

The Invisible Struggle: Investigating the Gap Between Social Compensation and Autistic Burnout in Adolescent Girls

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Background: Autistic girls are frequently overlooked in clinical settings because many utilize social compensation strategies, such as masking or camouflaging, to fit in with peers. While masking may facilitate short-term social integration, sustained camouflaging has increasingly been linked to psychological strain and autistic burnout. This review aims to examine how prolonged masking during adolescence is associated with burnout in autistic girls.

Methods: This study used a narrative review approach, following a structured search of PubMed, PsycINFO, Scopus, and Google Scholar. Articles published from 2005 to 2025 were included if they focused on autism, masking, camouflaging, stress, or burnout. In total, 27 peer-reviewed studies met the inclusion criteria. Findings were synthesized narratively rather than through quantitative meta-analysis.

Results: Evidence across studies suggests that autistic girls engage in higher levels of camouflaging than males, while experiencing equal or greater internal distress. Masking is associated with anxiety, depression, and emotional exhaustion. Neuroimaging studies indicate that brain regions involved in executive control and self-monitoring are activated during social integration. This suggests that long-term masking can require a significant amount of mental effort. Physiological studies also suggest potential alterations in the body's stress response system (e.g., cortisol patterns) during pubertal development.

Conclusions: Autistic burnout is associated with prolonged social compensation and developmental stressors, and represents their cumulative outcome. However, the current evidence is largely correlational, and causal relationships cannot be definitively established. To better support autistic adolescent girls, it is essential to develop frameworks for early identification of masking. Gender-sensitive frameworks may play an important role in supporting the long-term well-being of autistic adolescent girls.

Keywords: autism spectrum disorder; camouflaging; masking; autistic burnout; adolescent girls; stress physiology; HPA axis; allostatic load.

Introduction

Background and Context

Autism Spectrum Disorder (ASD) is a lifelong neurodevelopmental condition characterized by differences in social communication, sensory processing, executive functioning, and emotional regulation¹. Although autism affects all genders, diagnostic frameworks have traditionally focused on male-typical presentation, leading to under-identification in females². Consequently, girls and women with autism are often underdiagnosed or misdiagnosed with other mental disorders, such as anxiety, depression, or eating disorders³.

A primary factor contributing to this diagnostic gap is social compensation, commonly referred to as masking or camouflaging³. This phenomenon refers to the use of various techniques to hide autistic characteristics and adopt social norms.

Such techniques include practicing conversations, mimicking social behaviors, and suppressing self-stimulatory actions³. Although these strategies support short-term social inclusion, they often require significant cognitive and emotional effort⁴.

Problem Statement and Rationale

Many autistic girls experience psychological and emotional strain when these compensatory techniques become difficult to maintain over time. According to recent studies, the practice of masking has been linked to increased psychological strain and burnout among autistic people^{5,6}. Autistic burnout involves chronic exhaustion, decreased sensory tolerance, and inability to manage daily tasks⁷. Although scientific research is ongoing, the concept is receiving growing attention as a possible consequence of prolonged masking.

Adolescence is a particularly vulnerable stage in this respect. At this stage, social pressure increases; at the same

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time, the maturation process takes place both at the level of the brain and the hormonal stress system (HPA axis)⁸. The HPA axis is a system of hormones that regulates processes related to stress, energy expenditure, and mood changes. This system releases high levels of cortisol in response to prolonged periods of stress⁸. The activation of the HPA axis as a result of frequent social adaptation leads to allostatic overload. The concept of allostatic load refers to the long-term biological wear and tear on the body and brain from chronic stress⁶. The cumulative physiological strain of masking increases the chances of experiencing fatigue, anxiety, and depression among autistic girls⁹.

This narrative review examines how prolonged masking and sustained camouflaging behaviors can lead to chronic stress, emotional exhaustion, and burnout among autistic girls. It also explores the psychological and physiological factors linked to these experiences.

Significance and Purpose

This study is significant because it questions the presumption of a positive correlation between successful adaptation and mental health. Instead, it demonstrates masking as a costly coping mechanism that incurs potential long-term costs. Therefore, by exploring the issue from behavioral, neurological, and sociocultural perspectives, this narrative literature review aims to contribute to a better understanding of the experiences of autistic females.

Objectives

This narrative review explores the relationship between social compensation and burnout syndrome in young females with autism. The paper analyzes gender differences associated with autism symptoms and investigates how social expectations affect masking. Furthermore, it examines how masking acts as a developmental mechanism that contributes to anxiety, emotional exhaustion, and gender identity issues. Finally, it discusses neurobiological and physiological features, such as cognitive effort and stress responses, alongside sociocultural factors like diagnostic biases and access to support services.

Scope and Limitations

In this narrative review, only peer-reviewed articles on autistic females aged 10 to 19 were considered. Therefore, the selected literature is based on sex-disaggregated data relevant to the female population. However, several papers covering broader age groups or adults were included as there is not enough information specifically related to adolescents in particular^{6,10}.

Methodology

Study Design

This study used a narrative review methodology to synthesize existing data on the behavioral, psychological, and physiological aspects of social masking and autistic burnout in adolescent girls. Because this design is interpretive and conceptual rather than strictly quantitative or exhaustive, it does not require PRISMA flowcharts^{11,12}. Instead, the review emphasizes thematic synthesis and conceptual interpretation to provide an integrative understanding of the relationship between social masking and burnout, rather than a quantitative comparison of effect sizes^{13,14}.

Search Strategy and Data Sources

Relevant literature was identified through searches of PubMed, PsycINFO, Scopus, and Google Scholar using combinations of keywords such as “autism spectrum disorder,” “masking,” “camouflaging,” “autistic burnout,” “stress,” “cortisol,” and “psychological factors.” The literature search was conducted between December 2026 and February 2026.

Eligibility Criteria

The study considered articles published between 2005 and 2025. The selected studies comprised peer-reviewed sources—including observational, neuroimaging, and clinical studies—which investigated masking behaviors, stress, and burnout among autistic individuals.

Studies were included based on their consideration of the relationship between autism and masking or camouflaging behavior, their assessment of psychological symptoms (such as anxiety, depression, and emotional exhaustion), and their inclusion of female participants or sex-disaggregated findings. Articles were excluded if they considered only male participants or if their outcomes were not directly related to the objectives of the paper.

Considering the focus of the paper on adolescents, preference was given to articles that examined participants aged 10–19. Due to a lack of adequate literature on adolescent samples, other age categories and adults were considered if their results were relevant to the research question.

Screening and Selection Process

Duplicate records were manually removed before screening. Titles and abstracts were screened according to predefined eligibility criteria, followed by a full-text review of potentially relevant studies. Study selection and data extraction were conducted manually by the author.

The literature search yielded approximately 154 studies. After removal of duplicates and screening, 45 full-text articles were assessed, of which 27 met the inclusion criteria and were included in the final synthesis. Review articles were used to support conceptual understanding but were not treated as primary evidence.

Data Synthesis and Analysis

The review followed a structured thematic synthesis approach to identify recurring patterns and conceptual relationships across the 27 included studies¹³. For each study, key details were extracted and mapped, including sample characteristics, study design, focus area, and main findings on masking, stress, and burnout. Because this review followed a narrative framework, formal quality scoring and statistical pooling were not conducted.

Results

Social Compensation and Mental Health Outcomes

The literature reviewed reveals that females diagnosed with ASD exhibit much greater social compensation practices than their male counterparts, particularly through camouflaging mechanisms^{10,15,16}. While these mechanisms can help people to adjust socially in the short term, they are strongly associated with heightened anxiety, depression, and exhaustion^{17,18}. Long-term engagement in camouflaging is also associated with autistic burnout⁶. In addition, researchers reported a higher occurrence of anxiety and mood disorders in autistic females compared to males^{2,19}. Studies also suggest that autism is often identified later in females, meaning they may go unsupported for a considerable period of time^{16,20}. While many articles discuss the connection between camouflaging and burnout in autistic females, current evidence remains largely based on cross-sectional and self-report measures. Therefore, existing findings demonstrate associations rather than direct causal relationships and cannot determine which factor develops first^{17,18}.

This table summarizes common trends identified in studies of camouflaging behaviors and mental health outcomes in autistic females. Research indicates that autistic girls and women often engage in more masking and report higher levels of internal distress, such as anxiety, emotional exhaustion, and mood-related challenges. Because the studies differ in methodology, sample size, and measurement tools, these findings should be viewed as descriptive patterns rather than exact quantitative comparisons.

Pathway from Masking to Burnout

Autistic girls often face significant pressure to meet behavioral standards accepted within society, and thus are likely to

engage in masking or camouflaging strategies to fit in with peers^{2,15}. While these strategies may help with short-term social acceptance, they require continuous self-monitoring, imitation, and the suppression of natural behaviors^{3,22}. Over time, this constant effort consumes substantial mental energy and increases cognitive load²². Consequently, several studies suggest that prolonged masking is directly associated with autistic burnout, which is driven by these combined cognitive, emotional, and physiological stressors^{5,6,21}.

Alongside this mental strain, prolonged masking leads to emotions such as anxiety, identity disturbance, and constant fatigue^{5,17}. Long-term emotional stress resulting from camouflaging can also activate the body's stress response system, known as the hypothalamic–pituitary–adrenal (HPA) axis⁶, potentially contributing to chronic stress dysregulation and fatigue⁸. If this high level of stress continues without sufficient rest, recovery becomes difficult, preventing a person from regaining emotional and mental strength²³. Finally, the result of constant mental overload, emotional exhaustion, and chronic stress can cause autistic burnout syndrome—a condition characterized by extreme exhaustion, impaired functioning, heightened sensory sensitivity, and an inability to manage everyday tasks^{7,21,23}.

The figure below represents a conceptual model illustrating how sustained social masking may be associated with increased cognitive load, emotional strain, and prolonged stress activation, which may contribute to reduced recovery capacity and burnout over time.

This figure presents a conceptual pathway based on patterns observed across studies and should not be interpreted as evidence of a direct causal mechanism.

Neurobiological Considerations

Beyond behavioral experiences, researchers have also explored possible neurobiological explanations for masking-related stress. According to neuroimaging research, several brain regions participate together in social interaction, emotional regulation, self-monitoring, and decision-making tasks^{24–26}. These regions include the medial prefrontal cortex (mPFC), anterior cingulate cortex (ACC), amygdala, insula, and superior temporal sulcus (STS). The mPFC is located in the front part of the brain and is engaged in thinking, decision-making, and understanding the emotions and intentions of others^{24,27}. Research suggests that people with autism can have different social functioning mechanisms as a result of abnormal functional connections in their mPFC and other social processes²⁷.

The ACC, being medial and positioned between two cerebral hemispheres, assists in controlling attention, regulating emotions, and managing difficult situations²⁸. The amygdala is found in the temporal lobe and is responsible for processing

Table 1 Characteristics of Included Studies

Author (Year)	Study Type	Population / Sample	Focus Area	Key Findings Relevant to Review	Notes / Limitations
M.-C. Lai et al. (2015) ²	Review	Mixed ASD populations	Sex/gender differences in autism	Highlighted that autistic females are often underdiagnosed and may present differently than males	Broad conceptual review; limited empirical data
L. Hull et al. (2017) ³	Quantitative	Autistic adults	Social camouflaging	Found that autistic females reported higher levels of camouflaging than males	Adult sample; relied on self-report measures
A. Pearson & K. Rose (2021) ⁵	Conceptual analysis	Mixed populations	Masking and stigma	Masking was associated with stigma, identity conflict, and social pressure	Theoretical paper; no primary data
J. Mantzalas et al. (2022) ⁶	Conceptual model	Autistic individuals	Autistic burnout	Proposed risk and protective factors contributing to autistic burnout	Conceptual framework; limited empirical testing
D. M. Raymaker et al. (2020) ⁷	Qualitative	Autistic adults	Autistic burnout definition	Defined autistic burnout as chronic exhaustion, reduced functioning, and loss of coping skills	Adult-focused sample
M. Gunnar & K. Quevedo (2007) ⁸	Review	General developmental populations	Stress neurobiology	Chronic stress affects emotional, cognitive, and physiological development	Not autism-specific
M.-C. Lai et al. (2017) ¹⁰	Quantitative	Autistic men and women	Camouflaging measurement	Females showed greater camouflaging behaviours than males	Cross-sectional design
H. Wood-Downie et al. (2021) ¹⁵	Quantitative	Children and adolescents with autism	Gender differences in camouflaging	Girls demonstrated higher social camouflaging than boys	Younger age group only
M. Dean et al. (2017) ¹⁶	Observational study	Girls and boys with ASD	Social behaviour differences	Girls used more socially adaptive behaviours to blend with peers	Small sample size
E. Cage & Z. Troxell-Whitman (2019) ¹⁷	Qualitative	Autistic adults	Costs and reasons for camouflaging	Camouflaging was linked to exhaustion, anxiety, and social acceptance pressures	Adult retrospective accounts
L. Hull et al. (2021) ¹⁸	Quantitative	Autistic adults	Camouflaging and mental health	Social camouflaging was associated with anxiety and depression	Correlational study
M. Solomon et al. (2012) ¹⁹	Quantitative	Girls and boys with ASD	Internalizing symptoms	Girls with autism showed higher internalizing difficulties such as anxiety	Early study with limited female representation
R. Loomes et al. (2017) ²⁰	Systematic review and meta-analysis	ASD populations	Male-to-female autism ratio	Suggested autism may be underidentified in females	Diagnostic bias may influence estimates
J. Mantzalas et al. (2022) ²¹	Thematic analysis	Online autistic communities	Experiences of autistic burnout	Participants described emotional exhaustion and reduced functioning linked to social demands	Based on online self-reports
L. A. Livingston & F. Happé (2017) ²²	Conceptual review	Neurodevelopmental disorders	Compensation in autism	Compensation strategies may conceal autistic traits and delay diagnosis	Theoretical discussion
D. Ali et al. (2025) ²³	Systematic review	Autistic individuals	Autistic burnout	Burnout was associated with chronic masking, stress, and reduced wellbeing	Emerging research area
C. D. Frith & U. Frith (2007) ²⁴	Review	General populations	Social cognition	Explained neural mechanisms involved in understanding social interactions	Not autism-specific
L. Q. Uddin (2021) ²⁵	Review	Adolescents with ASD	Flexible cognition and behaviour	Identified brain mechanisms affecting adaptability and social behaviour	Focused on adolescents
M. Schulte-Rüther et al. (2011) ²⁶	fMRI study	Adults with ASD	Empathy-related brain networks	Found atypical brain network activity linked to empathy difficulties	Small neuroimaging sample
M. V. Lombardo et al. (2011) ²⁷	Neuroimaging study	Individuals with ASD	Mentalizing and social impairments	Reduced specialization in brain regions associated with social understanding	Brain imaging limitations
G. Bush et al. (2000) ²⁸	Review	General populations	Emotional and cognitive regulation	Anterior cingulate cortex plays a role in emotional regulation and stress response	General neuroscience focus
S. Baron-Cohen et al. (2005) ²⁹	Review	General populations	Sex differences in the brain	Discussed neurological sex differences relevant to autism theories	Theory-based interpretation
L. Q. Uddin & V. Menon (2009) ³⁰	Review	Individuals with ASD	Anterior insula functioning	Identified altered connectivity in brain regions related to emotion and social awareness	Limited direct clinical implications
A. Di Martino et al. (2009) ³¹	Meta-analysis	ASD populations	Social and nonsocial brain processes	Identified altered brain activation patterns in autism	Heterogeneity across studies
B. A. Corbett et al. (2010) ³²	Quantitative	Children with autism	Cortisol and social stress	Elevated cortisol levels were linked with social engagement stress	Small child sample
B. A. Corbett et al. (2009) ³³	Quantitative	Children with autism	Stress and sensory sensitivity	Children with autism showed increased stress and sensory sensitivity	Limited generalizability
K. Urbaniak & M. D'Amico (2025) ³⁴	Systematic review	Autistic girls in secondary education	Educational barriers	Identified social, educational, and disability-related barriers faced by autistic girls	Focused specifically on school settings

Table 2 Reported Trends in Camouflaging and Mental Health Outcomes

Domain	Reported Trend in Females	Supporting Studies
Camouflaging behaviors	Higher levels of masking and social compensation compared to males	Hull et al. (2017) ³ ; Wood-Downie et al. (2021) ¹⁵ ; Dean et al. (2017) ¹⁶
Anxiety symptoms	Increased internalizing symptoms reported in autistic girls	Cage et al. (2019) ¹⁷ ; Hull et al. (2021) ¹⁸
Mood-related difficulties	Greater emotional distress and depressive symptoms observed in females	Allison et al. (2021) ¹⁸ ; Solomon et al. (2012) ¹⁹
Delayed diagnosis	Females often identified later than males	Loomes et al. (2017) ²⁰ ; Dean et al. (2017) ¹⁶
Burnout-related exhaustion	Sustained masking associated with emotional exhaustion and distress	Mantzas et al. (2022) ²¹ ; Pearson & Rose (2021) ⁵

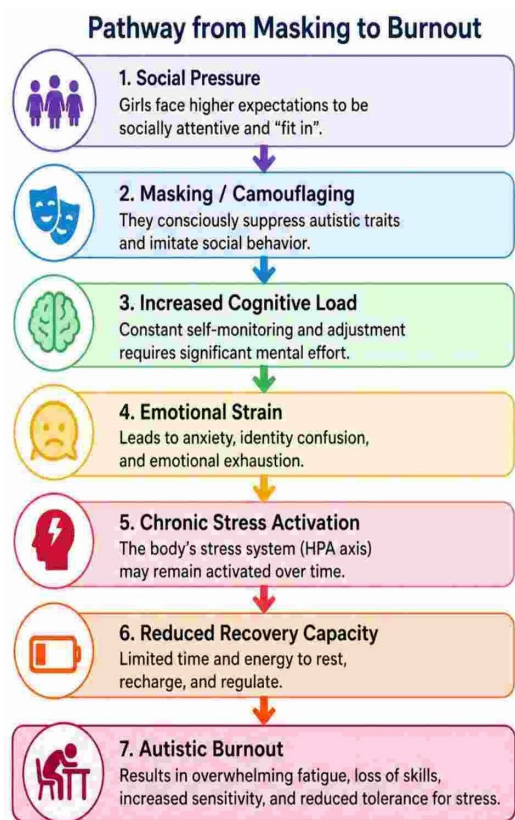


Figure. 1 Conceptual pathway from social masking to autistic burnout.

emotions and responding to stress^{27,29}. The STS participates in recognizing faces, eye contact, and other social signals^{24,29}; meanwhile, the insula is involved in interoception and experiencing internal bodily sensations^{30,31}.

Some studies suggest that there is greater activation of these regions when individuals engage socially. Moreover, their excessive involvement can reveal additional mental efforts that

children with ASD require to perform social interaction and hide their difficulties^{22,26,27}. It is suggested that continuous utilization of such neurosystems in masking behavior may contribute to mental and emotional exhaustion^{7,23}. However, most of the neuroimaging literature refers to adult participants, and there is limited data available about autistic adolescent girls specifically.

This table provides an overview of brain regions commonly associated with social cognition, emotional regulation, and self-monitoring, based on individual neuroimaging and theoretical studies. The findings are intended to clarify the potential cognitive demands of masking behaviors. Because the evidence is limited and mainly from mixed or adult populations, these findings should not be viewed as direct or causal evidence linking neural activation to autistic burnout.

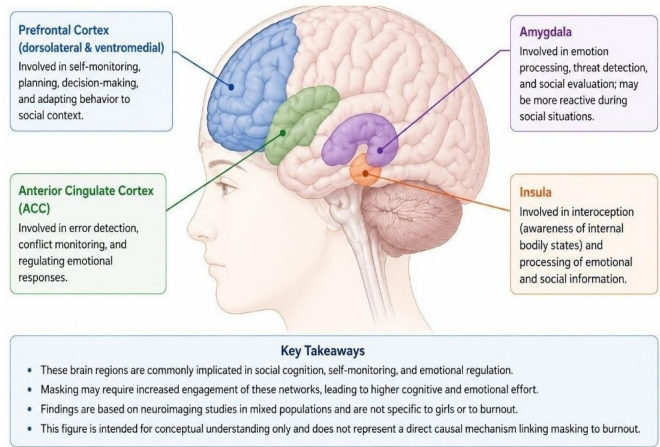


Figure. 2 Brain regions associated with social processing and masking (illustrative).

Note: This figure is illustrative and based on findings from neuroimaging research in autism spectrum populations. It does not indicate that all individuals show the same patterns, nor does it confirm causation.

Table 3 Brain Regions Commonly Associated with Social Cognition and Self-Monitoring

Brain Region	Primary Functional Role	Reported Findings in Autism Research	Representative Sources	Potential Relevance to Burnout
Medial Prefrontal Cortex (mPFC)	Self-monitoring and social cognition	Increased activation during social processing tasks	Schulte-Rüther et al. (2011) ²⁶ ; Frith & Frith (2007) ²⁴	Sustained cognitive effort
Anterior Cingulate Cortex (ACC)	Cognitive control and conflict monitoring	Greater recruitment during socially demanding tasks	Schulte-Rüther et al. (2011) ²⁶ ; Bush et al. (2000) ²⁸	Mental fatigue and overload
Amygdala	Emotional processing and stress response	Increased activation during emotional/social tasks	Baron-Cohen et al. (2005) ²⁹ ; Lombardo et al. (2011) ²⁷	Chronic emotional stress
Superior Temporal Sulcus (STS)	Social perception and interpretation of social cues	Compensatory activation during social decoding	Frith & Frith (2007) ²⁴ ; Baron-Cohen et al. (2005) ²⁹	Effortful social processing
Insula	Emotional awareness and sensory integration	Altered activation during emotional and social processing tasks	Uddin & Menon (2009) ³⁰ ; Di Martino et al. (2009) ³¹	Heightened emotional and sensory strain

This figure highlights brain regions commonly implicated in social cognition, self-monitoring, and emotional processing, including the medial prefrontal cortex, anterior cingulate cortex, amygdala, and insula. Increased activation in these regions has been observed in neuroimaging studies during socially demanding tasks, suggesting increased cognitive effort.

However, these findings are based on studies in mixed populations and are not specific to adolescent girls or directly linked to autistic burnout. This figure is intended for conceptual understanding only and does not represent a confirmed biological mechanism.

Stress Physiology and Developmental Factors

In addition to cognitive demands, prolonged masking may also influence physiological stress responses. Previous studies have shown that individuals diagnosed as autistic experience abnormal functioning of the stress physiology, involving cortisol levels and the hypothalamus-pituitary-adrenal axis^{8,32,33}. The hypothalamus-pituitary-adrenal axis is the most important neuroendocrine pathway in relation to the body's stress reaction where it controls the brain and body's reactions to stressors. It has been observed that certain autistic individuals tend to have unusual cortisol levels such as higher baseline levels of cortisol, irregularities in normal diurnal cortisol fluctuations, and delayed recovery from stress³². Such abnormalities could impair recovery in chronic stress and lead to fatigue^{6,7}.

However, most of these physiological studies have relied on mixed gender samples or adults; hence, it is difficult to understand the effects of such stress physiology on adolescent autistic females with masking tendencies.

This table summarizes stress-related physiological indica-

tors discussed across individual studies and conceptual reviews examining autism and chronic stress responses. The findings highlight possible mechanisms through which prolonged stress exposure may influence emotional and cognitive functioning. However, these observations are based on heterogeneous study populations and methodologies, and should not be interpreted as direct evidence linking masking behaviors to physiological dysregulation or autistic burnout.

In summary, the existing literature suggests that masking is common among autistic females and has often been associated with emotional exhaustion, cognitive fatigue, and stress^{2,15,34}.

While biological and physiological perspectives can be helpful in explaining **these** phenomena, the present state of knowledge is still insufficient and mostly consists of cross-sectional studies. Additional studies conducted over an extended period are needed to analyze the effects of persistent masking on the development of stress-related coping mechanisms among **autistic adolescent females**.

Discussion

This paper synthesizes existing knowledge about the association between social masking and autistic burnout among adolescent females through behavioral, neurobiological, and sociocultural perspectives^{2,5,22}. In fact, it has been established that social masking is not only used as an effective strategy in dealing with social situations but is also seen as a strenuous coping strategy associated with significant cognitive and psychological difficulties^{6,18}. However, most of the research available at the moment uses cross-sectional study designs and self-reports, often excluding adolescent girls from study sample groups, making these relationships mainly correla-

Table 4 Stress-Related Physiological Indicators Discussed in Autism Research

Stress-Related Indicator	Reported Pattern in Literature	Potential Functional Implication	Representative Sources
Baseline cortisol levels	Elevated or variable cortisol responses reported in some autistic populations	Persistent physiological stress activation	Corbett et al. (2010) ³² ; Gunnar & Quevedo (2007) ⁸
Diurnal cortisol rhythm	Altered or flattened daily cortisol patterns	Reduced recovery from prolonged stress	Corbett et al. (2009) ³³
HPA axis responsivity	Dysregulated stress-response activity	Increased stress sensitivity	Gunnar & Quevedo (2007) ⁸ ; Mantzalas et al. (2022) ⁶
Allostatic load	Increased cumulative stress burden discussed conceptually	Emotional and cognitive exhaustion	Raymaker et al. (2020) ⁷ ; Mantzalas et al. (2022) ⁶
Stress recovery	Prolonged recovery following stress exposure	Increased vulnerability to fatigue and burnout	Mantzalas et al. (2022) ⁶ ; Cage & Troxell-Whitman (2019) ¹⁷

tional^{6,15}. There is a clear need for longitudinal studies to examine how puberty and secondary education affect social masking in girls¹⁵.

Interpretation of Key Findings

One of the major considerations discussed in this review is the discrepancy between the social appearance of autistic girls and their internal experiences. As has been found earlier, many autistic girls can be viewed as socially adept owing to the imitation of other people's actions, the use of rehearsed scripts, and the suppression of autistic traits^{15,16}. However, this type of outward appearance often conceals serious emotional and psychological challenges. According to recent research findings, the "camouflage gap"—the difference between autistic traits and socially appropriate actions—is significantly larger among females than in males¹⁰. Even though autistic females seem to interact socially better than autistic males¹⁶, they often expend considerable effort to appear neurotypical¹⁰. While such behavior may help with socializing for a short time, it takes a lot of energy to constantly monitor oneself and control one's emotions³. Thus, the above findings make it easier to explain why numerous autistic girls experience anxiety, emotional exhaustion, and identity confusion even when they appear socially successful^{6,17,18}. At the same time, this finding also highlights concerns related to the late diagnosis of autism among girls, whose masking abilities prevent educators and clinicians from identifying social and psychological problems^{2,20}.

Findings from Neurobiology

Findings from Neurobiology explain why masking requires significant amounts of mental energy. Socializing involves

activation of neural pathways responsible for emotional processing, language, and social cognition, including medial prefrontal cortex and the right temporoparietal junction^{24,27}. Autistic people often use these functions less automatically, which means that girls in particular have to rely on conscious thought to understand the interactions that take place and control themselves. This greater reliance on effortful processing is likely to increase mental load and even cause neural fatigue²⁹. Moreover, neuroimaging studies indicate increased activity in certain regions, such as the medial prefrontal cortex, amygdala, insula, anterior cingulate cortex, and superior temporal sulcus during social interaction and masking^{30,31}. The increase in neural activity suggests that autistic individuals use more conscious and effortful strategies to understand social situations and regulate their behaviour, whereas neurotypical individuals tend to do these things automatically²⁶. This can make autistic girls look socially adequate while being under constant stress and anxiety internally¹⁹, because they do not use their innate skills, but instead engage in compensating behaviors^{3,21}. However, these findings should be interpreted cautiously, as most neuroimaging studies focus on adults rather than adolescent girls².

From a physiological perspective, research on the hypothalamic-pituitary-adrenal (HPA) axis shows that autistic individuals react to stress differently and often take more time to recover after stressful situations³². Because of this, repeated social stress and constant masking can affect both the mind and body over time. This is linked to the concept of allostatic load, which means the physical and emotional strain caused by long-term stress and continuous activation of the body's stress system³⁵. In many cases, the stress caused by masking is not easily noticed by parents, teachers, or clinicians because autistic girls may appear socially well-adjusted

on the outside². As a result, this stress can continue to build for years without proper support or recognition. During adolescence, when social pressure becomes stronger, this long-term hidden stress may lead to extreme emotional, mental, and physical exhaustion, often referred to as autistic burnout⁷.

The sociocultural environment also has a significant effect on the tendency for masking behavior^{2,5}. Many autistic girls feel that they need to be socially engaged and emotionally expressive; therefore, they try hard to engage in expected behaviours, leading to higher levels of camouflaging^{2,15}. Usually, this pressure becomes stronger as the child enters adolescence. Such tendencies are related to environments where autistic females are expected to be emotionally aware, socially active, and well-behaved. Due to these pressures and expectations within society, many autistic girls behave in ways that match socially accepted gender roles². To avoid being judged or excluded, they hide their autistic traits and utilize different masking strategies in social situations. As a result, autistic girls often use more complex and frequent camouflaging behaviours than autistic boys¹⁵.

However, masking alone cannot be considered the sole reason for autistic burnout. It develops when masking occurs alongside other stress factors, such as sensory overload, academic pressure, social difficulties, and limited emotional support²². Family environment and social isolation also influence how strongly these pressures affect autistic adolescents^{17,19}. When these difficulties continue for a long time, they may lead to severe emotional, mental, and physical exhaustion.

Current research provides strong behavioural and neurobiological explanations for why autistic adolescent girls experience exhaustion and burnout. However, existing studies do not yet prove that masking alone directly causes burnout²². Instead, burnout is likely caused by the combined effect of social pressure, sensory stress, environmental challenges, and long-term emotional strain. More longitudinal research is still needed to clearly understand how continuous masking contributes to burnout over time²³.

Implications for Research and Practice

According to the review presented above, several critical issues need to be considered for the improvement of outcomes among autistic adolescent girls. First, longitudinal studies focused on the development of camouflaging throughout the adolescent years will be critical, as they could help determine whether high camouflaging at an early age is associated with clinical burnout in late adolescence. It is important to ensure that assessment procedures do not focus solely on the presence of visible social difficulties, but rather on the mental and emotional effort required by the student during social interactions, regardless of their surface-level competence.

In addition, educational interventions need to reduce the

focus on social skills training, since it often encourages the masking process. In this regard, it will be important to develop neuroaffirming approaches that support authenticity and individual well-being. For example, sensory-regulating tools, as well as the creation of quiet environments where a student can withdraw and relieve their emotional and social exhaustion, can help achieve this goal. Furthermore, future research should utilize physiological indicators of stress, such as cortisol levels, to explain the mechanisms underlying the effects of masking. Ultimately, the implementation of gender-informed interventions and support strategies would help uncover the hidden distress that leads to burnout as a consequence of gender-based diagnostic criteria.

Conclusion

To sum up, this literature review suggests that social masking in autistic girls and women is often related to the experience of psychological distress. Continuous effort to mask requires significant mental and emotional effort, resulting in exhaustion and increased stress levels. The neurobiological and physiological research provides an early framework to understand these experiences, but the current evidence is still exploratory and mostly correlational.

Overall, based on these conclusions, it becomes evident that social masking plays an important role in the life experience described by many autistic girls and women, and it should not be mistaken for true well-being. There are still several important gaps in the literature, especially regarding teenagers and long-term studies. It is necessary to conduct additional research to understand how social masking affects mental and physical health in the long term and its relationship with preventing autistic burnout.

Importantly, burnout cannot be viewed as the result of masking alone, as various other factors such as a stressful environment, sensory issues, academic requirements, and limited access to social support can significantly contribute to emotional exhaustion in autistic teenagers. In conclusion, the review highlights the need to conduct gender-based assessments, achieve earlier identification of autism in girls, and build supportive, neuroaffirming environments that prioritize psychological well-being over social adjustment.

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