 2015). The full scale is 24 items, with two subscales: 12 items capturing needs satisfaction (α = .82-.89) for autonomy, competence, and relatedness, and 12 items capturing need frustration (α = .77-.83) for autonomy, competence, and relatedness. Participants responded on a 5-point Likert-type scale of strongly disagree (1) to strongly agree (5).

Previous research has examined the basic psychological needs of SDT in a variety of ways, with some conflicting reports on how to most appropriately model them (Howard, 2023; Murphy et al., 2023), and if the model varies based on conceptualizing SDT variables as motivation types or basic needs. Before need frustration was introduced as a conceptually distinct construct that should be measured in tandem with need satisfaction (rather than just the inverse of need satisfaction), need satisfaction was originally proposed as a three-factor measure for each of the domains (autonomy, competence, relatedness). Some researchers have suggested that if need frustration is not accurately captured in the item content, it may make sense to revert to the three-factor model proposed by Chen (2013), only measuring need satisfaction for each of the three domains and then treating the "frustration" items as reverse-scored satisfaction items (Murphy et al., 2023). However, this alternate approach negates the idea that need frustration and need satisfaction are distinct at all, so it is not recommended as an initial confirmatory approach.

Need frustration and need satisfaction have also been studied from a subscale approach, which includes creating latent factors representing each SDT variable through CFA, and is modeled through a six-factor model (Chen et al., 2015). This approach is particularly well-suited for research examining individual types of motivation, as it provides the most specificity. Despite this strength for providing more nuanced relationship context, the major drawback of this approach is multicollinearity among the typically highly correlated psychological needs (autonomy, competence, relatedness), with particularly strong correlations between items in each need domain (i.e., relatedness frustration and relatedness satisfaction). When all six needs are simultaneously used to predict criterion variables, multicollinearity often results in nonsignificant and/or unusual regression coefficients due to suppression effects (Howard, 2023). The risk of non-interpretable results, as well as the added complexity of a multidimensional

representation of SDT constructs, becomes a notable barrier to using this approach once SEM regressions are run outside of initial measurement models.

Finally, higher-order models represent an extension of the subscale approaches and have been commonly used in SDT research (Howard, 2023). The strength of this approach is that it allows researchers to reduce a set of subscales to a smaller number of common factors, preserving power and reducing model complexity. When measuring need satisfaction (or need frustration), this often results in the three needs being combined to form a general need satisfaction (or need frustration) higher-order factor. Howard (2023) specifically notes that this approach is more useful, and has been frequently utilized, when aggregating basic needs into a single factor to assess well-being and life outcomes (as compared to assessing motivation). However, less is known about how these higher-order factors behave together, and whether they should be modeled together (i.e., in a two-factor higher-order model) or separated into distinct measurement models (i.e., in a three-factor higher-order model for each).

Based upon the call to study need frustration and need satisfaction as separate but related constructs, I initially ran two separate confirmatory factor analyses on the multi-factor latent structure of both constructs. Need frustration had acceptable fit with no modifications necessary; $\chi^2(51) = 112.41$, $p = 0.00$; CFI = 0.95; TLI = 0.94; RMSEA = 0.07; SRMR = 0.06, as did need satisfaction; $\chi^2(51) = 74.71$, $p = 0.02$; CFI = 0.99; TLI = 0.98; RMSEA = 0.04; SRMR = 0.04. The reliability for both overall scales was also acceptable (need frustration $\alpha = .85$, need satisfaction $\alpha = .89$). Further detail regarding various modeling and model fit indices can be found in the Results section.

Burnout

The Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005) is a 19-item scale used to assess burnout in personal, work-related, and client-related domains. For the purpose of this study, the CBI was adapted to only include the seven work-related burnout items. The internal consistency for these items is strong (α = .87; Kristensen et al., 2005). Sample item is "I am exhausted in the morning at the thought of another day at work." Response options are on a five-point Likert scale, with 1 being "Never/almost never or To a very low degree." and 5 being "Always or To a very high degree". Original model fit indicated moderate model fit; $\chi^2(14) = 92.29$, $p = 0.00$; CFI = 0.90; TLI = 0.86; RMSEA = 0.14; SRMR = 0.06. Upon reviewing factor loadings, inter-item correlations, item discrepancies, item-total correlations, and item content, two items were dropped (3, 6R) based on item residuals that were outside of the recommended range of -.10 to .10 with multiple other items in the scale. Dropping these items resulted in improved model fit; $\chi^2(5) = 21.62$, $p = 0.00$; CFI = 0.97; TLI = 0.94; RMSEA = 0.10; SRMR = 0.04, and good internal consistency (α = .85).

Depressive Symptoms

The Center for Epidemiological Studies-Depression scale (CES-D 8; Radloff, 1977) is an 8-item self-report measure designed to assess depressive symptoms and identify individuals at risk for clinical depression. Initially, the CES-D was constructed with 20 self-report items that primarily measure affective and somatic dimensions of depression, especially reflected in complaints such as depressed mood, feelings of guilt and worthlessness, helplessness and hopelessness, loss of appetite, and sleep disturbance (Van de Velde et al., 2009).

Although the measure does not assess all diagnostic criteria of clinical depression and is not intended as a diagnostic tool, it has been widely used and validated in many populations within the United States (Perreria et al., 2005). The measure asks respondents how often, during

the last two weeks, they have felt like each item. Sample items include “I felt like everything I did was an effort” and “I felt lonely." Response options were “Rarely or none of the time (less than 1 day),” “Some or a little of the time (1-2 days),” “Occasionally or a moderate amount of time (3-4 days),” and “Most or all of the time (5-7 days)” on a 1-4 Likert scale. The internal consistency of the shortened version is comparable (α = .83) to the full-length version (α = .80) and test-retest reliability is moderate, which is as expected if the scale is sensitive to current states (r = .45-.70) (Radloff, 1977; Van de Velde et al., 2009).

In the present study, original model fit was not ideal; $\chi^2(20) = 154.10$, $p = 0.00$; CFI = 0.82; TLI = 0.75; RMSEA = 0.15; SRMR = 0.07. After reviewing factor loadings, item discrepancies, and item content, one item (3) was dropped based on a low factor loading below .40, and two items (2, 7) were dropped based on item residuals that were outside of the recommended range of -.10 to .10 with multiple other items in the scale. Dropping these items resulted in improved model fit; $\chi^2(5) = 24.13$, $p = 0.00$; CFI = 0.95; TLI = 0.91; RMSEA = 0.10; SRMR = 0.05, and good internal consistency (α = .85).

Anxiety Symptoms

The Generalized Anxiety Disorder self-report scale (GAD-7; Spitzer et al., 2006) is a seven-item measure to identify probable cases of GAD and assess symptom severity. Because existing measures of anxiety are seldom used due to their length, proprietary nature, or requirement of clinical diagnosis, this brief scale is used to assess the frequency and intensity of symptoms that are typical for GAD. This measure is also not intended as a diagnostic tool. Although anxiety and depression have a high comorbidity, factor analysis confirmed that depression and anxiety were separate dimensions within this scale (Spitzer et al., 2006).

The questionnaire asks respondents how often, during the last two weeks, they were

bothered by each symptom. Response options are “Rarely or none of the time (less than 1 day)”, “Some or a little of the time (1-2 days)”, “Occasionally or a moderate amount of time (3-4 days)”, and “Most or all of the time (5-7 days)” on a 1-4 Likert scale. Sample items include “How often have you been bothered by feeling nervous, anxious or on edge?” and “How often have you been bothered by not being able to stop or control worrying?” The internal consistency of the GAD-7 is excellent (α = .92) and test-retest reliability is also good (r = .83) (Spitzer et al., 2006).

In the present study, the original model fit the data fairly well; $\chi^2(14) = 91.52$, $p = 0.00$; CFI = 0.91; TLI = 0.87; RMSEA = 0.14; SRMR = 0.07. However, two items (6, 7) were dropped for factor loadings below .40, which resulted in improved model fit; $\chi^2(5) = 12.29$, $p = 0.03$; CFI = 0.99; TLI = 0.98; RMSEA = 0.07; SRMR = 0.02, and acceptable internal consistency (α = .87).

Perceived Mental Health

Perceived mental health was measured using the single-item measure “In general, how would you rate your overall mental health?” taken from Robins and colleagues (1981) and Wittchen (1994). Participants responded using a 1-5 Likert scale, where 1 = Poor, 2 = Fair, 3 = Good, 4 = Very Good, and 5 = Excellent. The use of a single-item measure of mental health is often used as a way to gather a holistic view of well-being, and has been found to be strongly associated with common measures of mental health conditions (Fung et al., 2024). Further, it is appropriate to use single item measures for this construct because it is unidimensional, clearly defined, and narrow in scope (Matthews et al., 2022). In the present study, the average score for this item was 2.67 (SD = 0.92, range: 1-5, median = 3), and 43% of the sample indicated a “Poor” or “Fair” selection, indicating a lower mental health evaluation.

Job Satisfaction

Job satisfaction was measured using a three-item measure from Spector and colleagues (1988) and Fisher and colleagues (2016). Participants responded on a 5-point Likert-type scale of strongly disagree (1) to strongly agree (5). Items include "Overall, I am satisfied with my job", "In general, I don't like my job", and "In general, I like working here." Confirmatory factor analysis models are generally under-identified when a factor has fewer than 3 indicators (items); thus, with only 3 items, the model is just-identified, which means the degrees of freedom are zero and model fit cannot be assessed using typical model fit indices. However, the measure had strong internal consistency (α = .90), factor loadings (.83-.90) and inter-item correlations (.71-.78), which supported the use of this 3-item measure as specified.

Job Involvement

Job involvement was measured with a 10-item unidimensional measure from Kanungo (1982), who defines job involvement as the psychological identification with one's job. Compared to other existing measures of job involvement, Kanungo (1982) made a distinction between work and job involvement and argued that while many instruments measure involvement with the present job, and some measure involvement with work in general, most ended up measuring both of these constructs without distinguishing between the two, leading to issues with construct validity (Hoole & Boshoff, 1998; Paullay et al., 1994). Thus, Kanungo focused solely on involvement with the present job, which he argued depended on both need saliency and perceptions about the job's potential for satisfying the salient needs. Sample items include "I like to be absorbed in my job most of the time" and "I consider my job to be very central to my existence", and each item is rated along a 1-5 Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). In previous studies, the internal consistency of the JIS has been strong (α =

.87) and test-retest reliability has also been good (r = .85) (Kanungo, 1982; Hoole & Boshoff, 1998).

In the current study, the original model fit the data fairly well; $\chi^2(35) = 143.02$, $p = 0.00$; CFI = 0.90; TLI = 0.88; RMSEA = 0.10; SRMR = 0.06. However, two items (6, 7R) were dropped for comparatively low factor loadings below .50 and item residuals outside of the recommended range, which resulted in improved model fit; $\chi^2(20) = 64.92$, $p = 0.00$; CFI = 0.95; TLI = 0.93; RMSEA = 0.09; SRMR = 0.04, and acceptable internal consistency (α = .87).

Turnover Intentions

Turnover intentions were measured with a validated three-item measure from Michaels & Spector (1982). The measure assesses turnover intentions within the last month, with items including “I often seriously consider leaving my current job” and “I intend to quit my current job” and “I have started to look for other jobs." Each item is rated along a 1-5 Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The internal consistency reliability for this measure has been quite strong in previous research (α = .94) (Hoare & Vandenberghe, 2024). In the present study, the measure had strong internal consistency (α = .89), factor loadings (.79-.90) and inter-item correlations (.70-.79), which supported the use of this 3-item measure as specified.

Demographics and Control Variables

Participant age, gender, race/ethnicity, number of hours/week worked, highest level of education, job title/occupation, years in current job, as well as years of previous work experience doing similar work was collected in the survey. The full list of demographic items is in Appendix D.

I considered several potentially relevant control variables, including gender, age, and race/ethnicity. Previous empirical research suggested a relationship between gender and masking

(Bargiela et al., 2016; Ratto et al., 2018), such that women are more likely to mask than men, which may have an impact on the historical gender differences in diagnosis of neurodivergence. However, research has also found that associations between masking and negative experiences were stronger for autistic men than women (Lai et al. 2017). Age has also been suggested to have a relationship with masking, such that neurodivergent individuals may mask less frequently as they grow older (Livingston et al., 2019). Finally, it is plausible that non-white individuals may be more likely to mask compared to their white counterparts, given that they hold multiple identities that have been historically stigmatized and oppressed, and are more likely to engage in behaviors to reduce the likelihood of further discrimination. Thus, to eliminate potential alternative explanations in the relationship between masking and individual mental health and job attitudes and experiences, I examined the bivariate correlations of gender (dummy-coded as non-female [0]/ female [1]), race (dummy-coded as non-white [0] / white [1]), and age with the study variables of interest to parse out unique variance. Masking had significant, but very small correlations with gender (r = -.06), race (r = -.06), and age (r = -.02). Need frustration and need satisfaction also had significant but very small correlations with gender (r = .04, r = -.07), race (r = -.10, r = .09), and age (r = -.03, r = .04). All correlations between gender, race, and age and mental health variables and job attitudes were between -.15 and .15. Given the size of the correlations and inconsistency in significance, gender, race, and age were not used as controls in analyses. I then examined education and hours worked per week as potential covariates. I found similarly small correlations with all study variables, with the largest correlation still being relatively small in magnitude, between hours worked per week and job involvement (r = .19). Thus, education and hours worked per week were also not used as control variables, and all reported results reflect models run without additional covariates to preserve power and model fit.

Attention Checks

Attention checks are widely used in survey research to assess insufficient effort in responding (Huang et al., 2012) and can be used to filter out careless respondents with the goal of improving validity. Current research debates the positive impact of attention checks on scale validity; Kung and colleagues (2018) found no evidence that attention checks impact scale validity, whereas Abbey and Meloy (2017) found evidence that attention checks significantly improved fit on both construct and scale validation by isolating and eliminating inattentive respondents. However, research has agreed that the use of attention checks and other measures of insufficient effort in responding, such as survey response time, are justifiable because there are not identified, systematic negative impacts on validity.

Following recommendations from Abbey and Meloy (2017) to reduce the likelihood of sample loss from attention checks, directed queries were used for attention checks. Directed queries are easy to implement into surveys and high on objectivity, meaning that the researcher does not need to be highly involved to assess the outcome of the attention check. During the present study, three items were included as attention checks. Items were inserted into different existing scales at the beginning, middle, and end of the survey to establish attention through the entirety of the study. A sample item that was used for an attention check is "Please select *Strongly agree.*"

Timeline

The survey was opened for participant responses on January 28, 2025. Data collection closed on March 14, 2025. Participants who entered the raffle and were randomly selected to receive a gift card were notified on April 14, 2025.

RESULTS

Data Cleaning

Prior to testing any hypotheses, I first reviewed the data and conducted preliminary analyses to inspect the quality of the data for outliers, systematic errors, attentive responding, and missing data, per the recommendations of Kline (2011). The raw dataset from Qualtrics contained 490 responses from potential participants. Of the 490 responses, 416 were from neurodivergent individuals who met the inclusion criteria of working at least 20 hours/week in the United States and identified as having autism, ADHD, dyslexia, or Tourette's syndrome. Of these 416 responses, 108 failed more than one of three attention checks; I retained all participants who passed any two of three attention checks, leaving 308 participants. After reviewing initial data descriptives for any outliers and time spent on the survey, I noted three participants spent less than five minutes on the survey that was pilot tested to take 15 minutes to complete (indicating rushing, careless responding, and/or spam); these participants were dropped, leaving 305 responses.

To further examine careless responding, I conducted several statistical checks using the R package "careless" to evaluate response patterns. I assessed long string responding, which measures the longest sequence of identical consecutive responses for each participant, as well as average string responding, which calculates the average length of uninterrupted identical responses. The longest string of identical responses was 32 items, whereas the average length of identical consecutive responses was 1.46. Considering that most of the items in the survey were positively coded (and this analysis was run on raw data), and my longest measure was 26 items, this did not raise concern. I also assessed intra-individual response variability (IRV), which

captures the standard deviation of responses across a set of consecutive item responses for an individual (Dunn et al., 2018). Low IRV values can indicate long string or straight lining responses (Dunn et al., 2018), whereas higher values can also indicate variability that could be attributed to random or careless responding (Marjanovic et al., 2015). Therefore, I looked for both low (z-score <= -2) and high (z-score >= 2) IRV scores. I identified 22 responses that were outside of the acceptable range based on the aforementioned criteria. However, when assessing the psychometric properties of each scale, there were no noticeable differences when those participants were dropped. Thus, I retained these participants.

Next, I checked for duplicate IP addresses, of which there were five sets of duplicates. These sets were cross-referenced with survey start/end time, diagnoses, job title, and other demographic survey responses to determine if the data were redundant or unique. For three of the sets of duplicate IP addresses, I was able to confirm that these were likely family members or coworkers who were completing the survey from the same location (e.g., at home or at work), and these data were retained. For the other two sets of duplicates, I determined it was the same respondent taking the survey twice. In both cases respondents returned over a month later to complete the survey again, so it is possible they forgot they had already completed the survey. For both sets of duplicates, the first response for each was retained and the latter was removed, leaving 303 observations.

Finally, I manually examined my survey meta-data (start/end time, date recorded, potentially fraudulent responses flagged by Qualtrics), as well as the optional qualitative questions at the end of the survey to see if there were any concerning patterns or repetitive responses that were not previously captured through data analysis. I identified 10 responses that had the same qualitative response pattern in all capital letters (i.e., providing the response

"NOPE NONE" for each open-ended question) and repeating job titles. I then referenced their survey meta-data and noticed that for these 10 responses, the start and end times of the responses were all within one to two seconds of one another, and the age that the participant (or bot) provided went up by one for each survey submission (e.g., 21, 22, 23, 24, etc.) These survey responses were not previously flagged because the IP address was different for each submission, and the observations did not have the same response patterns within or across submissions. Based on the likelihood of spam, I removed these data, yielding 293 observations retained for analysis.

After removing these cases, the total data frame contained 5% missing data, which falls within the acceptable range of 5-10% (Newman, 2014; Tabachnick & Fidell, 2018). However, this percentage is an overestimation of missing data, as I included skip-logic patterns for a large proportion of demographic questions in the survey (skip-logic patterns are denoted in Appendix D), Therefore, some of these missing data are missing by design. For example, someone was not asked about the diagnosis type of their autism if they indicated that they had ADHD, or how many children they had if they previously indicated that they were not a parent. I determined that person-level missing data was similar to the total data frame, with an average of 5.49% missing data per person. This did not raise concern, given the previously mentioned skip logic.

At the item level, the only study-specific items with any missing data were the 24 items comprising the Basic Psychological Needs scale (i.e., need frustration and need satisfaction), where there was 2% missing data across all 24 items. I determined that this was due to five individuals who completed the rest of the survey, but likely experienced survey fatigue and failed to return to complete the final scale in the survey. At the scale-variable level, all scales were all missing completely at random (< 0.05%), except for the 2% missing data for need

frustration and need satisfaction. Given this review of the item and scale-level missing data, no responses were of concern and no additional participants were removed for the analyses. Based on Newman's (2014) recommendations to refrain from using imputations for missing data if the percentage of missing data is not greater than 10%, item-level and scale-level data were not imputed for analysis in the present study. Full information maximum likelihood (FIML) was used to handle any additional existing missing data. FIML is the default way that R handles missing data in structural equation modeling, as it uses the maximum likelihood algorithm with all available data to estimate parameters, instead of deleting cases with missing values or replacing/imputing missing values (Eekhout et al., 2015).

Psychometric Analyses

First, I specified individual measurement models (CFAs) for each latent variable (Byrne, 2013), as described above in the Method section. Masking, need frustration, and need satisfaction are higher-order factor models, such that the 3-factor structure of masking has assimilation, camouflaging, and compensation treated as first-order latent factors that load into the second-order latent variable of masking. Similarly, the 3-factor structure of need frustration and need satisfaction has autonomy, competence, and relatedness treated as first-order latent factors that load onto the second-order need frustration and need satisfaction latent variables. The adequacy of this higher-order structure was assessed through goodness-of-fit indices mentioned above as well as factor loadings (above threshold of .40) to ensure the higher-order model captures the shared variance among the first-order factors effectively. Mental health (depressive symptoms, anxiety symptoms, burnout, and perceived mental health) and job attitudes (job satisfaction, job involvement, and turnover intentions) were modeled according to their respective single-factor latent or observed structures. When measurement models demonstrated

less than ideal fit, I carefully reviewed the survey item content and modification indices to inform the most appropriate steps for proceeding with the data analyses. Any modifications made to original scales to improve model fit are reported above in the Method section and in the corresponding Measures Appendix. After conducting a CFA for each finalized scale, I assessed internal consistency reliability by calculating Cronbach's alpha values for each measure.

Next, I specified a full measurement model, which included all indicators (not shown in figures) and their respective latent variables for each set of hypotheses. The measurement model provided information regarding whether the study variables' factor structures were independent, or whether certain aspects needed to be re-specified, which is outlined in more detail below. Model fit was assessed using the chi-square statistic (χ^2), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and the standardized root mean squared residual (SRMR). The recommended cut-off scores suggested by Bentler (1990) were used to assess model fit (CFI > .90, TLI > .90, RMSEA < .10, SRMR < .10).

The full measurement model demonstrated a low, but nearing acceptable model fit; $\chi^2(2369) = 4232.91$, $p < .001$, CFI = 0.85, TLI = 0.83, RMSEA = 0.05, and SRMR = 0.08. I then ran modification indices using the "lavaan" package in R, which estimates how the chi-square test statistic would improve (e.g., be reduced) if adjustments to the model were made by releasing individual parameters from being constrained or fixed-to-zero and instead allowing the suggested parameters to be free (Rdrr.io, 2024). A higher modification index proposes a larger estimated decrease in the chi-square value, resulting in better model fit. Modification indices are based entirely on the statistical fit and must be implemented with theory in mind (Iacobucci, 2009). The two largest modification indices suggested based on the model fit were allowing the latent factor of competence need frustration to covary with the latent factor of competence need

satisfaction (expected χ^2decrease: 134.67), and allowing the latent factor of relatedness need frustration to covary with the latent factor of relatedness need satisfaction (expected χ^2decrease: 91.45). This indicated that when need frustration and need satisfaction were modeled simultaneously amongst other latent constructs, multicollinearity of the competence and relatedness items was impacting model fit. An additional analysis of multicollinearity is discussed in the following section. Based on the theoretical positioning that need frustration is a distinct construct and phenomenon from need satisfaction, and recognizing the high correlation that need frustration and need satisfaction had already shown, I decided to run follow-up measurement models in which I parsed need frustration and need satisfaction apart. Rather than moving forward with studying need frustration and need satisfaction in tandem, where meaningful relationships with other constructs may be obscured by multicollinearity between the need frustration and need satisfaction items, I thought it would be more meaningful to determine how relationships with these constructs may potentially vary once the issue of construct overlap was minimized. The measurement model in which need frustration was included demonstrated acceptable model fit; $\chi^2(1618) = 2689.35$, $p < .001$, CFI = 0.88, TLI = 0.87, RMSEA = 0.05, and SRMR = 0.08, as did the measurement model including need satisfaction; $\chi^2(1618) = 2641.96$, $p < .001$, CFI = 0.89, TLI = 0.88, RMSEA = 0.05, and SRMR = 0.07. I then ran modification indices again for each model to determine if any indicators or other factors were significantly impacting model fit. Using the modification indices and a careful review of the model, model fit, and variable content, I made three small adjustments to individual item indicators in each model that were reasonable in both theoretical and statistical sense (see Table 1 for changes made). The use of these modifications resulted in better model fit for both the need frustration measurement model; $\chi^2(1615) = 2579.29$, $p < .001$, CFI = 0.89, TLI = 0.88, RMSEA = 0.05, and SRMR =

0.07, as well as the need satisfaction measurement model; $\chi^2(1615) = 2535.50$, $p < .001$, CFI = 0.90, TLI = 0.89, RMSEA = 0.05, and SRMR = 0.07. All factor loadings were above .40. All remaining recommended modifications offered diminishing returns on improved model fit and a less theoretically sound model.

Table 1. *Changes Made to Both Measurement Models via Modification Indices.*

Modification Suggested	Modification Index (expected χ^2decrease)	Change Made
CESD_4R ("*In the last 2 weeks, please indicate how frequently you were happy*") **covaries with** CESD_6R ("*In the last 2 weeks, please indicate how frequently you enjoyed life*")	Need Frustration Model: 67.14 Need Satisfaction Model: 62.07	Items reflect the same latent construct (Depressive Symptoms) and are the only reverse-coded items in the scale and therefore should **covary**.
CATQ_3 ("*I have tried to improve my understanding of social skills by watching other people*") **covaries with** CATQ_7 ("*In my own social interactions, I use behaviors that I have learned from watching other people interacting*")	Need Frustration Model: 34.97 Need Satisfaction Model: 35.16	Items reflect the same latent construct (Compensation, a first-order latent factor of Masking) and are worded very similarly and therefore should **covary**.
GAD_2 ("*In the last 2 weeks, how often have you experienced the following problems: Not being able to stop or control worrying*") **covaries with** GAD_3 ("*In the last 2 weeks, how often have you experienced the following problems: Worrying too much about different things*")	Need Frustration Model: 25.71 Need Satisfaction Model: 26.77	Items reflect the same latent construct (Anxiety Symptoms) and are worded very similarly and therefore should **covary**.

Given that I utilized cross-sectional data from a single source, the measurement models were also utilized to examine potential common method bias. Common method bias can occur when all responses are taken at one time point and from the same method, introducing systematic measurement error if some of the variance in the items is due to a common method in responses, rather than the underlying construct (Podsakoff et al., 2024). To test for common method variance, I used a CFA to test for an unmeasured latent variable that could be attributed to the method (UMLV; Podsakoff et al., 2024). To do this, I compared the baseline measurement models, where all items loaded onto their respective scales, to a second measurement model where all items loaded onto their respective scales as well as a single "method" factor, constraining the method factor to be orthogonal with the substantive latent variables. If the measurement model containing the method factor has significantly better fit than the baseline measurement model, common method variance is thought to be present. I did this for both the need frustration and need satisfaction models, to ensure any potential CMV was captured across all constructs. For both the need frustration and need satisfaction models, a chi-square test indicated that the method factor model provided significantly better fit than the baseline need frustration model ($\Delta\chi^2 = 70.28$, $\Delta df = 1$, $p < .001$) and the baseline need satisfaction model ($\Delta\chi^2 = 94.71$, $\Delta df = 1$, $p < .001$). To calculate the amount of variance explained by the method factor, I then squared the standardized factor loadings and computed the proportion of variance explained by the method factor out of all variance explained. The proportion of variance explained by the method factor (for both models) was considered a moderate amount (23%), suggesting that although common method variance exists, it is unlikely to substantially bias the substantive relationships in the model (Richardson et al., 2009). Given that the proportion of variance explained by the method factor fell under the acceptable threshold of 25% (Podsakoff et

al., 2024), I did not use method as a controlling factor. However, relationships should be interpreted with some caution, recognizing that almost a quarter of all the variance explained is tied to the common method used.

Descriptive Statistics & Multivariate Statistical Test Assumptions

Means, standard deviations, and correlations for all study variables are reported in Table 2. Descriptive statistics for personal characteristics and work-related characteristics are reported in Table 3. The assumption of normality was met for all study variables by examining skew and kurtosis indices, which were all within acceptable range (between -1 and 1 for both skew and kurtosis). To assess the potential assumption violations of multicollinearity, non-linearity, and heteroscedasticity, I looked at bivariate correlations and residual scatter plots. The correlation matrix revealed significant relationships at the $p < .01$ level between almost all variables (with the exception of job involvement, which was only significantly correlated with need satisfaction and job satisfaction). The majority of the correlations reflected medium effect sizes and fell between .30 and .50 in magnitude (Cohen, 1992). Because there were multiple correlated variables, which violates the assumption of multicollinearity, I computed variance inflation factors. Variance inflation factors (VIF) measures the correlation between independent variables by taking one IV and regressing it against the other IVs; this addresses the combined relationship of multiple IVs on another better than correlation coefficients. VIFs between 1 and 5 indicate a moderate but acceptable amount of multicollinearity, whereas anything above 5 demonstrates a concerning level of multicollinearity where the precision of the estimated coefficient is reduced (James et al., 2017). I examined VIF at both first-order level and second-order level, finding no VIF to be above 3, indicating no serious multicollinearity concern and the SEM coefficients and standard errors are likely stable. VIF analyses verified that multicollinearity is present, but not

likely overly-problematic (James et al., 2017). The only correlation that was problematic because it indicated empirical construct overlap was between need frustration and need satisfaction (r = -.70, p < .001), which is discussed further below.

Hypothesis Testing

To test my hypotheses, I utilized Pearson's correlations and higher-order structural equation modeling (SEM) in RStudio (version 4.3.3), with the "lavaan" and "semTools" packages (Jorgensen et al., 2022; Rosseel, 2012). SEM is superior to regression analysis for testing multiple associations between observed and latent variables simultaneously, mediation analyses, and adjusting for unreliability in measure (Zyphur et al., 2023). SEM takes measurement error into account and corrects paths for attenuation (Grewal et al., 2004; MacCallum & Austin, 2000), and provides a means of estimating multiple and interrelated relationships, as well as defining a model to explain the entire set of relationships (Hair Jr. et al., 2010; Zyphur et al., 2023). The structural models were specified to maximize power while testing the direct and indirect relationships among masking, need frustration, need satisfaction, and mental health and job attitudes. I estimated direct path coefficients from masking to need frustration, and from masking to other variables as hypothesized, as well as indirect paths to assess atemporal mediation by need frustration and need satisfaction. I tested hypotheses and evaluated results by reviewing the statistical significance of path coefficients, as well as the strength and direction of direct and indirect effects. A table summarizing the hypotheses and their findings can be found at the end of this section in Table 8.

Masking, Need Frustration, & Need Satisfaction

First, I tested Hypothesis 1, which proposed that need frustration and need satisfaction would be moderately and negatively related, but distinct constructs from one another, by first

conducting a Pearson's correlation test of significance. Need frustration and need satisfaction were strongly and negatively correlated to one another (r = -.70, p < .001), indicating a stronger association than originally hypothesized. Then, I examined a number of individual measurement models by running a variety of confirmatory factor analyses to determine if there was psychometric evidence that they were distinct, the results of which are presented in Tables 4-7.

When modeling need frustration and need satisfaction together, the six-factor subcomponent model fit the data well and was the strongest of the various models: $\chi^2(237)$ = 464.55, p < .001, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, and SRMR = 0.05. This provided initial evidence that need frustration and need satisfaction were distinct. However, since I had originally proposed that need frustration and need satisfaction were to be modeled as higher-order factors of general need frustration and satisfaction, I also examined a two-factor higher-order model where the higher-order factor of need frustration was comprised of three latent factors of autonomy need frustration, competence need frustration, and relatedness need frustration, and need satisfaction was comprised of three latent factors of autonomy need satisfaction, competence need satisfaction, and relatedness need satisfaction. When modeled together, this conceptualization did not fit the data as well: $\chi^2(245)$ = 735.61, p < .001, CFI = 0.87, TLI = 0.85, RMSEA = 0.08, and SRMR = 0.09, and a chi-square difference test confirmed this model fit the data significantly worse than the six-factor model ($\chi^2_{diff}(8)$ = 271.06, p < .001). However, the higher-order two-factor model fit significantly better than a three-factor model that utilized latent factors of autonomy, competence, and relatedness, and loaded both need frustration and need satisfaction items onto each factor ($\chi^2_{diff}(4)$ = 18.14, p < .001), or a two-factor model that utilized latent factors of need frustration and need satisfaction with no distinguishing between the different sub-needs of autonomy, competence, and relatedness

($\chi^2_{diff}(6) = 1092.2$, $p < .001$). In an attempt to tease out the difference in model fits between the six-factor model and the higher-order two-factor model, I parsed out the need satisfaction and need frustration items, and ran two separate three-factor models to determine if the sub-needs could be combined into an overall need factor if separated. Once modeled separately, the three-factor higher-order model for need frustration demonstrated strong fit; $\chi^2(51) = 112.41$, $p < .001$, CFI = 0.95, TLI = 0.94, RMSEA = 0.06, and SRMR = 0.06, as did the three-factor higher-order model for need satisfaction; $\chi^2(51) = 74.71$, $p < .001$, CFI = 0.99, TLI = 0.98, RMSEA = 0.04, and SRMR = 0.04. This led me to conclude that there was justification for a higher-order structure of need frustration and need satisfaction in future hypotheses for parsimony and preservation of power, and that the covariance of the higher-order variables impacted model fit when modeled together.

Thus, Hypothesis 1 was only partially supported; need satisfaction and need frustration were negatively related to one another, and model fit indices from a variety of CFAs confirmed that the data were better modeled explicitly through need frustration and need satisfaction groupings, rather than need frustration simply being the inverse of need satisfaction (as indicated by the poor model fit of a single-factor model and a three-factor model with each need as a factor; see Table 4). However, the ability to model and measure both simultaneously (while meeting goodness of fit indices) was only supported in the measurement model using a six-factor approach, but this structure was not supported in the full measurement models and structural models used to test forthcoming hypotheses. The strong correlation between overall need frustration and need satisfaction, as well as the correlations between need-domain subscales (e.g., autonomy frustration with autonomy satisfaction, etc.) suggests a higher degree of covariation

and construct overlap than originally expected. Additional information regarding this relationship can be found in forthcoming hypotheses.

Table 4. *CFA Model Comparison for Need Satisfaction and Need Frustration when Modeled Together*

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
1F	1917.83(252)	.55	.50	.15	.13
2F (No higher-order, NS/NF)	1827.76(251)	.57	.53	.15	.13
3F (No higher-order, A/C/R with NS & NF items together on each factor)	753.75(249)	.86	.85	.08	.10
2F (Higher-order, NS/NF with 3 latent A/C/R factors each)	735.61(245)	.87	.85	.08	.09
6F (No higher-order, each sub-component separated)	464.55(237)	.94	.93	.06	.05

Table 5. *CFA Model Comparison for Need Satisfaction and Need Frustration when Modeled Separately*

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
NS - 1F	753.87(54)	.61	.53	.21	.13
NS - 3F	74.71(51)	.99	.98	.04	.04
NF - 1F	523.15(54)	.62	.54	.17	.12
NF - 3F	112.41(51)	.95	.94	.06	.06

Table 6. *CFA Model Comparison for Autonomy, Competence, and Relatedness Components Alone*

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
Autonomy - 1F	118.83(20)	.88	.84	.13	.07

Autonomy - 2F (NS/NF)	42.86(19)	.97	.96	.07	.04
Competence - 1F	88.21(20)	.95	.92	.11	.05
Competence - 2F (NS/NF)	27.09(19), $p = .10$	.99	.99	.04	.03
Relatedness - 1F	183.32(20)	.87	.82	.17	.08
Relatedness - 2F (NS/NF)	105.25(19)	.93	.90	.13	.07

Table 7. *Correlations between Need Frustration and Need Satisfaction*

Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. NeedFrustFinal	2.73	0.71							
2. NF_Auto	3.18	0.92	.78** [.72, .82]						
3. NF_Comp	2.58	1.00	.80** [.76, .84]	.44** [.35, .53]					
4. NF_Relate	2.46	0.87	.72** [.66, .77]	.34** [.23, .44]	.36** [.26, .46]				
5. NeedSatFinal	3.64	0.66	-.70** [-.76, -.64]	-.50** [-.58, -.41]	-.58** [-.65, -.50]	-.53** [-.61, -.44]			
6. NS_Auto	3.30	0.88	-.54** [-.62, -.45]	-.58** [-.65, -.50]	-.40** [-.49, -.30]	-.26** [-.37, -.15]	.83** [.79, .86]		
7. NS_Comp	4.00	0.76	-.62** [-.69, -.55]	-.34** [-.44, -.24]	-.73** [-.78, -.67]	-.32** [-.42, -.22]	.76** [.71, .80]	.47** [.38, .56]	
8. NS_Relate	3.62	0.86	-.52** [-.60, -.43]	-.26** [-.37, -.15]	-.30** [-.40, -.19]	-.67** [-.73, -.60]	.79** [.75, .83]	.48** [.38, .56]	.39** [.29, .48]

I tested Hypotheses 2-3, which proposed that masking would be positively related to need frustration, and negatively related to need satisfaction, respectively, by conducting a higher-order SEM model that regressed the higher-order latent variables of need frustration and need satisfaction on the higher-order latent variable of masking. Hypothesis 4, which proposed that the relationship between masking and need frustration would be stronger than the relationship between masking and need satisfaction, was also tested. The original model fit did not

demonstrate strong fit; $\chi^2(806) = 1567.44$, $p < .001$, CFI = 0.87, TLI = 0.86, RMSEA = 0.06, and SRMR = 0.10. Masking did have a stronger, positive relationship with need frustration ($\beta = .45$, $p = .04$) compared to the negative and non-significant relationship with need satisfaction ($\beta = -.29$, $p = .26$). In this model, masking explained 21% of the variance in need frustration, while only 9% of the variance in need satisfaction. However, given the stronger than anticipated empirical relationship between need frustration and need satisfaction ($r = -.70$, $p < .001$), and the similar scoring patterns across dimensions of need frustration and need satisfaction in this sample, I ran separate SEM models (one with need frustration and one with need satisfaction) to make a more accurate comparison of their relationship to masking without significant construct overlap. The need frustration model demonstrated acceptable fit; $\chi^2(397) = 640.80$, $p < .001$, CFI = 0.93, TLI = 0.92, RMSEA = 0.05, and SRMR = 0.07, as did the need satisfaction model; $\chi^2(397) = 612.34$, $p < .001$, CFI = 0.94, TLI = 0.94, RMSEA = 0.05, and SRMR = 0.08. Once separated out, masking had a comparably strong, positive relationship with need frustration ($\beta = .53$, $p < .001$) and negative relationship with need satisfaction ($\beta = -.49$, $p < .001$). Masking explained 28% of the variance in need frustration and 24% of the variance in need satisfaction. Based on these findings, I found support for Hypotheses 2-3, and partial support for Hypothesis 4, given the minimal difference in the magnitude of the relationships.

Masking, Mental Health, & Job Attitudes

Next, I tested Hypotheses 5-8, which proposed that masking would be positively related to symptoms of depression, anxiety, and burnout, and negatively related to perceived mental health, by running a higher-order SEM model that regressed all of the mental health variables onto masking. The SEM model fit the data well; $\chi^2(515) = 877.53$, $p < .001$, CFI = 0.92, TLI = 0.91, RMSEA = 0.05, and SRMR = 0.07. Masking was significantly and positively related to

symptoms of depression (β = .41, SE = .22, p = .01), anxiety (β = .38, SE = .19, p < .01), and burnout (β = .41, SE = .20, p < .01), and negatively but not significantly related to perceived mental health (β = -.26, SE = .30, p = .07). Thus, Hypotheses 5-7 were supported, but Hypothesis 8 was not.

I tested Hypotheses 9-11, which proposed that masking would be negatively related to job satisfaction and job involvement, and positively related to turnover intentions, by running a higher-order SEM model that regressed all of the job attitude variables onto masking. The SEM model fit the data well; $\chi^2(455) = 744.20$, p < .001, CFI = 0.93, TLI = 0.93, RMSEA = 0.05, and SRMR = 0.06. Results yielded coefficients in the expected direction, though none were statistically significant. Specifically, masking was not significantly related to job satisfaction (β = -.09, SE = .15, p = .32), job involvement (β = .06, SE = .13, p = .51), nor turnover intentions (β = .11, SE = .20, p = .20). Thus, Hypotheses 9-11 were not supported.

After testing these hypotheses with each set of outcome variables in separate models, I then created an additional SEM model that regressed all of the outcome constructs (mental health and job attitudes) onto masking to determine if any of the relationships would change with the additional constructs accounted for, and if future analyses could support all constructs included for parsimony. The SEM model fit the data well; $\chi^2(1047) = 1592.33$, p < .001, CFI = 0.92, TLI = 0.91, RMSEA = 0.04, and SRMR = 0.07. None of the relationships changed in significance or magnitude; masking was still significantly associated with depressive symptoms (β = .47, SE = .21, p < .01), anxiety symptoms (β = .40, SE = .22, p < .01), and burnout (β = .41, SE = .19, p < .01), but not significantly associated with perceived mental health (β = -.25, SE = .27, p = .06), job satisfaction (β = -.14, SE = .21, p = .19), job involvement (β = .02, SE = .15, p = .85), or turnover intentions (β = .12, SE = .24, p = .11). Masking explained 22% of the variance in

depressive symptoms, 16% of the variance in anxiety symptoms, 16% of the variance in burnout, 7% of the variance in perceived mental health, 2% of the variance in job satisfaction and turnover intentions, and none of the variance in job involvement.

Need Frustration, Need Satisfaction, & Mental Health

I tested Hypotheses 12-15, which proposed that need frustration would be positively related to symptoms of depression, anxiety, and burnout, and negatively related to perceived mental health, by running a higher-order SEM model that regressed all of the mental health variables onto need frustration. The SEM model fit the data well; $\chi^2(338) = 613.36$, $p < .001$, CFI = 0.92, TLI = 0.91, RMSEA = 0.05, and SRMR = 0.07. Need frustration was positively related to symptoms of depression ($\beta = .52$, SE = .11, $p < .001$), symptoms of anxiety ($\beta = .34$, SE = .11, $p < .001$), and burnout ($\beta = .70$, SE = .11, $p < .001$), and negatively related to perceived mental health ($\beta = -.38$, SE = .14, $p < .001$). Therefore, Hypotheses 12-15 were all supported.

I tested Hypotheses 16-19, which proposed that need satisfaction would be negatively related to symptoms of depression, anxiety, and burnout, and positively related to perceived mental health, by running a higher-order SEM model that regressed all of the mental health variables onto need satisfaction. The SEM model fit the data well; $\chi^2(338) = 525.40$, $p < .001$, CFI = 0.95, TLI = 0.94, RMSEA = 0.05, and SRMR = 0.06. Need satisfaction was negatively related to symptoms of depression ($\beta = -.54$, SE = .09, $p < .001$), symptoms of anxiety ($\beta = -.25$, SE = .10, $p < .001$), and burnout ($\beta = -.55$, SE = .09, $p < .001$), and positively related to perceived mental health ($\beta = .47$, SE = .12, $p < .001$). Therefore, Hypotheses 16-19 were all supported.

Need Frustration, Need Satisfaction, & Job Attitudes

I tested Hypotheses 20-22, which proposed that need frustration would be negatively related to job satisfaction and job involvement, and positively related to turnover intentions, by running a higher-order SEM model that regressed all of the job attitude variables onto need frustration. The SEM model fit the data well; $\chi^2(290) = 533.26$, $p < .001$, CFI = 0.93, TLI = 0.92, RMSEA = 0.05, and SRMR = 0.07. Need frustration was negatively related to job satisfaction (β = -.70, SE = .11, $p < .001$), negatively but not significantly related to job involvement (β = -.16, SE = .08, $p = .05$), and positively related to turnover intentions (β = .60, SE = .17, $p < .001$). Thus, Hypotheses 20 and 22 were supported, but Hypothesis 21 was not supported.

I tested Hypotheses 23-25, which proposed that need satisfaction would be positively related to job satisfaction and job involvement, and negatively related to turnover intentions, by running a higher-order SEM model that regressed all of the job attitude variables onto need satisfaction. The SEM model fit the data well; $\chi^2(290) = 463.29$, $p < .001$, CFI = 0.96, TLI = 0.95, RMSEA = 0.05, and SRMR = 0.06. Need satisfaction was positively related to job satisfaction (β = .75, SE = .10, $p < .001$) and job involvement (β = .46, SE = .0, $p < .001$), and negatively related to turnover intentions (β = -.58, SE = .13, $p < .001$). Thus, Hypotheses 23-25 were all supported.

After testing these hypotheses in separate models, I created two separate SEM models that 1) regressed all of the criterion constructs onto need frustration, and 2) regressed all of the criterion constructs onto need satisfaction to determine if future mediation analyses could support all constructs included for parsimony. The need frustration SEM model fit the data well; $\chi^2(787) = 1274.08$, $p < .001$, CFI = 0.92, TLI = 0.91, RMSEA = 0.05, and SRMR = 0.07. None of the relationships changed in magnitude or significance; need frustration was still significantly associated with depressive symptoms (β = .52, SE = .09, $p < .001$), anxiety symptoms (β = .33,

SE = .10, $p < .001$), burnout ($\beta = .68$, SE = .10, $p < .001$), perceived mental health ($\beta = -.34$, SE = .12, $p < .001$), job satisfaction ($\beta = -.71$, SE = .11, $p < .001$), and turnover intentions ($\beta = .61$, SE = .16, $p < .001$), but not significantly associated with job involvement ($\beta = -.16$, SE = .09, $p = .05$). Need frustration explained 27% of the variance in depressive symptoms, 11% of the variance in anxiety symptoms, 46% of the variance in burnout, 11% of the variance in perceived mental health, 50% of the variance in job satisfaction, 37% of the variance in turnover intentions, and 3% of the variance in job involvement.

Similarly, the need satisfaction SEM model fit the data well; $\chi^2(787) = 1191.16$, $p < .001$, CFI = 0.94, TLI = 0.93, RMSEA = 0.04, and SRMR = 0.06. None of the relationships changed in magnitude or significance; need satisfaction was still significantly associated with depressive symptoms ($\beta = -482$, SE = .08, $p < .001$), anxiety symptoms ($\beta = -.23$, SE = .09, $p < .01$), burnout ($\beta = -.54$, SE = .07, $p < .001$), perceived mental health ($\beta = .44$, SE = .10, $p < .001$), job satisfaction ($\beta = .77$, SE = .10, $p < .001$), job involvement ($\beta = .47$, SE = .09, $p < .001$), and turnover intentions ($\beta = -.59$, SE = .14, $p < .001$). Need satisfaction explained 23% of the variance in depressive symptoms, 5% of the variance in anxiety symptoms, 29% of the variance in burnout, 19% of the variance in perceived mental health, 59% of the variance in job satisfaction, 35% of the variance in turnover intentions, and 22% of the variance in job involvement.

Based on all SEM models fitting the data well and the relationships among masking, need frustration, and need satisfaction and the mental health and work-related criteria not changing in significance or magnitude, I proceeded with testing my mediation hypotheses with all criterion variables included in each model. To test my mediation hypotheses, I used two higher-order structural equation models.

To ensure the robustness of my results, I conducted the analysis with 5,000 bootstrap samples with bias-corrected confidence intervals on each model. Bootstrapping is recommended for mediation analyses because it allows for more accurate and robust estimation of indirect effects by estimating standard errors and confidence intervals, even if data are non-normal (Fritz & MacKinnon, 2007; Hayes & Scharkow, 2013). All reported results are scaled to reflect these specifications and utilize standardized path coefficients. The full models can be found in Figures 4 and 6. To simplify the SEM model, only the overarching second-order latent variables were used (i.e., using Masking instead of Compensation, Camouflaging, and Assimilation [first-order latent factors] and Need Frustration and Need Satisfaction instead of Autonomy, Competence, and Relatedness [first-order latent factors]).

To be thorough, I ran an initial SEM model where I included both higher-order factors of need frustration and need satisfaction and allowed them to co-vary, but because of their substantial construct overlap, these results were non-interpretable. I decided to run and report on SEM models where I separated them out to compare findings. Details concerning the full conceptual model can be found in Appendix E.

The Indirect Effect of Need Frustration

To test Hypotheses 26-29 and 30-32, which proposed that need frustration would partially mediate the relationship between masking and mental health variables and job attitude variables, I ran a higher-order latent variable SEM model entering need frustration as a mediator to examine the direct and indirect effects. The original model fit the data well, $\chi^2(1666) = 2580.39$, $p < .001$, CFI = 0.89, TLI = 0.89, RMSEA = 0.04, and SRMR = 0.07.

Direct Effects. Nearly all direct effects specified in the model were significant, as demonstrated in Figure 4 below. Specifically, masking was significantly associated with need

frustration (β = .48, SE = .22, p < .001), depressive symptoms (β = .28, SE = .20, p = .03), anxiety symptoms (β = .32, SE = .21, p = .01), and job satisfaction (β = .26, SE = .20, p = .01). Masking was not significantly associated with burnout (β = .10, SE = .15, p = .30), perceived mental health (β = -.13, SE = .28, p = .31), job involvement (β = .10, SE = .18, p = .36), or turnover intentions (β = -.20, SE = .30, p = .05). Need frustration was significantly associated depressive symptoms (β = .41, SE = .10, p < .001), burnout (β = .64, SE = .11, p < .001), perceived mental health (β =- .29, SE = .14, p = .01), job satisfaction (β = -.84, SE = .17, p < .001), and turnover intentions (β = .71, SE = .25, p < .001); but was not significantly associated with anxiety symptoms (β = .19, SE = .11, p = .05) or job involvement (β = -.21, SE = .11, p = .05), though both were very close to significance.

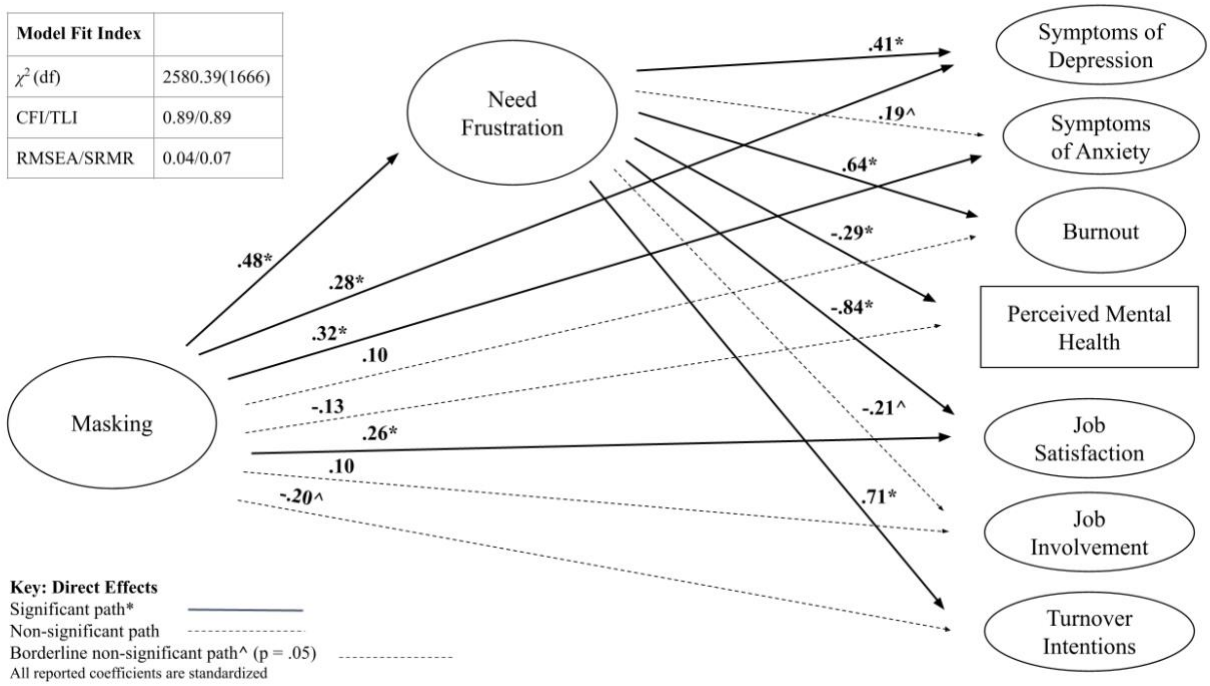

Figure 4. *Direct Effects in Need Frustration Mediation Model*

Indirect Effects. Examination of the bias-corrected bootstrapped confidence intervals (based on 5,000 bootstrap samples) revealed significant indirect effects for most of the proposed

relationships (all except anxiety symptoms and job involvement). The indirect effect represents the portion of the relationship between masking and the variables of interest that occurs through need frustration as a mediator. Statistical significance for indirect effects suggests that need frustration at least partially explains the relationship between masking and symptoms of depression (indirect = .19, $p < .01$), burnout (indirect = .31, $p < .01$), perceived mental health (indirect = -.14, $p = .03$), job satisfaction (indirect = -.40, $p < .01$), and turnover intentions (indirect = .34, $p < .01$), but not for anxiety (indirect = .09, $p = .08$) or job involvement (indirect = -.10, $p = .07$). This provides support for Hypotheses 26, 28-30, and 32, though Hypotheses 27 (anxiety symptoms) and 31 (job involvement) were not supported (see Figure 5).

Overall, masking explained 23% of the variance in need frustration, and masking and need frustration in tandem explained 35% of the variance in depressive symptoms, 20% of the variance in anxiety symptoms, 48% of the variance in burnout, 14% of the variance in perceived mental health, 57% of the variance in job satisfaction, 3% of the variance in job involvement, and 41% of the variance in turnover intentions.

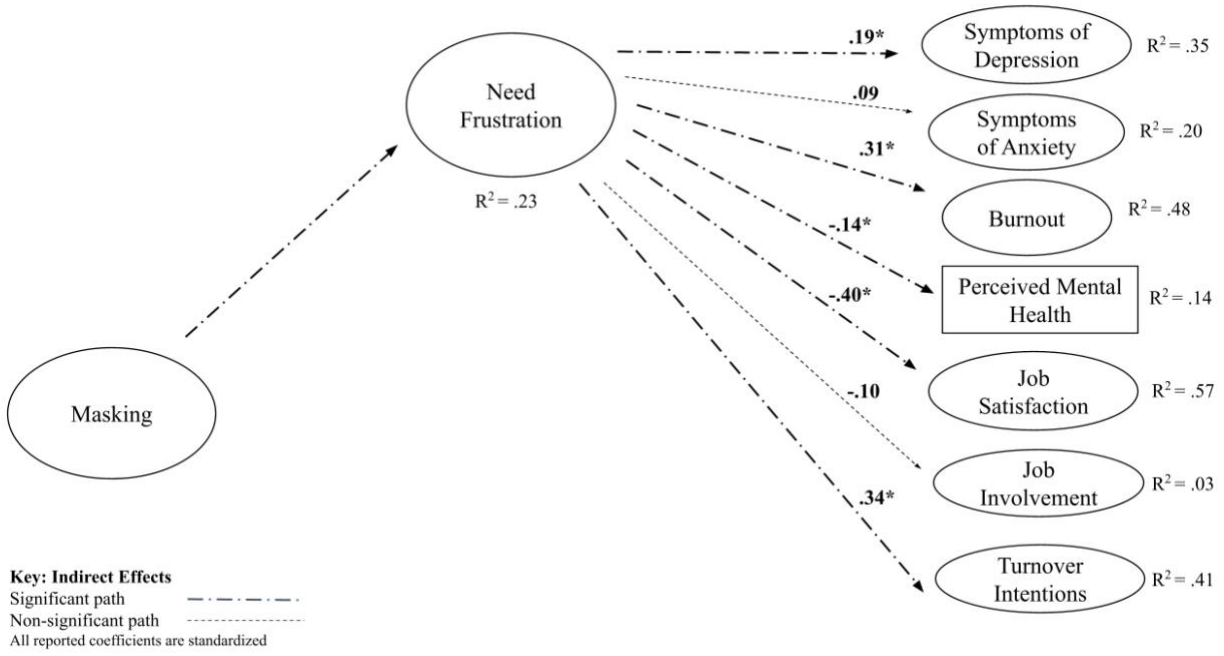

Figure 5. *Indirect Effects in Need Frustration Mediation Model*

The Indirect Effect of Need Satisfaction

To test Hypotheses 33-36 and 37-39, which proposed that need satisfaction would partially mediate the relationship between masking and mental health variables (H31-H34) and job attitude variables (H35-H37), I conducted a higher-order latent variable SEM model entering need satisfaction as a mediator to examine the direct, indirect, and total effects. The original model also fit the data well, $\chi^2(1666) = 2513.60$, $p < .001$, CFI = 0.90, TLI = 0.90, RMSEA = 0.04, and SRMR = 0.07.

Direct Effects. Nearly all direct effects specified in the model were significant, as demonstrated in Figure 6 below. Specifically, masking was significantly associated with need satisfaction (β = -.47, SE = .26, $p < .001$), depressive symptoms (β = .33, SE = .18, p = .002), anxiety symptoms (β = .38, SE = .20, $p < .001$), burnout (β = .21, SE = .15, p = .02), job satisfaction (β = .23, SE = .20, p = .01), and job involvement (β = .24, SE = .17, p = .01). Masking was not significantly associated with perceived mental health (β = -.14, SE = .24, p =

.19) or turnover intentions (β = -.15, SE = .28, p = .08). Need satisfaction was significantly associated depressive symptoms (β = -.32, SE = .09, p < .001), burnout (β = -.44, SE = .07, p < .001), perceived mental health (β = .37, SE = .12, p < .001), job satisfaction (β = .87, SE = .13, p < .001), job involvement (β = .58, SE = .11, p < .001), and turnover intentions (β = -.66, SE = .17, p < .001); but was not significantly associated with anxiety symptoms (β = -.05, SE = .09, p = .51).

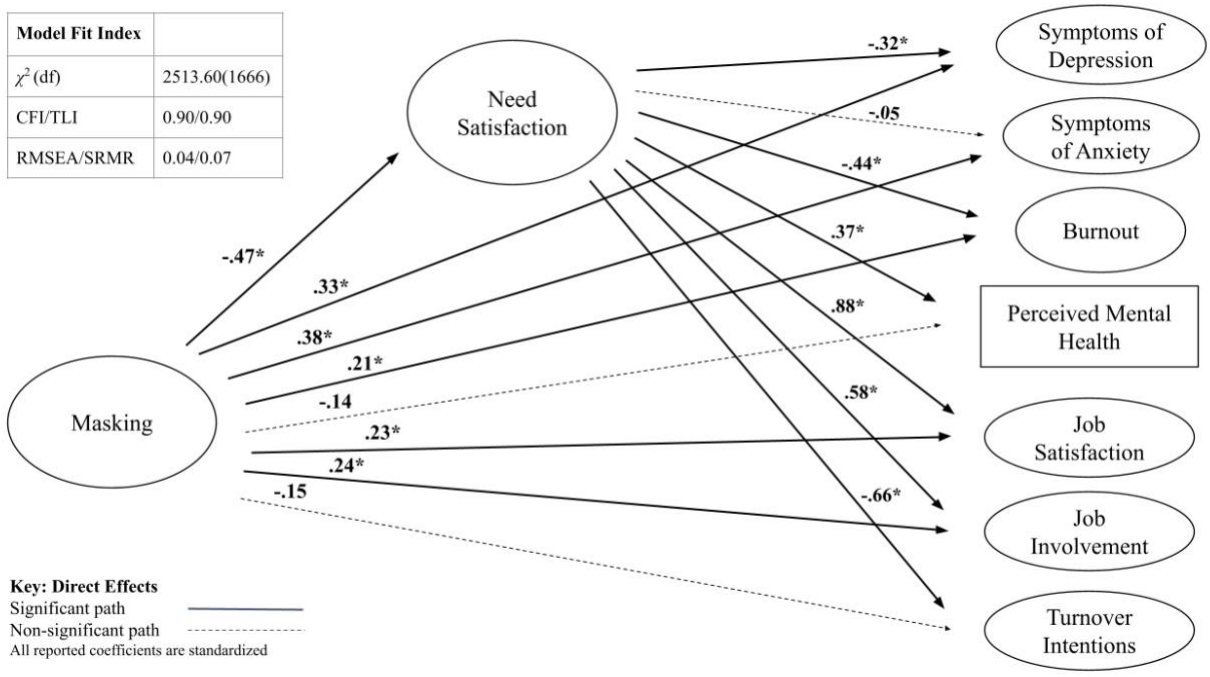

Figure 6. *Direct Effects in Need Satisfaction Mediation Model*

Indirect Effects. Examination of the bias-corrected bootstrapped confidence intervals (based on 5,000 bootstrap samples) revealed significant indirect effects for most of the proposed relationships (all except anxiety symptoms). As previously mentioned, the indirect effect represents the portion of the relationship between masking and the outcomes of interest that occurs through need satisfaction as a mediator. Statistical significance for indirect effects suggests that need satisfaction at least partially explains the relationship between masking and symptoms of depression (indirect = .15, p = .02), burnout (indirect = .21, p < .01), perceived

mental health (indirect = -.17, p = .01), job satisfaction (indirect = -.41, p < .01), job involvement (indirect = -.27, p < .01) and turnover intentions (indirect = .31, p < .01), but not for anxiety (indirect = .03, p = .51). This provides support for Hypotheses 33 and 35-39, though Hypothesis 33 (anxiety symptoms) was not supported (see Figure 7).

Overall, masking explained 22% of the variance in need satisfaction, and masking and need satisfaction in tandem explained 31% of the variance in depressive symptoms, 17% of the variance in anxiety symptoms, 32% of the variance in burnout, 20% of the variance in perceived mental health, 63% of the variance in job satisfaction, 26% of the variance in job involvement, and 37% of the variance in turnover intentions.

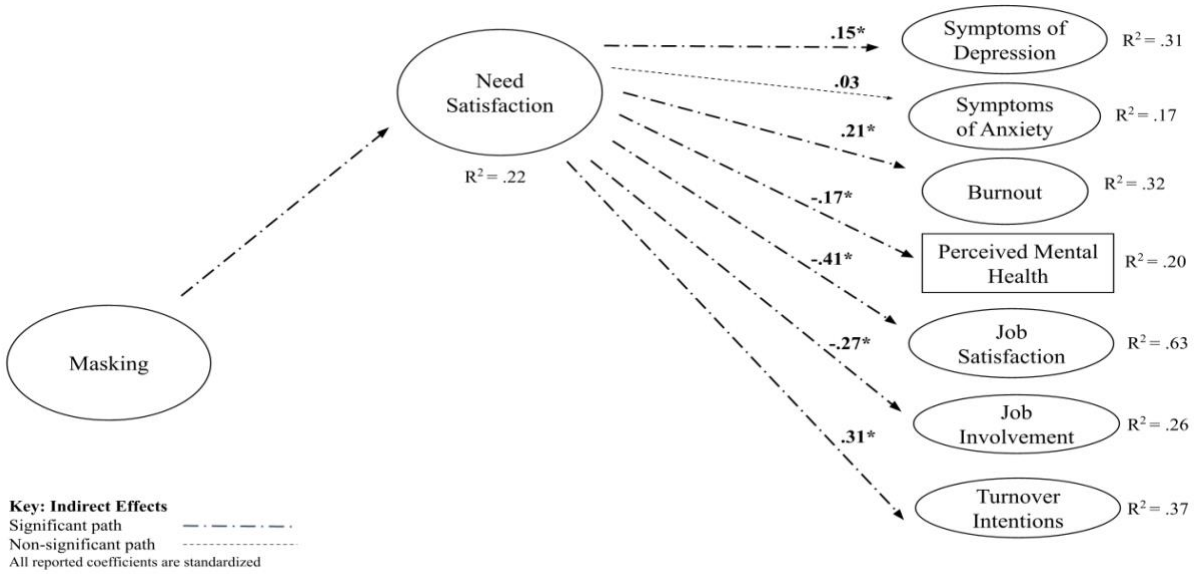

Figure 7. *Indirect Effects in Need Satisfaction Mediation Model*

Need Frustration and Need Satisfaction as Distinct Constructs

Hypothesis 40, which proposed that need frustration would have stronger relationships with negatively valenced constructs (i.e., depressive symptoms, anxiety symptoms, burnout, and turnover intentions) compared to need satisfaction, was tested by reviewing the standardized path coefficients in the SEM models with need frustration and need satisfaction to the criterion

variables, the variance explained by need frustration and need satisfaction for each criterion, as well as comparing the correlations of need frustration and need satisfaction with the constructs of interest, and then running subsequent Fisher's r-to-Z transformation tests to determine if the difference in correlations was statistically significant (Lenhard & Lenhard, 2014). Need frustration had minimally stronger direct effects for depressive symptoms (β = .52 vs. β = -.48), anxiety symptoms (β = .33 vs. β = -.23), burnout (β = .68 vs. β = -.54), and turnover intentions (β = .61 vs. β = -.59). Need frustration also explained more variance in depressive symptoms (R^2 = .29 vs. R^2 = .27), anxiety symptoms (R^2 = .11 vs. R^2 = .06), burnout (R^2 = .48 vs. R^2 = .30), and turnover intentions (R^2 = .36 vs. R^2 = .34) compared to need satisfaction. Further, need frustration had minimally stronger correlations with depressive symptoms (r = .40 vs. r = -.39), anxiety symptoms (r = .32 vs. r = -.22), and burnout (r = .50 vs. r = -.42) than need satisfaction, but had an identical (absolute) correlation to need satisfaction with turnover intentions (r = .44/-.44). However, results from the Fisher's tests determined that there were no significant differences in the magnitude of the correlations once the direction of the correlation coefficients were accounted for (p > .05 for all). Thus, this hypothesis was not supported.

Hypothesis 41, which proposed that need satisfaction would have stronger relationships with positively valenced constructs (i.e., perceived mental health, job satisfaction, and job involvement) compared to need frustration, was also tested by reviewing the standardized path coefficients in the SEM models with need frustration and need satisfaction to the criterion variables, examining the variance explained by need frustration and need satisfaction for each criterion, as well as comparing the correlations of need frustration and need satisfaction with the constructs of interest, and then running subsequent Fisher's r-to-z transformation tests to test for significant differences. Need satisfaction had minimally stronger direct effects for perceived

mental health (β = .44 vs. β = -.34) and job satisfaction (β = .77 vs. β = -.71), but a much larger direct effect for job involvement (β = .47 vs. β = -.16 [NS]). Need satisfaction also explained more variance in perceived mental health (R^2 = .23 vs. R^2 = .14), job satisfaction (R^2 = .56 vs. R^2 = .49), and job involvement (R^2 = .21 vs. R^2 = .03) compared to need frustration. Further, need satisfaction had minimally stronger correlations with perceived mental health (r = .40 vs. r = -.33), job satisfaction (r = .60 vs. r = -.51), and job involvement (r = .34 vs. r = -.10 [NS]) compared to need frustration. Results from the Fisher's tests determined that there were no significant differences in the magnitude of the correlations with perceived mental health and job satisfaction once the direction of the correlation coefficients were accounted for ($p > .05$ for both), but the difference in correlation coefficients for job involvement was statistically significant (z = 2.30, p = 0.02). Thus, this hypothesis was partially supported.

Hypothesis 42, which proposed that the indirect effect of need frustration would be stronger than the indirect effect of need satisfaction, was tested by reviewing the magnitude of the indirect effects in both mediation SEM models (see Figures 5 and 7). I then conducted bootstrap difference tests to compare the indirect effects from each model to determine if the differences were statistically significant. The bootstrap difference test is particularly useful because it is robust to violations of normality (i.e., comparing indirect effects from non-independent samples that were run in separate SEM models) by resampling with a large number of iterations (5,000 in the present analysis) to create a distribution of the differences with confidence intervals and testing for significance. A confidence interval that does not contain zero suggests that the two indirect effects are significantly different from one another. Conversely, if the confidence interval includes zero, it indicates that the difference between the indirect effects is not significant. The bootstrapped difference test determined that the difference in the indirect

effects was not statistically significant for depressive symptoms (NF indirect = .19*, NS indirect = .15*; 95% CI: [-0.27, 0.33]), anxiety symptoms (NF indirect = .09, NS indirect = .03; 95% CI: [-0.17, 0.29]), burnout (NF indirect = .31*, NS indirect = .21*; 95% CI: [-0.32, 0.53]), or perceived mental health (NF indirect = -.14*, NS indirect = -.17*; 95% CI: [-0.36, 0.42]). Additionally, the difference in the indirect effects was not statistically significant for job satisfaction (NF indirect = -.40*, NS indirect = -.41*; 95% CI: [-0.82, 0.81]), job involvement (NF indirect = -.10, NS indirect = -.27*; 95% CI: [-0.21, 0.55]), or turnover intentions (NF indirect = .34*, NS indirect= .31*; 95% CI: [-0.96, 1.02]), suggesting similar partial mediation roles for both variables across all criterion variables in the study. Thus, Hypothesis 42 was not supported.

Table 8. *Summarized Hypotheses and Results*

Hypothesis	Relationship	Support?
1	Need frustration and need satisfaction will be moderately and negatively correlated with one another, representing related but distinct constructs.	Partially Supported
2	Masking will be positively related to need frustration.	Supported
3	Masking will be negatively related to need satisfaction.	Supported
4	The positive association between masking and need frustration will be stronger than the negative association between masking and need satisfaction.	Partially Supported
5	Masking will be positively related to symptoms of depression.	Supported
6	Masking will be positively related to symptoms of anxiety.	Partially Supported*
7	Masking will be positively related to burnout.	Supported
8	Masking will be negatively related to perceived mental health.	Not Supported
9	Masking will be negatively related to job satisfaction.	Not Supported
10	Masking will be negatively related to job involvement.	Not Supported
11	Masking will be positively related to turnover intentions.	Not Supported
12	Need frustration will be positively related to symptoms of depression.	Supported
13	Need frustration will be positively related to symptoms of anxiety.	Partially Supported*
14	Need frustration will be positively related to burnout.	Supported
15	Need frustration will be negatively related to perceived mental health.	Supported

16	Need satisfaction will be negatively related to symptoms of depression.	Supported
17	Need satisfaction will be negatively related to symptoms of anxiety.	Partially Supported*
18	Need satisfaction will be negatively related to burnout.	Supported
19	Need satisfaction will be positively related to perceived mental health.	Supported
20	Need frustration will be negatively related to job satisfaction.	Supported
21	Need frustration will be negatively related to job involvement.	Partially Supported*
22	Need frustration will be positively related to turnover intentions.	Supported
23	Need satisfaction will be positively related to job satisfaction.	Supported
24	Need satisfaction will be positively related to job involvement.	Supported
25	Need satisfaction will be negatively related to turnover intentions.	Supported

Hypothesis	Relationship	Support?
26	Need frustration will partially mediate the relationship between masking and symptoms of depression.	Supported
27	Need frustration will partially mediate the relationship between masking and symptoms of anxiety.	Not Supported
28	Need frustration will partially mediate the relationship between masking and burnout.	Supported
29	Need frustration will partially mediate the relationship between masking and perceived mental health.	Supported
30	Need frustration will partially mediate the relationship between masking and job satisfaction.	Supported
31	Need frustration will partially mediate the relationship between masking and job involvement.	Not Supported
32	Need frustration will partially mediate the relationship between masking and turnover intentions.	Supported
33	Need satisfaction will partially mediate the relationship between masking and symptoms of depression.	Supported
34	Need satisfaction will partially mediate the relationship between masking and symptoms of anxiety.	Not Supported
35	Need satisfaction will partially mediate the relationship between masking and burnout.	Supported
36	Need satisfaction will partially mediate the relationship between masking and perceived mental health.	Supported
37	Need satisfaction will partially mediate the relationship between masking and job satisfaction.	Supported
38	Need satisfaction will partially mediate the relationship between masking and job involvement.	Supported
39	Need satisfaction will partially mediate the relationship between masking and turnover intentions.	Supported

40	Need frustration will have stronger relationships with negatively valenced constructs compared to need satisfaction.	Not Supported
41	Need satisfaction will have stronger relationships with positively valenced constructs compared to need frustration.	Partially Supported
42	The indirect effect of need frustration will be stronger than the indirect effect of need satisfaction.	Not Supported

Note. Partially Supported relationships marked by an asterisk demonstrated inconsistent relationships when modeled independently compared to when modeled in a mediation.

DISCUSSION

The purpose of this study was to examine how masking is related to important employee mental health and job attitudes and intentions, and how basic psychological need frustration and need satisfaction may serve as potential explanatory mechanisms between masking and these criterion variables. I hypothesized that masking would be associated with poorer employee mental health and job attitudes, at least partially due to the active frustration and/or diminished satisfaction of the basic psychological needs of autonomy, competence, and relatedness. Indeed, masking was directly related to increased levels of depressive symptoms, anxiety symptoms, and burnout. Further, masking was directly associated with higher levels of need frustration and lower levels of need satisfaction. However, masking was not significantly associated with job attitudes, contrary to hypotheses. Importantly, need frustration served as a partial mediator between masking and depressive symptoms, burnout, perceived mental health, job satisfaction, and turnover intentions. Similarly, need satisfaction served as a partial mediator between masking and depressive symptoms, burnout, perceived mental health, job satisfaction, job involvement, and turnover intentions. Self-determination theory may be an increasingly important way in which to understand the relationship between masking and important individual variables. These results suggest that masking may be related to mental health and job attitudes in

large part by disrupting the ability to feel autonomous, competent, and connected at work. In this way, self-determination theory offers a useful lens to explain why masking may be psychologically costly, (even in the absence of overtly hostile environments), because it interferes with the satisfaction of basic psychological needs. As such, SDT provides both a theoretical explanation and a framework for interventions aimed at reducing harm and promoting well-being for neurodivergent employees.

Masking and Mental Health

The present study showed that there was a strong, positive, and significant relationship between masking and depressive symptoms, anxiety symptoms, and burnout. These findings are consistent with previous research that emphasized the physical and emotional toll masking can have for neurodiverse individuals (Miller et al., 2021), and thematic findings from qualitative research on masking (Field et al., 2024; Hull et al., 2017). Among the mental health variables included in the present study, burnout has received the most empirical attention as a shared experience amongst autistic individuals. However, direct effects of masking in relation to depressive symptoms, anxiety symptoms, and burnout (when neither mediator was included) were comparable in magnitude. These results suggest that more attention needs to be paid to neurodiverse individuals' experiences with depression and anxiety. Indeed, masking alone explained 22% of the variance in depressive symptoms, 16% of the variance in anxiety symptoms, and 16% of the variance in burnout. These represent medium to large effect sizes, and highlight the potential consequences of masking in the workplace. When need frustration and need satisfaction were incorporated into the models, the direct effect of masking, interpreted as the part of the relationship between masking and mental health variables that is independent of need frustration or need satisfaction, was lower for all criterion variables. Notably, the direct

effect of masking in relation to burnout became insignificant when need frustration was added to the model and accounted for, suggesting that need frustration explains a sizable amount of the relationship between masking and burnout that has not previously been explored as a potential explanatory mechanism.

The relationship between masking and a global measure of overall mental health was negative, although not quite statistically significant ($p = .06$), and the direct effect of masking in relation to overall mental health remained non-significant when need frustration and need satisfaction were added as mediators. This is contrary to the thematic findings of qualitative research with neurodiverse samples, where overall mental health is frequently cited as being negatively impacted (Pyszkowska et al., 2025). Masking alone only explained 6% of the variance in overall mental health, indicating that there are perhaps variables unaccounted for that interact with masking to affect overall mental health. Individual psychological factors like self-acceptance and resilience, health behaviors like sleep or substance use, and contextual factors like inclusive workplace cultures and accommodation seeking and utilization may help explain this relationship better and serve as important moderators, additional mediators, and/or controls in future research. It is also possible that a floor effect may have limited the ability to detect this relationship; on a 5-point Likert scale, the average score on this global mental health item was 2.7, and roughly 43% of participants rated their overall mental health as poor (1) or fair (2). This suggests that many individuals were already experiencing lower well-being, regardless of masking levels, meaning that this global item didn't have sufficient variability for masking to show a stronger association with it. It also may be the case that global mental health ratings are more likely to be shaped by broader life satisfaction, identity factors, or coping strategies, whereas masking might contribute more acutely to specific, symptom-based criteria like burnout

and depressive symptoms. Thus, future research should not rely solely on broad, subjective self-assessments of well-being (particularly those made up of single items), as it may underestimate the current mental health state of neurodivergent individuals who engage in masking behaviors.

Masking and Job Attitudes

Interestingly, masking did not have a consistently significant relationship with any of the job attitude variables included in this study, and the magnitude of the relationships were also relatively small. Masking alone explained a meager 1% of the variance in job satisfaction and turnover intentions, and less than 1% of the variance in job involvement. However small, the relationships between masking, job satisfaction, and turnover intentions were initially related in the hypothesized direction, such that masking and job satisfaction were negatively related, and masking and turnover intentions were positively related when tested in isolation from need frustration or need satisfaction. This finding is consistent with previous related research that has examined the empirical relationship between surface acting and job satisfaction and consistently found negative associations (Bhave & Glomb, 2016; Hülsheger & Schewe, 2011), as well as the positive association between surface acting and turnover intentions (Cho & Song, 2017; Goodwin et al., 2011). Masking is similar to surface acting such that neurodiverse individuals often have to engage in emotional displays and behaviors that are discordant with internal emotional states, which can produce inherently uncomfortable dissonance (Grandey, 2000). Thus, it is conceptually likely that masking produces dissonance and negative consequences over time, such as job dissatisfaction and turnover intentions, but the present study did not find substantial evidence of this.

Notably, these relationships changed directions when need frustration and need satisfaction were examined as mediators; the direct effect of masking in relation to job

satisfaction after accounting for need frustration and need satisfaction became positive and significant, while the effect of masking in relation to turnover intentions remained insignificant but turned negative. This result could be due to a number of reasons, but is most likely due to measurement error. Given that many of these direct effect pathway coefficients had 95% confidence intervals that contained zero, it is plausible that the direct effects may range from negative to positive values based on chance, and the SEM model may lack sufficient power to demonstrate a more consistent relationship that either exists or does not exist in actuality. Additionally, it could be the case that the cross-sectional nature of the study design is capturing an initially positive relationship between masking and job satisfaction and negative relationship with turnover intentions through a snapshot, rather than capturing the hypothesized negative impact of masking on job satisfaction and retention over time. Alternatively, the stronger direct effect of masking in relation to job satisfaction and turnover intentions could be a result of need satisfaction and need frustration being accounted for; thus, the remaining variance between masking and job satisfaction reflects a positive relationship, while the remaining variance between masking and turnover intentions reflects a negative relationship. This shift suggests that masking's negative influence on job satisfaction and turnover intentions operates largely through its detrimental impact on need satisfaction and active need frustration, and that previous research has not accurately captured the dual nature of masking due to insufficient explicit theory testing. One possible explanation for this shift is that masking may provide a temporary buffer against negative workplace experiences, allowing employees to maintain a sense of stability and initially supporting satisfaction and retention. Job-demands resources theory could provide preliminary support for this interpretation, such that masking may be serving as a resource rather than a demand (Bakker & Demerouti, 2017). While this may not be sustainable in the long term, it

could contribute to the observed positive relationship once need satisfaction and need frustration are accounted for. Conversely, given the inability to assess the temporal dynamics of these relationships or cause and effect in the present study, it could be the case that employees who experience higher job satisfaction and are not actively planning on leaving their organizations may be more likely to mask in order to maintain their perceived standing or continue in roles they find meaningful. These employees might feel a stronger need to conform to workplace norms, and engaging in masking could serve as a strategy to preserve their roles and relationships, creating a reinforcing cycle of masking behavior, job satisfaction, and reduced turnover intentions.

These potential explanations likely also apply to the weak and non-significant relationship demonstrated between masking and job involvement when studied in isolation, as well as when need frustration was included as a mediator. Surprisingly, the direct effect of masking in relation to job involvement became statistically significant and positive after including need satisfaction in the model. As previously described, this may be because need satisfaction accounts for part of the relationship; if masking has both negative and positive effects (Pryke-Hobbes et al., 2023), need satisfaction might absorb more of the negative effects of masking, and when accounted for, result in a stronger, positive direct effect on job involvement visible. This suggests that the negative indirect relationship between masking and job involvement, discussed more below, operates predominantly through its detrimental impact on need satisfaction. More specifically, masking is likely more closely tied to job involvement through satisfaction-related mechanisms, rather than frustration-related mechanisms. Factors like external validation, sunk costs, or workplace norms that reward masking behaviors could contribute to higher job involvement, despite the emotional costs. Thus, masking may facilitate

positive workplace experiences, like promotions or positive feedback, although the sustainability of this positive relationship warrants additional study. Future research should examine need frustration and need satisfaction as moderators in addition to their role as potential mediators, and identify whether and how neurodivergent individuals may perceive masking at work as both a benefit and a cost. Additionally, assessing the temporal dynamics between masking and job attitudes would be a significant contribution to the neurodiversity literature to begin to disentangle the inconsistent associations demonstrated in this initial study.

Masking and Need Frustration/Need Satisfaction

The present study originally posited that masking would be significantly and positively related to need frustration, and significantly and negatively related to need satisfaction, with a stronger association for need frustration compared to need satisfaction. This hypothesis was based on the initial hypothesis that need frustration and need satisfaction would be moderately correlated, but empirically distinct constructs. When masking, need frustration, and need satisfaction were incorporated into the same SEM model to assess the differential relationships, masking did have a stronger, positive relationship with need frustration compared to the negative and non-significant relationship with need satisfaction. However, the weaker-than-expected differentiation between need satisfaction and need frustration suggests that these constructs may not operate as entirely independent mechanisms in the context of my study; it is unclear if this is related to the population sampled here, or a broader phenomenon. Once the two need variables were separated into two models, masking had a comparably strong, positive relationship with need frustration and negative relationship with need satisfaction. Masking explained 28% of the variance in need frustration and 24% of the variance in need satisfaction. The magnitude of this relationship was consistent in the separate mediation SEM models for the direct effect of

masking in relation to need frustration and the direct effect of masking in relation to need satisfaction.

Taken together, these are consistently large effect sizes, and emphasize the negative repercussions of masking as it relates to self-perceptions of autonomy, competence, and relatedness. Contrary to the notion that masking may initially help neurodiverse individuals meet these needs, my findings suggest that masking limits the ability to meet these needs, and even actively frustrates or thwarts these needs. Limited conclusions can be drawn about whether masking is best explained as relating to a diminished satisfaction of needs vs. an active thwarting of needs due to the degree of empirical overlap, but it can be concluded that within the population sampled, masking is significantly associated with reduced psychological need experiences, and in the context of work. This finding aligns with self-determination theory's assertion that authenticity and psychological needs are intertwined (Deci & Ryan, 2000).

Previous research has reported that neurodivergent individuals are less likely to experience self-determination (Chou et al., 2017; Qian et al., 2022), and questions have been raised as to whether or not self-determination holds the same meaning for autistic people as non-autistic people (Thompson-Hodgetts et al., 2023). The present study provided initial evidence that the construct of basic psychological needs is equivalent between neurodivergent and neurotypical groups. The simplest level of measurement invariance testing, configural invariance, examines whether the same model structure (i.e., the same number of factors and items loading on them) is valid across groups (Struening & Cohen, 1963; Vandenberg & Lance, 2000). This was supported when the measurement and structural models for need frustration and need satisfaction both had acceptable model fit without modifications and were similar to the confirmatory factor structures that had been validated in previous research that examined need

satisfaction or need frustration in isolation with representative population samples. Assuming that these samples are majority neurotypical, the results of the current student provide preliminary evidence for the invariance of the factor structure of needs constructs across neurotypical and neurodivergent groups. Future research should further investigate need satisfaction and need frustration in tandem through additional measurement invariance testing to clarify whether these constructs behave similarly for neurodivergent and neurotypical individuals, as well as across different neurodivergent conditions.

The next stages in exploring this would be to test metric invariance, which ensures that the factor loadings (the strength of the relationship between items and the latent construct) are equivalent across groups, and scalar invariance, which requires that both the factor loadings and intercepts (the item means) are equivalent across groups (Vandenberg & Lance, 2000). For example, the present study found that neurodivergent workers reported higher levels of need satisfaction compared to need frustration, both holistically and across the three dimensions. The average overall scale score for need frustration was 2.73, while the average overall scale score for need satisfaction was 3.64, and this difference was statistically significant ($t(285) = -12.06$, $p < .001$). The component of need frustration with the highest average score and the component of need satisfaction with the lowest average score was autonomy (NF Autonomy: 3.18, NS Autonomy: 3.30), indicating that for my sample, perceptions of autonomy at work were the most likely to be negatively impacted. Previous research has suggested that neurodivergent individuals' autonomy is often negatively impacted for a variety of reasons. A major reason highlighted in qualitative research is that neurodivergent individuals have limited opportunities to be autonomous due to externally imposed constraints and ableist expectations regarding the needs and abilities of neurodivergent people (Thompson-Hodgetts et al., 2023). Many

neurodivergent individuals are not given the opportunity to make autonomous choices for themselves or advocate for their needs due to others' beliefs about their abilities to make those choices, in line with a deficit-oriented view of disability (Shakespeare, 2013). Additionally, because neurodivergent individuals may have fewer opportunities for autonomous decision-making, they may feel less secure or confident in their own ability to make "appropriate" choices when they are given the opportunity to do so (Hodgetts et al., 2018). Finally, the opportunity to present as one's authentic neurodivergent self is often discouraged starting at a young age, and many neurodivergent individuals report that they don't feel like they have the liberty to behave as autonomously as they would like. Less research has been conducted on how autonomy specific to employment experiences is impacted for the neurodivergent community, and this finding suggests that future research is warranted to further examine this phenomenon. The component of need frustration with the lowest average score was relatedness (NF Relatedness: 2.46), suggesting that my sample was less likely to report active exclusion, cold or rude behavior, or being actively disliked by their colleagues. This finding could be a result of a variety of factors; my sample may have more supportive workplaces that are less likely to engage in counterproductive social behaviors, experience closer relationships with colleagues (thus limiting exclusion), and/or lower affiliative needs. The component of need satisfaction with the highest average score was competence (NS Competence: 4.00), signifying that my sample felt capable and confident in their abilities to meet their goals and succeed in their work. These results have interesting implications; although stigma and prejudice often influence others' perceptions of neurodivergent individuals' capacity or competence (Riesen & Oertle, 2019), my sample did not share these beliefs. This is consistent with previous research that has shown that autistic people often rate their perceived capacity higher than others, such as their parents or teachers

(Tomaszewski et al., 2020), although it remains unclear if autistic people overestimate their skills, others underestimate their skills, or a combination of both (Thompson-Hodgetts et al., 2023; Tomaszewski et al., 2022). However, regardless of competence, one cannot be self-determined without opportunities to be so. Understanding how these patterns compare to a neurotypical sample, as well as any patterns within and between neurodivergent conditions (given sufficient sub-group sample sizes to ensure adequately powered analyses), would be an important next step to consider.

Need Frustration/Need Satisfaction and Mental Health and Job Attitudes

The present study suggests that need frustration and need satisfaction are important variables to measure in relation to mental health and job attitudes, as they were significantly related to nearly all variables in this study. When examined exclusively with the criterion variables of interest (i.e., before examining a potential mediating effect), need frustration was significantly and strongly related to all variables in the directions originally hypothesized, with the exception of job involvement, which was not significantly related. Similarly, need satisfaction was significantly and strongly related to all variables in the directions originally hypothesized. Although the magnitude of difference between need frustration and need satisfaction was minimal, need frustration did demonstrate stronger relationships with negatively valenced constructs (depressive symptoms, anxiety symptoms, burnout, turnover intentions) and need satisfaction demonstrated stronger relationships with positively valenced constructs (perceived mental health, job satisfaction, job involvement). These findings were consistent with those of previous research that the satisfaction of psychological needs is a better predictor of work-related well-being (e.g., job satisfaction, work engagement, job involvement) and general well-being (life satisfaction, perceived mental health) (Gagné & Deci, 2005; Van den Broeck et

al., 2008), while need frustration has historically been a better predictor of ill-being (e.g., burnout, anxiety symptoms) and negative work attitudes and behaviors (e.g., turnover intentions, counterproductive workplace behaviors). Taken together, these findings emphasize the value of looking beyond surface-level outcomes and toward the underlying psychological needs that shape how people experience work. By attending to basic psychological need fulfillment (or lack thereof), practitioners and researchers are better equipped to understand why some employees thrive while others struggle, even if their situations (e.g., workload, performance reviews, etc.) look similar. The results reinforce the relevance of self-determination theory in workplace research and make a compelling case for targeted interventions to improve neurodivergent employee outcomes.

In this study, job involvement stood out as the only criterion variable where need satisfaction and need frustration diverged meaningfully in how they related to other variables. While both constructs were strongly tied to most outcomes in expected ways, only need satisfaction showed a clear, positive connection to job involvement, whereas need frustration was not significantly associated with job involvement. This pattern suggests that being psychologically invested and engaged by one's work may rely more on the presence of fulfilled psychological needs, rather than simply the absence of need frustration. It also raises an important question about the way need satisfaction and need frustration related to each other in this study; while there was clear construct overlap between the two, need frustration and need satisfaction may not always be mirror images of each other. Future research could explore whether certain work experiences (like feeling invested in one's job) are uniquely fueled by what employees do have, rather than what they lack. It's also possible that this particular pattern reflects something unique about the present sample: a group of neurodivergent adults who may

have long navigated work environments with barriers to need satisfaction. In that context, feelings of job involvement may emerge primarily when their needs are actively met, rather than merely when frustration is reduced. Moreover, neurodivergent individuals may be less inclined to feel job involvement in workplaces that fail to recognize or support their needs, identities, or strengths. When energy is spent masking, managing stigma, or coping with unmet needs, there may be less cognitive and emotional space left for feeling deeply connected to one's work. This suggests that job involvement among neurodivergent employees may be especially contingent on inclusive, autonomy-supportive environments instead of being a default outcome of employment itself. Further research across different populations and workplace contexts could help determine whether this distinction holds more broadly.

The Indirect Effects of Need Frustration and Need Satisfaction

In the present study, need frustration had a significant indirect effect on depressive symptoms, burnout, perceived mental health, job satisfaction, and turnover intentions. Similarly, need satisfaction had a significant indirect effect on depressive symptoms, burnout, perceived mental health, job satisfaction, job involvement, and turnover intentions. These findings highlight the central role of basic psychological needs in at least partially explaining how masking is related to both individual well-being and work-related attitudes. Although the word "effect" may suggest a causal relationship, inferences about causality are not intended. The terminology introduced by Preacher and Hayes (2008) is used for reasons of consistency.

Although masking was not initially significantly associated with job attitudes, the significant indirect effects found for need frustration and need satisfaction with these variables emphasize the value of the field of applied psychology shifting away from a causal steps approach to testing mediation (e.g., Baron & Kenny, 1987), and embracing the distribution of the

product strategy (i.e., product of coefficients method with bias-corrected bootstrapped confidence intervals; Hayes, 2009). Previously, research may have rejected the potential for mediation with these constructs after identifying a non-significant relationship between masking and job attitudes, even with the presence of a significant indirect effect. Although the present study is assessing atemporal mediation (and thus, causal mechanisms are not present), based on these findings, we now understand more about the relationship between masking and job attitudes when accounting for the shared relation among all variables in the models, including need frustration and need satisfaction.

Two indirect effects that are worth specifically noting are those of burnout and job involvement. Although a bootstrapped test of significant differences concluded that the magnitude of the indirect effects of need frustration and need satisfaction were not empirically different for burnout, it is clear that need frustration is critical to the variance explained in burnout. This was made apparent when the direct effect of masking on burnout (one of the most consistent themes in neurodiversity research) became insignificant once accounting for need frustration as a partial mediator. Thus, the well-documented phenomenon of autistic burnout is likely significantly related to the active frustration of autonomy, competence, and relatedness, but to my present knowledge, need frustration has not been measured or accounted for in the extant research. Additionally, job involvement was the only criterion variable that had a significant indirect effect for one of the basic psychological needs, but not the other. This finding suggests that masking's relationship with job involvement depends more on its likelihood of diminishing need satisfaction, rather than increasing frustration, in terms of psychological identification with one's job. Job involvement can thus be bolstered by creating environments that support the fulfillment of autonomy, competence, and relatedness (Rigby & Ryan, 2018).

Theoretical Implications and Future Research

The findings from this study underscore the importance of revisiting the theories and models traditionally used in industrial-organizational psychology to assess their relevance and applicability to neurodiverse populations. Recent studies have begun this critical work, applying predominant theories from industrial-organizational psychology and occupational health psychology, particularly the Job Demands-Resources model (Bakker & Demerouti, 2017; Demerouti et al., 2001), to better understand the work experiences of neurodiverse employees (Hennekam & Descubes, 2023; Tomczak & Kulikowski, 2024; Wissell et al., 2022). Self-determination theory (SDT) offers a useful lens for this examination, as it emphasizes that an individual's vitality depends on the resources they can draw from their environment to satisfy their basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2017). This study builds on previous SDT research by exploring how individuals with various neurodivergent conditions experience these needs in the workplace, specifically focusing on how masking intersects with the fulfillment of autonomy, competence, and relatedness. In doing so, it demonstrates that, much like neurotypical individuals, neurodivergent individuals also have critical needs for autonomy, competence, and relatedness, and that the workplace is a unique context where these needs can be either supported or thwarted. Furthermore, this research adds to the growing body of work identifying self-determination as a modifiable factor linked to better mental health and well-being outcomes among individuals with developmental disabilities (Wehmeyer et al., 2017). Specifically, my study contributes to the literature by showing that, for neurodivergent employees, the extent to which their basic psychological needs are met or thwarted through workplace experiences (such as masking) has concrete implications for their mental health and job attitudes. These findings reinforce the idea that supporting self-

determination in the workplace may play a significant role in improving neurodivergent employees' well-being. Finally, it supports the perspective that the deficit-focused models often applied to neurodivergent adults, may not be sufficient. As noted by autistic adults, the stigma and focus on deficits drive them to mask their true selves (Cherewick & Matergia, 2024). Thus, future research should consider adopting a strengths-based approach to better understand the differences not only between neurodivergent and neurotypical populations but also within the neurodiverse community itself.

In this research, need frustration and need satisfaction were strongly negatively correlated with one another, indicating these constructs were less distinct, and perhaps more closely resembled opposite ends of the same spectrum than previously posited by other researchers or found in other studies (Longo et al., 2016, 2018; Tindall & Curtis, 2019; Vander Elst et al., 2012). As previously mentioned, future research and theory testing would benefit from explicit measurement invariance testing to provide more insight as to whether these constructs behave similarly or differently across neurotypical and neurodiverse samples, building on the measurement invariance testing conducted by Olafsen and colleagues (2017) on the adapted version of this scale for use at work. Given that need frustration has only recently been studied in tandem with need satisfaction as separate constructs, it is unclear if the strength of the relationship observed is due to sample characteristics (and thus, related to the research questions posed), or measurement error.

Although research on need frustration in the neurodivergent population is extremely scarce, more recent research has shared some scrutiny over the measurement of need frustration in general. Murphy and colleagues (2022) argued that the Basic Psychological Need Satisfaction and Need Frustration Scales (BPNSFS) probably do not validly measure need frustration. They

pointed out that the conceptual relationship is inherently challenging to generate assessment items that would effectively distinguish between low need satisfaction and active need frustration. The authors then convincingly demonstrated how the two-part conceptualization of need frustration is not accurately captured from the content of the need frustration items. The first component of the conceptualization of need frustration is that it has an asymmetric configuration to need satisfaction (i.e., that the presence of low need satisfaction doesn't necessitate the presence of need frustration, but that the presence of need frustration *does* indicate low need satisfaction). The second component of the conceptualization is that need frustration results from a strong, active, direct thwarting by other individuals or by the context itself (Costa et al., 2015; Vansteenkiste & Ryan, 2013). Murphy and colleagues (2022) gave examples regarding how none of the competence frustration items reference thwarting by other individuals or one's social environment, but are essentially reverse-worded versions of conceptually nearly-identical items on the satisfaction of competence items (e.g., "I feel insecure about my abilities on my job" vs. "At work, I feel capable at what I do") or relate to past or present failures, which are not paralleled in the satisfaction of competence items (e.g., "When I am working, I feel like a failure because of the mistakes I make" vs. "I feel confident that I can do things well on my job"). As noted by Murphy and colleagues (2022), feeling negatively about one's failures seems less related to the kind of threatening and thwarting force that might undermine one's needs for competence. The relatedness and autonomy factors are less obviously reverse-worded versions of one another when examining frustration and satisfaction, but do still lack consistent measurement of thwarting content (e.g., "I feel that the relationships I have at work are just superficial" and "I feel pressured to do too many things on my job"). Thus, the findings from this study may suggest evidence for Murphy and colleagues' argument that need

frustration is not being accurately measured, rather than providing specific findings about the characteristics of my sample. Importantly, the authors note that they do not disagree with the innovative reconceptualization of need frustration, but urge future research to examine and report properties of the measurement of need frustration and substantially revise or construct a new measure for valid assessment. Although outside the scope of the present study, additional research and refinement on the measurement of need frustration and need satisfaction would contribute to a growing body of research on the self-determination of neurodiverse individuals.

Finally, the methodology used in this current study has contributed to the growing body of knowledge about masking by examining masking quantitatively and through explicit theory testing, examining masking strategies with a variety of neurodiverse individuals (and not solely by those who are autistic), and examining masking in the context of the workplace, an important social environment that can stimulate or hinder humans' natural inclination toward growth (Ryan & Deci, 2017). Previous studies have found that masking autistic traits is associated with diminished self-perception, autonomy, esteem, hope for the future, and higher levels of anxiety and depression (Hodgetts et al., 2015; Milton & Sims, 2016; Vohra et al., 2017). In the present study, the construct of masking was evaluated among a sample of neurodivergent individuals who were not solely autistic, and found similar findings. This suggests that similar to autistic individuals, adults with ADHD, dyslexia, and Tourette's also experience functional difficulties and may develop compensatory strategies to mitigate these difficulties. The findings of this study contribute to a growing body of research tied to the maladaptive consequences associated with the use of compensatory strategies, and provide initial evidence that the affective, behavioral, and cognitive components of masking may not be solely unique to autistic individuals.

However, revisions to the measure of masking revealed a potential shift in emphasis from overt behavioral presentation to internal vigilance that may have broader relevance across neurodivergent identities. Notably, four items were dropped from the second factor on the masking scale, deemed Camouflaging, and originally defined as strategies used to present a non-autistic or less autistic persona to others. These items were dropped in order to improve overall model fit for the measurement model, while still retaining the theoretical foundation of the construct of masking. Based on the items that remained in the factor, it appears that the content can still accurately be defined as strategies to present a less neurodivergent persona, but in the present study, the item content emphasizes how much one is aware of or thinking about how they are coming across to others. It may be more accurate to think of this factor as related to monitoring and/or vigilance, something that is more generalizable to a variety of neurodiverse conditions. These nuances in item content suggest that the way masking is experienced (and measured) may vary not only by neurodivergent identity, but also by the internal vs. external focus of strategies used. Although the present study did not have sufficient sub-sample sizes to significantly compare the measurement and scores for masking and its three factors across different neurodivergent conditions, future research would benefit from doing so, as well as further measurement development and validation efforts for more inclusive and precise assessment.

It is clear that masking is occurring in the workplace, although research on the phenomenon remains scarce. Reviews and quantitative evaluations of masking are growing (Cook et al., 2021; Cremone et al., 2023), but few studies have specifically assessed the experience of masking while maintaining employment. The present study demonstrated initial evidence that masking is negatively related to important job attitudes like job satisfaction, job

involvement, and turnover intentions indirectly through reduced psychological need fulfillment, highlighting employee outcomes that are often studied in organizational sciences research. Future research would benefit from considering how masking interacts with these outcomes and others across the full arc of the employee lifecycle, including recruitment, hiring, socialization, performance management, promotions and leadership, and employee retention or turnover. For example, when employees mask during recruitment and hiring processes, do they perceive higher or lower levels of job security once obtaining employment compared to their neurotypical peers? How might masking strategies used during pre-employment phases evolve after securing a job? Further, what are the implications of directly or indirectly rewarding employees who engage in masking via positive performance reviews, bonuses, or promotions? Relatedly, what does the experience of masking and/or disclosure look like specifically among neurodivergent leaders, who are likely to have had fewer role models or mentors in leadership that are similar to them (Praslova, 2021b; Robinson, 2024b; Roberson et al., 2021)? Initial cross-sectional mixed-methods research would be helpful to begin to capture snapshots of these phenomena, as well as longitudinal and experience sampling studies that could reveal if and when masking evolves or intensifies across the employee lifecycle, as well as career trajectories.

Researchers might also explore how the process of disclosure, accommodation seeking and utilization, and psychological safety relate to masking across the employee lifecycle. Do employees who disclose a neurodivergent condition feel less pressure to mask after disclosure, or does masking frequency and intensity remain stable despite disclosure? Further, does the timing and/or recipient of the disclosure have a differential impact on employee masking experiences and associated mental health and job attitudes? For neurodivergent employees that seek out formal or informal accommodations, do these accommodations help reduce the need to mask in

either frequency or intensity? If employees are actually granted accommodations, do they then feel psychologically safe to utilize them? Organizational psychology researchers are beginning to conceptually review neurodiversity and accommodations in the workplace (Bruyère & Colella, 2024; Kalmanovich-Cohen & Stanton, 2023; Patton, 2019), as well as workplace disclosure of neurodiversity (Kidwell et al., 2023; Lindsay et al., 2021; Santuzzi & Keating, 2022), but current empirical research on workplace neurodiversity that examines these experiences through explicit theory testing remains scarce. Studying masking at work not only deepens our understanding of neurodivergent employee experiences; it invites researchers and practitioners alike to question whose comfort is prioritized and whose authenticity is supported at work.

Practical Implications

In addition to the research implications, the present study also has important implications for practice. Industrial-organizational psychologists and HR professionals are missing valuable information regarding how to best retain, support, manage, and further develop neurodiverse talent. Given the targeted efforts many large organizations are engaging in to specifically recruit and hire neurodiverse workers, the retention of these employees should also be of utmost importance. By highlighting the associated costs of masking, an experience that many neurodivergent individuals engage in on a daily basis, organizations may begin to extend their resources to supporting inclusive work environments that recognize and accommodate neurodiversity through policy changes, training programs, and culture shifts in an effort to retain this talent. Further, as organizations increasingly recognize the importance of employee mental health (Robinson, 2024; Wu et al., 2021), it will be important to consider how neurodivergent employees face different and additional demands compared to their neurotypical colleagues, and how these demands are related to masking strategies at work and employees' mental wellness.

The following section is organized by practical implications for organizations, HR professionals, leaders/managers, and neurodivergent workers.

Practical Implications for Organizations

Although the benefits of a neurodivergent workforce have become more readily apparent in recent years (LeFevre-Levy et al., 2023; Sniderman et al., 2023), neurodiversity still remains off the radar for the majority of companies (Wen et al., 2024; Westover et al., 2018). Many organizations are still plagued by outdated beliefs about neurodiversity in employment settings and believe that the nature of their work is too difficult to employ autistic or otherwise neurodivergent individuals (Riesen & Oertle, 2019). Further, while there may be a general interest among employers to hire diverse candidates, research has shown that this interest often diminishes when it involves hiring for their own company (Andersson et al., 2015). Thus, the first implication of this study is to demonstrate to employers and organizations that neurodivergent individuals are employable, and in the case of my study, highly educated and capable of working in typical white-collar industries, challenging the societal stigma that still exists around neurodivergent conditions. This study also challenges the unfounded and ignorant claims made by the current U.S. Secretary of Health and Human Services, Robert F. Kennedy Jr., during his first press conference on April 16, 2025. Kennedy called autism an "epidemic", and went on to make the following bizarre statement regarding individuals diagnosed with autism spectrum disorder: "*Autism destroys families, and more importantly, it destroys our greatest resource, which is our children…These are kids who will never pay taxes. They'll never hold a job. They'll never play baseball. They'll never write a poem. They'll never go out on a date. Many of them will never use a toilet unassisted.*" (PBS News, 2025). Although the present study did not directly ask participants if they could use a toilet unassisted (and causality cannot

be assumed from this cross-sectional data), the present study demonstrates that many autistic people are in fact able to hold a job, if not multiple, and are an important part of our workforce. Claims like these from representatives of the U.S. government are not only inaccurate, but perpetuate harmful stereotypes that contribute to discriminatory beliefs and behaviors toward neurodivergent individuals. While there are specific behaviors that HR professionals and leaders can enact to support neurodivergent workers that will be discussed below, I would be remiss to not first mention that general societal beliefs about neurodiversity still require a considerable overhaul, and these beliefs significantly contribute to neurodivergent individuals' overall well-being and their disclosure dilemma (Ali et al., 2024; Santuzzi & Keating, 2022).

For organizations that are interested in embracing neuroinclusivity, focusing not only on the attraction, but the retention, of neurodivergent employees through supportive organizational cultures and practices will be an integral way to maintain a satisfied, engaged, and diverse workforce. The average autistic adult who has achieved employment remains in a job for an average of two years, which is half of the national average of 4.2 years in the U.S. (Wei et al., 2018). This begs the question; what can employers do to support autistic and other neurodivergent workers to reduce the likelihood of their turnover? Research has shown that autistic employees whose workplaces were perceived to be more accepting of diversity have more positive mental health and well-being outcomes, as well as more acceptance and support from others (Romualdez et al., 2021). Inclusive workplace cultures often involve a better understanding of autism (or neurodiversity more broadly) by employers and colleagues, as well as a greater willingness to make adaptations to support neurodivergent employees (Bruyère & Colella, 2024). These types of cultures are more likely to support authenticity and diversity of thought (LeFevre-Levy et al., 2023), inherently operating in ways that are more likely to support

the fulfillment of basic psychological needs. Further, organizations should set out to be intentional to reduce the often subconscious conflation of professionalism and neurotypical behavior, the former of which many neurodivergent individuals posit is rooted in ableism and performative behavior, and is not sustainable (Enright, 2022; TEDx, 2023). While the construct of professionalism was developed as a set of ethical, behavioral, value-, and competency-based standards, professionalism and its associated aspects were developed when the predominant workplace culture was set and enforced by straight, white, cisgender men (Chawla & Alexander, 2024). The literature around how professionalism is used to maintain dominant standards of behavior and appearance is growing and demonstrates how bias in current notions of professionalism or narrow applications of the construct of professionalism may implicitly and/or explicitly disadvantage those who do not fit this outdated mold (Frye et al., 2020; Evetts, 2013). This literature would benefit from extending its application to neurodiversity as a form of diversity. For example, behaviors often exhibited by neurodiverse individuals like stimming, reduced eye contact, doodling, and others (that are often masked for a legitimate fear of stigma and discrimination) may not be best conceptualized as unprofessional when pausing to consider if these behaviors actually reflect an employee's engagement, intelligence, or competencies. By sustaining an inclusive and empowering organizational culture and intentionally determining what employee behaviors and attributes are truly job-relevant, organizations will likely, indirectly, reduce neurodivergent employees' perceived need to mask as frequently or as intensely without respite.

Practical Implications for HR

Human resources professionals are in a unique position to support neurodivergent employees through the implementation and continued commitment to workplace policies,

practices, and programs that naturally support basic psychological needs and hopefully reduce the perceived necessity to mask. While recent headlines have shown large corporations like Target, Walmart, and Meta divesting from or completely terminating diversity, equity, and inclusion efforts (Colvin, 2024), employee resource groups, allyship programs, and general HR practices related to attracting, selecting, retaining, managing, and supporting a diverse workforce remain more important than ever. Accenture found that globally, $3.7 trillion is left on the table annually by not having inclusive work practices (Accenture, 2020). The cost of exclusion shows up through employee attrition and replacement costs, discrimination and pay equity lawsuits, and lower revenue and profitability. Ensuring employee resource groups (ERGs) and allyship programs have continued access to organizational resources and are communicated about in a strengths-based or diversity-supportive manner (rather than deficit-based or disability-oriented manner) are two tangible ways for HR professionals to demonstrate their commitment to supporting neurodiversity in the workplace.

ERGs are internal communities of workers with shared identities and interests, and can serve a variety of functions depending on their size and resources, as well as the size and resources of their organizations. As of 2017, 90% of Fortune 500 companies had ERGs that serve as safe havens for people from historically marginalized groups to have space for candid conversations about adversity, empathize with each other's stories, create and share resources with one another and with their organizations, and coordinate and advocate more broadly, amongst other actions (Huang, 2017). However, when there is a gap between what ERGs are able to deliver within the constraints of their infrastructure and what their members desire from the ERG, employees can feel less included at work (Catalino et al., 2022). For neurodivergent individuals who feel comfortable disclosing their conditions, ERGs can be an extremely effective

way to provide social support and mentorship, particularly in times of transition. An additional benefit of ERGs and allyship programs is that those who may not feel comfortable disclosing may still reap the benefits of community, shared learning and story-telling, and resources through membership without requiring them to disclose a condition themselves. For example, information available on Accenture's Inclusion & Diversity Commitments website (Accenture, n.d.) shares information about neurodiverse employees embracing their differences to elevate their team's performance, as well as employees who are caregivers for neurodiverse children that want to see workplace strategies transformed to support neurodiverse workforce. Employee neurodiversity networks that do not necessitate a diagnosis or the disclosure of a diagnosis to experience the benefits increase accessibility and opportunities to have basic psychological needs met without putting neurodiverse individuals in an uncomfortable position.

Furthermore, these groups should be labeled and communicated about in line with the preferences of the neurodiversity community and social justice movement, such that neurodivergence is not seen as an individual disability (though neurodivergent individuals may also identify as disabled), but rather as an identity trait or neurological difference that makes them unique (Thomson & Gooberman-Hill, 2024). Thus, organizational language around neurodivergence should reflect that neurodiversity is best conceptualized as a form of diversity, rather than an assumption of disability (Doyle et al., 2020; LeFevre-Levy et al., 2023). This language should also inform the development of training content to educate an organization's workforce on neurodiversity, and focus on the unique benefits that neurodiverse workers bring to an organization beyond the financial business case (Silver et al., 2023).

I-O psychology practitioners and HR professionals are uniquely positioned to partner with interdisciplinary neurodiversity scholars and advocates to help support workplace (and

broader cultural) changes to challenge assumptions about neurodiversity and reduce stigma. One such effort should include designing, implementing, and evaluating professional development and workplace training backed by empirical scholarship using the social model of disability and centering the principles of universal design to shift the onus of change from the individual to the system (Damiani & Harbour, 2015; Lombardi & Murray, 2011; Syharat et al., 2023). For many employees, managing neurodiverse workers or knowing neurodivergent individuals outside of work is their main source of knowledge about autism or neurodiversity (Cockayne, 2019). There is a clear need for human resources professionals to train their workforces on neurodiversity basics, following a strengths-based approach and consistent with the social model of disability (compared to the deficit-based approach of the medical model of disability). Further, general training content about employment law and legally defensible employment practices and decisions may not seem directly related to neurodiversity, but will indirectly support the accessibility and the inclusion of neurodiverse workers. For example, organizations that utilize structured interviews reduce reliance on unwritten social norms like navigating small talk or reading implicit social cues (Whelpley et al., 2023), and instead focus on job-relevant criteria. Neurodivergent individuals, who are more likely to be impacted by subjective judgements and bias in interview settings (Saleh et al., 2022), have been shown to prefer and benefit from organizations that utilize these practices (Ezerins et al., 2025). The language used and practices modeled by employers and HR professionals is important to set the stage for how leaders and managers can impact the workplace experiences of neurodivergent workers.

Practical Implications for Leaders

Leaders can support neurodivergent workers in a variety of ways to help reduce their perceived need to mask and help meet their basic psychological needs, some of which include

implementing practices that reflect universal design principles amongst all employees, offering and role-modeling accommodations without requiring employees to disclose, and cultivating individualized relationships with direct reports and building psychological safety within their team. Given that neurodivergent individuals report masking frequently, and often face difficult decisions about whether or not to disclose their neurodivergence or seek accommodations, leaders' proactivity in anticipating the challenges faced by a variety of workers (including, but not limited to neurodiverse workers) can have positive benefits for all workers. Incorporating universal design principles into the workplace can create environments that allow neurodiverse and non-neurodiverse people alike to reach their full potential at work (Silver et al., 2023). For example, communicating information using multiple modalities (e.g., audio, visual, text, and/or image based) ensures that neurodiverse employees can easily understand key information without drawing attention to information processing differences or assuming what type of way neurodiverse workers prefer to communicate. Additionally, formalizing, documenting, and articulating workplace norms that non-neurodiverse people may see as "common sense" can also be beneficial for not just neurodiverse workers, but also new workers, workers coming from different industries or various work backgrounds, as well as people from diverse cultural backgrounds. Small changes to the way leaders interact with their employees that are rooted in these principles can level the playing field for all team members without requiring neurodiverse employees to necessarily disclose (Milton et al., 2017), potentially helping these employees reduce the need to mask and bolstering their basic psychological needs.

Similar to finding ways to apply universal design principles to workplace interactions, leaders can have a positive impact on neurodiverse employees by proactively offering a variety of informal accommodations and role modeling accommodations they make in their own work to

reduce the burden on neurodiverse employees to ask for these things on their own. Many neurodivergent individuals report that they do not actually know what accommodations would be helpful for facilitating their success (Burton et al., 2022), or what options are available to them based on what is considered "reasonable" (Americans with Disabilities Act, 1990). For employees who are not prepared or able to seek out formal accommodations through a formal HR department or HR business partner, leaders who can provide informal accommodations through work style modifications, job crafting, and empowering neurodivergent employees' decision authority will be particularly important. Bruyère & Colella (2024) recently contributed to the literature on neurodiversity and accommodations by providing an overview of accommodation considerations for neurodivergent individuals across the employment process. Some of the options that can be easily and proactively implemented and role-modeled by leaders include flexibility in the timing and location of the work environment, the use of assistive technologies, private or quiet office spaces for employees who are required to be in-person (as opposed to shared, open-concept offices), headphones to block out environmental noise, and lighting changes to minimize visual distractions (Austin & Pisano, 2017; Bruyère & Colella, 2024; Hensel, 2017). Many of these accommodations are of little to no cost, can help support employees' needs for autonomy, and reduce the likelihood of overstimulation or negative psychological experiences for neurodiverse employees.

One accommodation that leaders can suggest and role-model for neurodiverse employees include blocking certain windows of time on an employee's calendar to allow time for recovery from energy-draining video calls or meetings that require face-to-face interaction (i.e., "Zoom fatigue"; Jiang, 2020). Amidst the COVID-19 pandemic, when workers were sent home en masse and millions of people had to quickly orient to conducting day-to-day operations over

platforms like Zoom, many neurotypical people became aware of the energy required to process non-verbal cues like facial expressions, the tone and pitch of the voice, and body language over video calls (Jiang, 2020). This cognitive load is something that many autistic and neurodivergent people dealt with long before the pandemic as part of their experience masking, across both virtual and in-person work, and identified as an exhausting part of their day-to-day encounters (Rosa, 2020). Encouraging employees to take time to pause, reorient, and regulate their nervous systems in a society that wants to squeeze as much time and productivity out of workers as possible is a relatively easy, but radical way to support neurodiverse and neurotypical workers alike.

When windows of decompression or re-regulation in between meetings are not feasible, leaders can encourage and role-model joining virtual meetings with cameras off when not absolutely necessary to reduce cognitive load and sensory overload. Indeed, the exhaustion felt by individuals from continuous monitoring and vigilance regarding facial expressions and body language can have negative impacts on their perceived attributes; a study by Schoenenberg and colleagues (2014) found that delays in response on phone or video conferencing systems can negatively shape views of the participants. Stunningly, delays of even 1.2 seconds led people to perceive the responder as less friendly or focused (Schoenenberg et al., 2014), potentially having an exponential impact on others' perceptions of neurodiverse employees' levels of relatedness or competence. This finding may help support the recommendation that not all virtual meetings require cameras, and that video call exhaustion can negatively impact neurotypical and neurodiverse employees' perceptions of their colleagues, undermining attempts at inclusivity.

Perhaps the most important implication for leaders from the present study is understanding that neurodiversity is not a monolith. Not all neurodivergent workers are alike,

and leaders should prioritize cultivating a personal and psychologically safe relationship with employees to best support their individualized needs, well-being, and job attitudes. Many theories in industrial-organizational psychology, including self-determination theory, highlight psychological needs, job resources, and/or job characteristics as being universally experienced and valued (Ryan & Deci, 2017; Hobfoll, 1989; Bakker & Demerouti, 2017; Hackman & Oldham, 1976). While further theory validation across neurodivergent samples is always helpful to determine if nuances exist for different populations, leaders should not assume that what is rewarding, resourceful, or motivating to one employee will be necessarily equally valued by another, regardless of neurotype. Rather than making assumptions about what a neurodiverse employee wants, needs, values, or prefers based on stereotypes, typecasting, or previous experiences with other neurodivergent individuals, leaders should lead with appreciative inquiry and collaborative curiosity on how to best facilitate learning, development, and success for their employees. For example, instead of leading with questions like "What accommodations do you need in order to meet your job requirements?" or "What challenges are you facing in your work?", leaders might ask questions such as "When have you felt most supported and able to do your best work here?" or "What kind of environments or interactions have helped you thrive in previous roles?" Although subtly different, the language and framing of the second set of questions makes less assumptions about a neurodiverse employees' capabilities or experiences. These types of questions help leaders discover existing successes in neurodivergent inclusion (even if small wins), understand unique individual strengths without framing them as deficits, and co-create empowering workplace changes. Indeed, a recent study found that perceived organizational support for strengths-use behaviors (i.e., identifying perceived relative strengths and, subsequently, selecting professional development activities to further improve those

strengths) was a significant predictor of employee motivation through its impact on need satisfaction and need frustration, more so than a deficit correction perspective (i.e., identifying perceived relative shortcomings and, subsequently, selecting professional development activities to improve those shortcomings; Gradito-Dubord & Forest, 2021).

Furthermore, as it relates specifically to self-determination theory, leaders should avoid assuming that neurodiverse employees have diminished or fundamentally different needs for autonomy, relatedness, or competence. These psychological needs are understood to be universal across individuals, including those who are neurodivergent. However, universality does not mean uniformity. How these needs are expressed, experienced, or fulfilled can vary significantly from person to person, and neurodivergent employees would benefit from more custom-tailored interventions and accommodations (Adamou et al., 2013; Blackburn, 2023). Targeting basic psychological needs is a promising approach because interventions to promote self-determination can be personalized to strengths and interests (Larsen & Luna, 2018). To truly support neurodivergent employees, leaders must go beyond the assumption that offering a standard set of job resources or motivators will be equally effective for everyone. Taking the time to learn about each employee's unique motivations, values, and preferred ways of working will allow leaders to co-create personalized development plans, growth opportunities, and individualized accommodations that feel meaningful and aligned, rather than one-size-fits-all.

While the present study should serve as initial evidence for employers and organizations to adapt their practices to become more inclusive, the push for more inclusive workplace environments may not bring about immediate change, particularly during a time in the United States where a multitude of diversity, equity, and inclusion efforts are under attack. It may, unfortunately, take some time before the movement toward acceptance of neurodiversity in

workplaces translates from passive acknowledgement to proactive embracing or celebration of neurodivergence, with more established and routine organizational practices that reflect universal design elements and are beneficial for neurodivergent individuals. Therefore, there are certain practical implications for neurodivergent employees and job seekers.

Practical Implications for Neurodivergent Workers

While organizational change is slow, neurodivergent individuals may benefit from cultivating personal strategies to navigate the current reality of work. Although masking may serve as a short-term mechanism to manage perceptions or reduce stigma, this study highlights its association with reduced psychological need satisfaction and potential need frustration, as well as mental health strain. Being able to identify patterns, such as the environments, social dynamics, tasks, and contextual factors that prompt masking can support more intentional energy management and recovery. At the same time, small acts of authenticity, when safe, can help mitigate the cost of chronic self-monitoring and vigilance. Finding community with other neurodivergent workers, both within and outside of the context of an individual's current organization, can also help with emotion-focused coping and problem-focused coping as it relates to managing masking in the workplace.

Because autonomy emerged in this study as both the most frustrated need and least satisfied need, seeking out small ways to exercise choice, build confidence, job craft, and minimizing the frequency of undertaking overly prescriptive tasks can be personally impactful. Identifying which needs are unmet, and exploring ways to meet them either inside or outside of work may help neurodivergent employees maintain a greater sense of agency and well-being in less than supportive environments. While the burden of change should not fall on neurodivergent people alone, these strategies may offer a foundation of support in the meantime. Especially

during a time when authentically existing in the workplace can feel like an act of resistance, neurodivergent workers are encouraged to think carefully about their personal costs and benefits of masking and to seek out environments, relationships, and routines that support their psychological needs, minimize their perceived need to mask as frequently, while also maintaining their safety and security.

Limitations

Although this study presents novel contributions to the literature, the findings should be considered in light of a few limitations.

Cross-sectional research design. A major limitation of this study is the use of cross-sectional data for assessing masking, need frustration, need satisfaction, well-being and job attitudes to test partial mediation. Data were collected in the same survey at one time period, meaning that temporal relationships among variables and causality cannot be inferred. The inability to assess temporal relationships and causality is particularly limiting when investigating the occupational stress process, which unfolds over time. Here, one cannot be certain when well-being was negatively impacted, or which constructs precede the others. In this study, I am not able to make clear conclusions about the causal mechanisms that tie workplace masking to consequences for mental health and job attitudes because cross-sectional data collection only allows us to see one moment in time.

Despite the cross-sectional nature of this study and limitations imposed when interpreting the data, this research can still provide valuable insight to inform future research and theory. Given the dearth of quantitative research on the experience of masking among neurodivergent workers, there are a variety of ways to use the findings from this study to advance longitudinal research about masking. Future research could examine the stress process tied to masking at

work over time through an experience sampling method, such as daily diary studies, to focus on the aspects of masking that most directly impact individual and organizational consequences. Additionally, future research should empirically examine the relationship between need satisfaction and need frustration over time (i.e., both within and between individuals), as a temporal aspect may illuminate the strong relationship and construct overlap found between the two constructs in this study. It is also plausible that low grade need satisfaction and low grade need frustration may be conceptually and empirically similar, suggesting a general lack of need fulfillment, whereas high and severe need frustration may behave in a more empirically distinct way, which may not have been captured in the present study due to range restriction. For example, high need frustration could arise when an employee feels persistently undermined in their autonomy, such as being micromanaged, having control actively taken away, or being denied decision-making power despite a desire for independence, resulting in feelings of anger or helplessness. On the other hand, low need frustration might behave more similarly to low need satisfaction if an employee's autonomy is somewhat limited, but not to a degree that causes significant distress. In this case, the employee might feel disengaged or like they are "going through the motions," but without the emotional intensity that high need frustration may trigger. Thus, determining ways to capture fluctuations in satisfaction and frustration, as well as building an overall understanding of how the neurodivergent population views and experiences need satisfaction and frustration, will advance our current knowledge of these constructs.

Common method variance. Common method variance (or common method bias) has been addressed widely in behavioral research as a potential problem (Podsakoff et al., 2003; Spector et al., 2017; Williams & McGonagle, 2016). Common method variance is variance that is attributable to the method of measurement rather than to the constructs that the measures

represent, and "method" can refer to the content of specific items, scale type, response format, and/or the general context of the test itself (Fiske, 1982). High levels of common method variance can lead to considerable measurement error, because variables assessed with the same method share variance that can inflate observed correlations (Spector et al., 2017). Podsakoff and colleagues (2003) recommended when independent and dependent variables have to be obtained by the same method, the predictor measures should be separated from the criterion variables either temporally, proximally, psychologically, and/or methodologically to help prevent method biases. Therefore, the predictor and criterion measures were separated proximally in the survey by including other measures of interest in between them. Podsakoff and colleagues (2003) also recommended that potential biasing factors should be measured when possible to assess their effects on the measures. Thus, potential control variables, as well as attention checks, were collected in this study to address the potential biasing factors of conflated variable relationships and data quality. Furthermore, following the recommendations of Podsakoff and colleagues (2024), I utilized a statistical measure to detect and report the likely CMV present; however, the usefulness of these techniques is still contested (Richardson et al., 2009; Wall et al., 2022), and some argue that the impact is overstated (Spector et al., 2006) or worsened by attempts at statistical correction. Richardson and colleagues (2009) found that the unmeasured latent variable method technique, the method used in this study to identify potential CMV, only correctly identifies the presence of CMV about 41% of the time. Given that CMV is unobservable, future research will likely continue to be influenced by this phenomenon. However, collecting data on different occasions or through a variety of mediums, using different response scales, and reducing task difficulty (survey length and format, item complexity or ambiguity, etc.) are all methods to remedy potential common method variance, and future

research should continue to explicitly assess and report CMV to determine the robustness of construct relationships determined in this study.

Convenience sampling. A final limitation of this study is the use of convenience sampling to recruit neurodivergent workers. Although this approach enabled the collection of data from individuals who are readily accessible and willing to participate, it limits the generalizability of the findings and does not permit accurate extrapolation to the population of neurodivergent workers in the U.S., or more broadly outside of the U.S. Participants recruited through online platforms, advocacy groups, or professional networks or organizations may have higher levels of engagement with neurodiversity-related issues, which may also have shaped the findings. Additionally, my sample was predominantly comprised of white women who were highly educated (37% had a Master's degree and 21% had a doctoral degree of some sort) and working full-time in white-collar professional/business/educational services. These types of workers may be more likely to have jobs with high levels of autonomy, access (or greater access) to other workplace resources, formal and/or informal accommodations, and/or psychological support, which could potentially mitigate the negative impacts of masking and/or need frustration. Future research would benefit from studying a more diverse sample to improve generalizability and contribute to the growing conversation on intersectionality. It is imperative to recognize neurodiversity as an additional dimension of identity that intersects with gender, race, age, socioeconomic status, etc. and may compound to create unique experiences for individuals with multiple social identities that have been historically disadvantaged or systemically oppressed, especially given the documented diagnosis gap for women, people of color, and those who are less financially secure.

Further, although individuals were not required to have officially received a diagnosis from a medical professional or to have formally disclosed their neurodiverse condition to participate, my sample had a large proportion of participants who had received a formal diagnosis. Due to the large proportion of formal diagnoses, my participants may be more likely to have already disclosed their condition to others, limiting the generalizability to neurodiverse individuals in industries or organizations that discourage disclosure of neurodivergence. Future research would benefit from including additional variables related to the neurodiverse experience to account for additional variance in the criterion variables measured, such as disclosure, timing of disclosure, accommodation seeking behaviors, self-stigma, perceived stigma, and psychological safety at work.

Finally, I had inconsistent sample sizes for specific conditions; namely, ADHD and autistic participants made up the majority of my sample, which limits the generalizability of these findings to the dyslexic and Tourette's communities. Despite this, future research can delve into the qualitative content retrieved during this data collection but not yet analyzed, which may provide more specific insights to these smaller sub-samples. Although several implications are tied to the current study's sampling strategy, convenience sampling offers a practical means of accessing participants within a relatively understudied population, and the findings can still provide foundational insights to inform future research and practice.

Conclusion

This study contributes to the growing research on neurodiversity in the workplace by providing initial evidence that basic psychological needs, as described within self-determination theory, serve to account for a non-trivial amount of the relationship between masking and well-being and job attitudes. Although need frustration and need satisfaction were not as empirically

distinct as originally hypothesized, the findings indicate that they both served as significant mechanisms to quantitatively tie masking to worsened mental health and job attitudes. Further, masking was found to have a positive association with need frustration and a negative association with need satisfaction, illustrating that masking is perceived as a bigger cost than a benefit for neurodiverse workers. Interestingly, masking alone was not significantly associated with job attitudes in the present study, highlighting that additional research is needed to better understand the relationship between masking and neurodiverse employees' perceptions of their work. Future research should advance the current study with more elaborate methodological approaches to understand temporal dynamics and cause-and-effect relationships, as well as incorporate relevant constructs like disclosure, accommodation seeking and utilization behaviors, psychological safety, and stigma to tease apart some of the relationships discovered in the present study. Future interventions that wish to have practical and theoretical relevance would benefit from focusing on educating workplaces and leaders on neurodiversity to reduce the likelihood for stigma and discrimination, and cultivate opportunities to support neurodiverse workers' individualized needs for autonomy, competence, and relatedness.

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Appendix A: Research Recruitment Posting

Hi! My name is Rebecca Clancy and I am a current PhD candidate in the Psychology Department at Colorado State University. I am currently working on my dissertation, and would love to hear from you in my research!

I am recruiting neurodiverse individuals for a study about their experiences masking, particularly in the workplace. If you identify as neurodivergent (no formal diagnosis required!), I would really appreciate having your input. The online survey is entirely anonymous and voluntary, and your responses will only be reported in aggregate (with others). The survey should take less than 20 minutes to complete, but you may withdraw from the survey at any time. I am actively seeking out participants who are at least 18 years old, work at least 20 hours per week, and identify as having one (or more) of the following neurodivergent conditions: 1) Autism Spectrum Disorder, 2) Attention-Deficit Hyperactivity Disorder (ADHD/ADD), 3) Tourette Syndrome, or 4) Dyslexia. If you are not eligible for the study, please feel free to share this post with anyone who may be interested and eligible to participate. If you have any questions or concerns about this project, please contact Rebecca Clancy at rclancy@rams.colostate.edu or Gwen Fisher at gwen.fisher@colostate.edu. If you have any questions about your rights as a volunteer in this research, please contact the Colorado State University Institutional Review Board (CSU IRB) at RICRO_IRB@mail.colostate.edu; 970-491-1553.

To access the survey, please follow the link below:
https://colostate.az1.qualtrics.com/jfe/form/SV_3PKcdursscj2syG

Appendix B: Inclusion Criteria

1. Are you currently employed and reside in the U.S.?
    a. Yes
    b. No

2. On average, how many hours per week are you working? Please enter a numerical value, and avoid any ranges.

3. What is your age in years? (Range from 18-100)

4. Do you consider yourself to be neurodivergent? Neurodivergent refers to individuals whose brains process information, learn, and behave differently from what is typically considered "normal." This term encompasses a wide range of conditions, and describes a variation in brain function that can result in unique strengths and challenges. Individuals who are neurodivergent may have different ways of thinking, learning, and interacting with the world around them.
    a. Yes
    b. No

5. Please select the box for any condition(s) you may have (regardless of whether it has been formally diagnosed or not):
    a. Autism Spectrum Disorder (ASD)
    b. Attention Deficit Hyperactivity Disorder (ADHD/ADD)
    c. Tourette Syndrome or other tic condition
    d. Dyslexia
    e. Other (please specify):

Note. Any participant who selected an “Other” condition without also selecting ASD, ADHD, TS, or dyslexia did not meet inclusion criteria and was redirected to the end of survey.

Appendix C: Survey Measures

Masking

Hull, L., Mandy, W., Lai, M.-C., Baron-Cohen, S., Allison, C., Smith, P., & Petrides, K. V. (2019). Development and validation of the Camouflaging Autistic Traits Questionnaire (CAT-Q). *Journal of Autism and Developmental Disorders*, *49*(3), 819–833. https://doi.org/10.1007/s10803-018-3792-6

Please answer with the extent to which you agree with each statement. *1-5 Likert Scale from "Strongly Disagree" to "Strongly Agree"*			
Item Name	**Item**	**Factor**	**Note**
CATQ_1*	When I am interacting with someone, I deliberately copy their body language or facial expressions	Compensation	
CATQ_2	I learn how people use their bodies and faces to interact by watching television or films, or by reading fiction	Compensation	
CATQ_3*	I have tried to improve my understanding of social skills by watching other people	Compensation	
CATQ_4*	I will repeat phrases that I have heard others say in the exact same way that I first heard them	Compensation	
CATQ_5*	I practice my facial expressions and body language to make sure they look natural	Compensation	
CATQ_6*	I have spent time learning social skills from television shows and films, and try to use these in my interactions	Compensation	
CATQ_7*	In my own social interactions, I use behaviors that I have learned from watching other people interacting	Compensation	
CATQ_8*	I have researched the rules of social interactions (for example, by studying psychology or reading books on human behavior) to improve my own social skills	Compensation	
CATQ_9*	I have developed a script to follow in social situations (for example, a list of questions or topics of conversation)	Compensation	

CATQ_10	I monitor my body language or facial expressions so that I appear relaxed	Camouflaging	
CATQ_11	I adjust my body language or facial expressions so that I appear relaxed	Camouflaging	
CATQ_12*	I monitor my body language or facial expressions so that I appear interested by the person I am interacting with	Camouflaging	
CATQ_14*	I adjust my body language or facial expressions so that I appear interested by the person I am interacting with	Camouflaging	
CATQ_15R	I don't feel the need to make eye contact with other people if I don't want to	Camouflaging	
CATQ_16R*	In social interactions, I do not pay attention to what my face or body are doing	Camouflaging	
CATQ_17*	I always think about the impression I make on other people	Camouflaging	
CATQ_18	I am always aware of the impression I make on other people	Camouflaging	
CATQ_19R	I rarely feel the need to put on an act in order to get through a social situation	Assimilation	
CATQ_20R*	When talking to other people, I feel like the conversation flows naturally	Assimilation	
CATQ_21	When in social situations, I try to find ways to avoid interacting with others	Assimilation	
CATQ_22*	In social situations, I feel like I'm "performing" rather than being myself	Assimilation	
CATQ_23*	I have to force myself to interact with people when I am in social situations	Assimilation	
CATQ_24*	In social situations, I feel like I am pretending to be "normal"	Assimilation	
CATQ_25*	I need the support of other people in order to socialize	Assimilation	
CATQ_26R*	I feel free to be myself when I am with other people	Assimilation	

Note. CATQ_13 was a directed query attention check item. Items with * were retained for final analyses.

Basic Psychological Need Satisfaction & Frustration Scale At Work

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39*(2), 216–236. https://doi.org/10.1007/s11031014-9450-1

Please answer with the extent to which you agree with each statement. *1-5 Likert Scale from "Strongly Disagree" to "Strongly Agree"*			
Item Name	**Item**	**Satis./Frust.**	**A/C/R**
BPNT_1	At work, I feel a sense of choice and freedom in the things I undertake	Satisfaction	Autonomy
BPNT_2	I feel excluded from the group I want to belong to at work	Frustration	Relatedness
BPNT_3	I feel confident that I can do things well on my job	Satisfaction	Competence
BPNT_4	I feel that the people I care about at work also care about me	Satisfaction	Relatedness
BPNT_5	Most of the things I do on my job feel like "I have to."	Frustration	Autonomy
BPNT_6	When I am at work, I have serious doubts about whether I can do things well.	Frustration	Competence
BPNT_7	I feel that my decisions on my job reflect what I really want	Satisfaction	Autonomy
BPNT_8	I feel that people who are important to me at my work are cold and distant towards me.	Frustration	Relatedness
BPNT_9	At work, I feel capable at what I do	Satisfaction	Competence
BPNT_10	I feel forced to do many things on my job I wouldn't choose to do	Frustration	Autonomy
BPNT_11	I feel disappointed with my performance in my	Frustration	Competence

	job		
BPNT_12	I feel connected with people who care for me at work, and for whom I care at work	Satisfaction	Relatedness
BPNT_13	I feel my choices on my job express who I really am	Satisfaction	Autonomy
BPNT_14	When I am at work, I feel competent to achieve my goals.	Satisfaction	Competence
BPNT_15	I feel pressured to do too many things on my job.	Frustration	Autonomy
BPNT_16	At work, I feel close and connected with other people who are important to me	Satisfaction	Relatedness
BPNT_17	I feel insecure about my abilities on my job	Frustration	Competence
BPNT_18	My daily activities at work feel like a chain of obligations	Frustration	Autonomy
BPNT_19	I feel I have been doing what really interests me in my job	Satisfaction	Autonomy
BPNT_20	I have the impression that people I spend time with at work dislike me.	Frustration	Relatedness
BPNT_22	In my job, I feel I can successfully complete difficult tasks	Satisfaction	Competence
BPNT_23	I feel the relationships I have at work are just superficial	Frustration	Relatedness
BPNT_24	When I am working, I feel like a failure because of the mistakes I make.	Frustration	Competence
BPNT_25	I experience a warm feeling with the people I spend time with at work.	Satisfaction	Relatedness

Note. BPNT_21 was a directed query attention check item. All items were retained for final analyses.

Burnout

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress, 19*(3), 192–207

Please indicate the extent to which you agree with the following statements:		
Item Name	**Item**	**Item Response**
CBI_1*	My work is emotionally exhausting.	1-5 Likert Scale where 1 = "To a very low degree" to 5 = "To a very high degree"
CBI_2*	I feel burned out because of my work.	1-5 Likert Scale where 1 = "To a very low degree" to 5 = "To a very high degree"
CBI_3	My work frustrates me.	1-5 Likert Scale where 1 = "To a very low degree" to 5 = "To a very high degree"
CBI_4*	I feel worn out at the end of the working day.	1-5 Likert Scale where 1 = "Never" to 5 = "Almost always/Always"
CBI_5*	I feel that every working hour is tiring.	1-5 Likert Scale where 1 = "Never" to 5 = "Almost always/Always"
CBI_6R	I have energy for family and friends during leisure (non-work) time.	1-5 Likert Scale where 1 = "Never" to 5 = "Almost always/Always"
CBI_7*	I am exhausted in the morning at the thought of another day at work.	1-5 Likert Scale where 1 = "Never" to 5 = "Almost always/Always"

Note. Items with * were retained for final analyses.

Depressive Symptoms
Radloff, L. S. (1977). A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.

Please think about the past two weeks and the feelings you have experienced. Please indicate if each of the following statements was true for you much of the time during the past two weeks:		
Item Name	**Item**	**Item Response**
CESD_1*	You felt depressed.	1-4 Likert scale; 1 = Rarely or none of the time (less than 1 day), 2= Some or a little of the time (1-2 days), 3 = Occasionally or a moderate amount of time (3-4 days), 4 = Most or all of the time (5-7 days).
CESD_2	You felt that everything you did was an effort.	
CESD_3	Your sleep was restless.	
CESD_4R*	You were happy.	
CESD_5*	You felt lonely.	
CESD_6R*	You enjoyed life.	
CESD_7	You felt sad.	
CESD_8*	You could not get going.	

Note. Items with * were retained for final analyses.

Anxiety Symptoms

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092-1097.

In the last two weeks, how often have you been bothered by the following problems?		
Item Name	**Item**	**Item Response**
GAD_1*	Feeling nervous, anxious, or on edge.	1-4 Likert scale; 1 = Rarely or none of the time (less than 1 day), 2= Some or a little of the time (1-2 days), 3 = Occasionally or a moderate amount of time (3-4 days), 4 = Most or all of the time (5-7 days).
GAD_2*	Not being able to stop or control worrying.	
GAD_3*	Worrying too much about different things.	
GAD_4*	Trouble relaxing.	
GAD_6	Being so restless that it's hard to sit still.	
GAD_7	Becoming easily annoyed or irritable.	
GAD_8*	Feeling afraid as if something awful might happen.	

*****_Note_: GAD_5 was a directed query attention check item. Items with * were retained for final analyses.

Perceived Mental Health

Robins, L.N., Helzer, J.E., Croughan, J., Ratcliff, K.S. (1981). National institute of mental health diagnostic interview schedule: Its history, characteristics, and validity. *Arch Gen Psychiatry, 38*, 381-389.

Wittchen, H. U. (1994). Reliability and validity studies of the WHO-composite international diagnostic interview: A critical review. *J Psychiatr Res, 28*, 57-84.

Please use the following scale to rate the extent to which each item reflects your feelings about your mental health in the last month.			
Item Name	**Item**	**Item Response**	**Note**
PMH	In general, would you say your mental health is: Excellent, Very Good, Good, Fair or Poor?"	1-5 Likert Scale; 1 = Poor, 2 = Fair, 3 = Good, 4 = Very Good, and 5 = Excellent	

Job Satisfaction

Fisher, G. G., Matthews, R. A., & Gibbons, A. M. (2016). Developing and investigating the use of single-item measures in organizational research. *Journal of Occupational Health Psychology, 21*(1), 3–23.

Please answer with the extent to which you agree with each statement.			
Item Name	**Item**	**Item Response**	**Note**
JobSat_1	Overall, I am satisfied with my job.	1-5 Likert Scale; 1- "Strongly Disagree", 5- "Strongly Agree"	
JobSat_2R	In general, I don't like my job.		
JobSat_3	In general, I like working here.		

Note. All items were retained for final analyses.

Job Involvement

Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology, 6*7(3), 341-349.

Please answer with the extent to which you agree with each statement.			
Item Name	**Item**	**Item Response**	**Note**
JobInvolvement_1*	The most important things that happen to me involve my present job.	1-5 Likert Scale; 1- "Strongly Disagree", 5- "Strongly Agree"	
JobInvolvement_2R*	To me, my job is only a small part of who I am.		
JobInvolvement_3*	I am very much involved personally in my job.		
JobInvolvement_4*	I live, eat, and breathe my job.		
JobInvolvement_5*	Most of my interests are centered around my job.		
JobInvolvement_6	I have very strong ties with my present job which would be difficult to break.		
JobInvolvement_7R	Usually, I feel detached from my job.		
JobInvolvement_8*	Most of my personal life goals are job-oriented.		
JobInvolvement_9*	I consider my job to be very central to my existence.		
JobInvolvement_10*	I like to be absorbed in my job most of the time.		

Note. Items with * were retained for final analyses.

Turnover Intentions

Michaels, C. E., & Spector, P. E. (1982). Causes of employee turnover: A test of the Mobley, Griffeth, Hand, and Meglino model. *Journal of Applied Psychology, 67*(1), 53-59.

Please use the following scale to rate the extent to which each item reflects your feelings about your job within the last month.			
Item Name	**Item**	**Item Response**	**Note**
ITQ_1	I often seriously consider leaving my current job.	1-5 Likert Scale; 1 = "Strongly Disagree", "Strongly Agree"	
ITQ_2	I intend to quit my current job.		
ITQ_3	I have started to look for other jobs.		

Note. All items were retained for final analyses.

Appendix D: Demographics & Work-Related Characteristics

1. Have you been told you have autism spectrum disorder or otherwise been diagnosed with this condition by a healthcare provider (medical doctor, psychologist, psychiatrist, or other provider)? **
    a. Yes
    b. No (Self-diagnosed)

2. Have you been told you have ADHD/ADD or otherwise been diagnosed with this condition by a healthcare provider (medical doctor, psychologist, psychiatrist, or other provider)? **
    a. Yes
    b. No (Self-diagnosed)

3. Have you been told you have Tourette Syndrome (or a similar tic condition) or otherwise been diagnosed with this condition by a healthcare provider (medical doctor, psychologist, psychiatrist, or other provider)? **
    a. Yes
    b. No (Self-diagnosed)

4. Have you been told you have dyslexia or otherwise been diagnosed with this condition by a healthcare provider (medical doctor, psychologist, psychiatrist, or other provider)? **
    a. Yes
    b. No (Self-diagnosed)

5. What is your gender?
    a. Male
    b. Female
    c. Non-binary
    d. Other (please specify):
    e. Prefer not to say

6. What is your race/ethnicity? Please check all that apply.
    a. White, not Hispanic
    b. Black or African American
    c. Asian American, Asian, Asian Pacific Islander
    d. Hispanic/Latinx
    e. Native American/American Indian/Alaskan Native
    f. Other (please specify):

7. What is your highest level of education completed?
    a. Some high school
    b. High school diploma
    c. Some college
    d. Associate's degree or Technical degree (2-year college degree)
    e. 4-year college degree (BA/BS/etc.)

f. Master's degree (MA/MS/MBA/etc.)
g. Doctoral research degree (PhD)
h. Professional graduate degree (JD/MD/PsyD/DPT/etc.)

8. Which of the following best describes your current relationship status?
    a. Married
    b. Living with (but not married to) your romantic partner
    c. In a committed partnership
    d. Separated or divorced
    e. Widowed
    f. Single (never married)

9. Are you a parent?
    a. Yes
    b. No

10. How many children do you have? Please enter a numerical value. **

11. In general, how would you rate your current overall health?
    a. Poor
    b. Fair
    c. Good
    d. Very Good
    e. Excellent

12. How many paid jobs do you currently work?
    a. 1
    b. 2
    c. More than 2

13. What is your current (or primary) job title/occupation?

14. Which industry best describes your primary job?
    a. Agriculture, forestry, fishing, or hunting
    b. Mining
    c. Construction
    d. Manufacturing
    e. Wholesale and retail trade
    f. Transportation and utilities
    g. Information services
    h. Financial activities
    i. Professional and business services
    j. Educational and healths services
    k. Leisure and hospitality services
    l. Other service industry
    m. Public administration

n. Armed Forces
o. Other

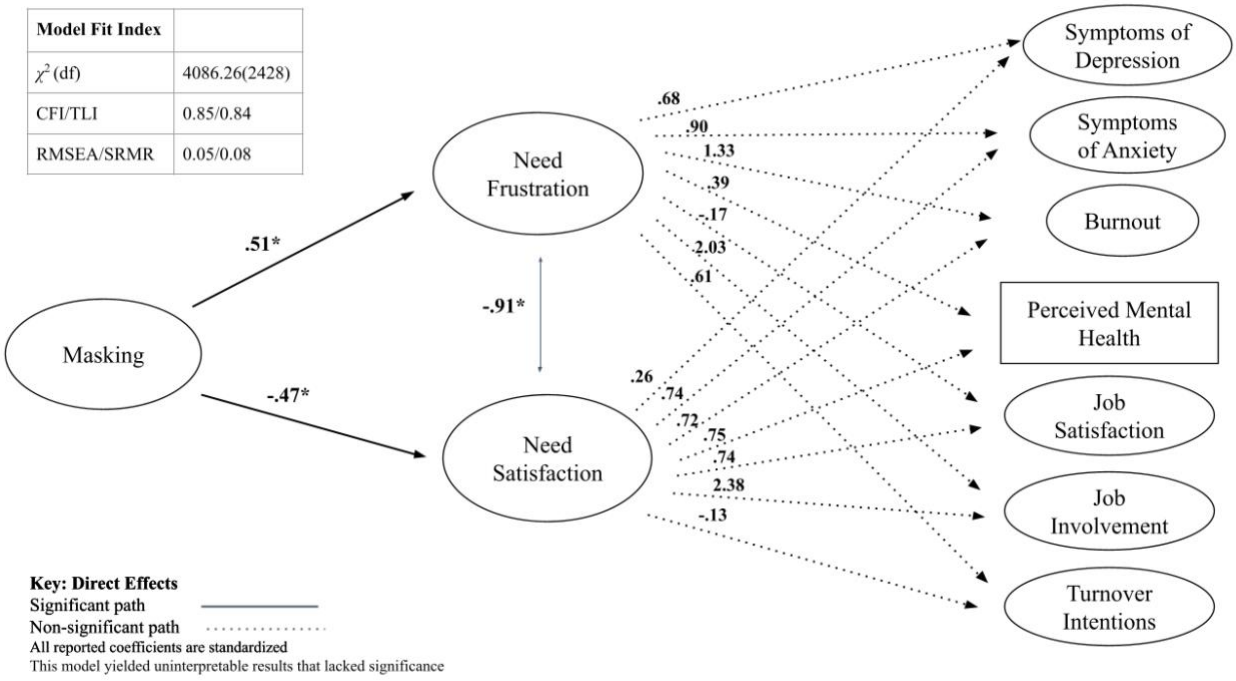
15. How many years have you been working for your current employer/organization? If you have been at your current company for less than 1 year, please answer 0. If you work more than 1 job, please think about your predominant source of income.

16. How many years have you been in your current role? If you have been in your current role for less than 1 year, please answer 0. If you work more than 1 job, please think about your predominant source of income.

17. How many years of work experience do you have doing similar work as the work you are currently hired to do? If you work more than 1 job, please think about your predominant source of income.
    a. 0-1
    b. 2-3
    c. 4-5
    d. 6-10
    e. 11+

Note. ** Indicates that the question was only shown to participants if their previous responses met skip-logic requirements to present the question.

Appendix E: Full Conceptual Model



Note. This model yielded uninterpretable results that lacked significance, but is shared to provide context for later analysis decisions.

Table 1

Changes Made to Both Measurement Models via Modification Indices.

Modification Suggested	Modification Index (expected χ^2decrease)	Change Made
CESD_4R ("*In the last 2 weeks, please indicate how frequently you were happy*") **covaries with** CESD_6R ("*In the last 2 weeks, please indicate how frequently you enjoyed life*")	Need Frustration Model: 67.14 Need Satisfaction Model: 62.07	Items reflect the same latent construct (Depressive Symptoms) and are the only reverse-coded items in the scale and therefore should **covary**.
CATQ_3 ("*I have tried to improve my understanding of social skills by watching other people*") **covaries with** CATQ_7 ("*In my own social interactions, I use behaviors that I have learned from watching other people interacting*")	Need Frustration Model: 34.97 Need Satisfaction Model: 35.16	Items reflect the same latent construct (Compensation, a first-order latent factor of Masking) and are worded very similarly and therefore should **covary**.
GAD_2 ("*In the last 2 weeks, how often have you experienced the following problems: Not being able to stop or control worrying*") **covaries with** GAD_3 ("*In the last 2 weeks, how often have you experienced the following problems: Worrying too much about different things*")	Need Frustration Model: 25.71 Need Satisfaction Model: 26.77	Items reflect the same latent construct (Anxiety Symptoms) and are worded very similarly and therefore should **covary**.

Table 2

APA Correlation Table of Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Masking	3.43	0.70									
2. Need Frustration	2.73	0.71	.33**								
3. Need Satisfaction	3.64	0.66	-.24**	-.70**							
4. Depressive Symptoms	2.09	0.66	.28**	.40**	-.39**						
5. Anxiety Symptoms	2.48	0.81	.28**	.32**	-.22**	.51**					
6. Burnout	3.38	0.90	.26**	.50**	-.42**	.52**	.46**				
7. Perceived Mental Health	2.67	0.92	-.16**	-.33**	.40**	-.60**	-.48**	-.37**			
8. Job Satisfaction	3.81	0.90	-.07	-.51**	.60**	-.36**	-.11	-.42**	.34**		
9. Job Involvement	2.73	0.81	.04	-.10	.34**	-.07	.01	-.09	.11	.23**	
10. Turnover Intent	2.43	1.24	.08	.44**	-.44**	.27**	.08	.33**	-.32**	-.69**	-.22**

Table 3

Personal Demographics and Work-Related Characteristics

	Percentage of Full Sample (N = 293)
Neurodiverse Condition	
Autism	54%
ADHD	82%
Tourette's	6%
Dyslexia	12%
Other (*Note*: Must have been in addition to one of the previous 4 conditions to be retained for analysis)	11%
Multiple Neurodiverse Conditions	39%
At Least One Formal Diagnosis Received	79%
Gender	
Female	75%
Male	19%
Non-binary	6%
Race/Ethnicity	
White	87%
Black/African American	5%
Asian/Asian American	6%
Hispanic/Latinx	8%
Native American	2%
Multi-racial	8%
Relationship Status	
Married	45%
Living with (but not married to) your romantic partner	20%
In a committed partnership	8%

Separated or divorced	4%
Widowed	1%
Single (never married)	22%
Parent	34%
Highest Level of Education	
High school diploma	3%
Some college	6%
Associate's degree	5%
College degree	27%
Master's degree	37%
Doctoral degree	19%
Professional graduate degree	2%
Number of Jobs	
1 job	81%
2 jobs	17%
2+ jobs	2%
Work Hours/Status	
Part-Time Work (20-39 hours/week)	28%
Full-Time Work (>= 40 hours/week)	72%
Previous Work Experience	
0-1 year	10%
2-3 years	20%
4-5 years	18%
6-10 years	29%
11+ years	23%

Table 4

CFA Model Comparison for Need Satisfaction and Need Frustration when Modeled Together

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
1F	1917.83(252)	.55	.50	.15	.13
2F (No higher-order, NS/NF)	1827.76(251)	.57	.53	.15	.13
3F (No higher-order, A/C/R with NS & NF items together on each factor)	753.75(249)	.86	.85	.08	.10
2F (Higher-order, NS/NF with 3 latent A/C/R factors each)	735.61(245)	.87	.85	.08	.09
6F (No higher-order, each sub-component separated)	464.55(237)	.94	.93	.06	.05

Table 5

CFA Model Comparison for Need Satisfaction and Need Frustration when Modeled Separately

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
NS - 1F	753.87(54)	.61	.53	.21	.13
NS - 3F	74.71(51)	.99	.98	.04	.04
NF - 1F	523.15(54)	.62	.54	.17	.12
NF - 3F	112.41(51)	.95	.94	.06	.06

Table 6

CFA Model Comparison for Autonomy, Competence, and Relatedness Components Alone

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR
Autonomy - 1F	118.83(20)	.88	.84	.13	.07
Autonomy - 2F (NS/NF)	42.86(19)	.97	.96	.07	.04
Competence - 1F	88.21(20)	.95	.92	.11	.05
Competence - 2F (NS/NF)	27.09(19), $p = .10$	.99	.99	.04	.03
Relatedness - 1F	183.32(20)	.87	.82	.17	.08
Relatedness - 2F (NS/NF)	105.25(19)	.93	.90	.13	.07

Table 7

Correlations between Need Frustration and Need Satisfaction

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Need Frustration	2.73	0.71							
2. NF_Autonomy	3.18	0.92	.78**						
3. NF_Competence	2.58	1.00	.80**	.44**					
4. NF_Relatedness	2.46	0.87	.72**	.34**	.36**				
5. Need Satisfaction	3.64	0.66	-.70**	-.50**	-.58**	-.53**			
6. NS_Autonomy	3.30	0.88	-.54**	-.58**	-.40**	-.26**	.83**		
7. NS_Competence	4.00	0.76	-.62**	-.34**	-.73**	-.32**	.76**	.47**	
8. NS_Relatedness	3.62	0.86	-.52**	-.26**	-.30**	-.67**	.79**	.48**	.39**

Table 8

Summarized Hypotheses and Results

Hypothesis	Relationship	Support?
1	Need frustration and need satisfaction will be moderately and negatively correlated with one another, representing related but distinct constructs.	Partially Supported
2	Masking will be positively related to need frustration.	Supported
3	Masking will be negatively related to need satisfaction.	Supported
4	The positive association between masking and need frustration will be stronger than the negative association between masking and need satisfaction.	Partially Supported
5	Masking will be positively related to symptoms of depression.	Supported
6	Masking will be positively related to symptoms of anxiety.	Partially Supported*
7	Masking will be positively related to burnout.	Supported
8	Masking will be negatively related to perceived mental health.	Not Supported
9	Masking will be negatively related to job satisfaction.	Not Supported
10	Masking will be negatively related to job involvement.	Not Supported
11	Masking will be positively related to turnover intentions.	Not Supported

Hypothesis	Relationship	Support?
12	Need frustration will be positively related to symptoms of depression.	Supported
13	Need frustration will be positively related to symptoms of anxiety.	Partially Supported*
14	Need frustration will be positively related to burnout.	Supported
15	Need frustration will be negatively related to perceived mental health.	Supported
16	Need satisfaction will be negatively related to symptoms of depression.	Supported
17	Need satisfaction will be negatively related to symptoms of anxiety.	Partially Supported*
18	Need satisfaction will be negatively related to burnout.	Supported
19	Need satisfaction will be positively related to perceived mental health.	Supported
20	Need frustration will be negatively related to job satisfaction.	Supported
21	Need frustration will be negatively related to job involvement.	Partially Supported*
22	Need frustration will be positively related to turnover intentions.	Supported
23	Need satisfaction will be positively related to job satisfaction.	Supported
24	Need satisfaction will be positively related to job involvement.	Supported
25	Need satisfaction will be negatively related to turnover intentions.	Supported

Hypothesis	Relationship	Support?
26	Need frustration will partially mediate the relationship between masking and symptoms of depression.	Supported
27	Need frustration will partially mediate the relationship between masking and symptoms of anxiety.	Not Supported
28	Need frustration will partially mediate the relationship between masking and burnout.	Supported
29	Need frustration will partially mediate the relationship between masking and perceived mental health.	Supported
30	Need frustration will partially mediate the relationship between masking and job satisfaction.	Supported
31	Need frustration will partially mediate the relationship between masking and job involvement.	Not Supported
32	Need frustration will partially mediate the relationship between masking and turnover intentions.	Supported
33	Need satisfaction will partially mediate the relationship between masking and symptoms of depression.	Supported
34	Need satisfaction will partially mediate the relationship between masking and symptoms of anxiety.	Not Supported
35	Need satisfaction will partially mediate the relationship between masking and burnout.	Supported
36	Need satisfaction will partially mediate the relationship between masking and perceived mental health.	Supported
37	Need satisfaction will partially mediate the relationship between masking and job satisfaction.	Supported
38	Need satisfaction will partially mediate the relationship between masking and job involvement.	Supported
39	Need satisfaction will partially mediate the relationship between masking and turnover intentions.	Supported
40	Need frustration will have stronger relationships with negatively valenced constructs compared to need satisfaction.	Not Supported
41	Need satisfaction will have stronger relationships with positively valenced constructs compared to need frustration.	Partially Supported
42	The indirect effect of need frustration will be stronger than the indirect effect of need satisfaction.	Not Supported

Note. Partially Supported relationships marked by an asterisk demonstrated inconsistent relationships when modeled independently compared to when modeled in a mediation.