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## **Abstract**

Some autistic people use strategies to hide autistic behaviour and appear more neurotypical. Previous research has linked this 'social camouflaging' with mental health difficulties. This review synthesised qualitative research to explore the relationship between camouflaging and mental health. Thirteen studies were systematically identified, appraised, and synthesised using meta-ethnography. Four third-order concepts were developed, describing camouflaging as an attempt to cope with stressful social contexts which impact on mental health. Many autistic people experienced unintended negative consequences of their camouflaging that increased stress. Potential mechanisms for the relationship between camouflaging and mental health related to the qualities of the strategies used. Camouflaging strategies that were superficially 'successful', involved high levels of self-monitoring, were highly cognitively demanding, or highly habitual, appeared more linked to poor mental health. This should be investigated in future research and has potential implications for how clinicians support autistic people with mental health difficulties.

## **Lay Abstract**

Some autistic people describe trying to hide autistic behaviour and seem more neurotypical. Researchers called this 'social camouflaging' and have linked it with mental health difficulties. We used a step-by-step approach to identify research where autistic people talk about social camouflaging to explore the relationship between camouflaging and poor mental health. Thirteen studies were combined. The results describe how society negatively impacts on autistic people's mental health, and camouflaging is a way to try and cope with this. Many autistic people find their camouflaging strategies have accidental negative consequences which also affect their mental health. Strategies which seemed 'successful', involved a lot of self-monitoring, were very mentally demanding, or were very habitual, seemed to have more of an effect on mental health. This might be important for clinicians who support autistic people with mental health difficulties.

## Introduction

Compared to the neurotypical majority, autistic people experience differences in social communication and understanding (American Psychiatric Association, 2013). When interviewed about their experiences of autism diagnosis, many autistic women speak of 'wearing a mask' to fit in in social situations (Bargiela et al., 2016). Subsequent research has investigated this experience further, referring to it as 'masking' (Cook et al., 2018) 'compensatory strategies' (Livingston et al., 2019) or 'social camouflaging' (Hull et al., 2017). There is no agreed definition of this concept (Ai et al., 2022), with some researchers suggesting a conceptual distinction between some terms, such as masking and compensation (Livingston et al., 2019). Camouflaging has also been considered to potentially overlap with impression management (Leary & Kowalski, 1990). However, it is recognised that the cognitive differences inherent to autism mean that there are unique features of camouflaging for autistic people in neurotypical contexts (Ai et al., 2022).

The current paper refers to social camouflaging or camouflaging as a set of strategies used in social situations to hide behaviours associated with autism and appear more socially neurotypical (Hull, Mandy, et al., 2019; Hull et al., 2017; Livingston et al., 2019). Camouflaging strategies include forcing eye contact, suppressing 'autistic' body movements, and using conversational 'scripts' involving asking questions about others (Cook et al., 2020; Hull et al., 2017; Livingston et al., 2019). Social camouflaging has been identified in both autistic males and females, although there is suggestion that it is more prevalent in females (Cook, Hull, et al., 2021). These camouflaging strategies are suggested to come at a cost to mental wellbeing (Turnock et al., 2022).

The Camouflaging Autistic Traits Questionnaire (CAT-Q; Hull, Mandy et al., 2019) has been used to research the association between self-reported engagement with camouflaging and a variety of factors, including gender (Hull, Lai, et al., 2019) and personality (Robinson et al., 2020). Using this tool, higher levels of camouflaging have been associated with generalised anxiety, social anxiety, and depression in autistic adults (Hull et

al., 2021). Further research has found an association between social camouflaging and psychological distress (Beck et al., 2020), and suicidal thoughts and behaviours (Cassidy et al., 2020). In autistic children and adolescents, camouflaging has been found to be a significant predictor of internalising symptoms such as anxiety and depression (Ross et al., 2022).

Although quantitative research has identified correlations between mental health, distress, and camouflaging, it lacks a nuanced understanding of the mechanisms that may drive the relationship between them. The CAT-Q is the only existing quantitative measure of autistic camouflaging and was developed based on Hull et al.'s (2017) theoretical model of social camouflaging. Hull et al. (2017) specifically explore the experience of social camouflaging in formally diagnosed autistic adults. It is possible that qualitative studies that define camouflaging differently, and investigate it in different demographics, may provide alternative insights about the mechanisms linking camouflaging and poor mental health.

By synthesising multiple qualitative accounts it may be possible to develop a deeper understanding of the mechanisms underlying the relationship between camouflaging and poor mental health. Multiple systematic reviews (Alaghband-rad et al., 2023; Cook, Hull, et al., 2021; Tubío-Fungueiriño et al., 2021) have aggregated and described the existing literature on social camouflaging. The existing systematic reviews suggest a relationship between camouflaging and anxiety and low mood, possibly relating to the cognitive effort involved (Alaghband-rad et al., 2023; Tubío-Fungueiriño et al., 2021). However, it is noted that this relationship is complex, and it may be an individual's self-perceived need to camouflage that impacts mental health more so than ability to camouflage (Cook, Hull, et al., 2021). The existing systematic reviews have examined either quantitative studies alone (Cook, Hull, et al., 2021) or a combination of qualitative and quantitative literature (Alaghband-rad et al., 2023; Tubío-Fungueiriño et al., 2021). Although this has allowed a more comprehensive view of the evidence for the relationship between camouflaging and poor mental health, none of these reviews have added an additional interpretative layer in

the way possible when synthesising qualitative data (Noblit & Hare, 1988; Walsh & Downe, 2005). By gaining a deeper understanding of this relationship it may be possible to identify potential targets for mental health support using psychological therapies. Research into improving the mental health of autistic people, including the adaptation of psychological therapies, are a key priority for the autistic community (Benevides et al., 2020; Roche et al., 2021).

This review aimed to systematically identify and synthesise qualitative research about autistic people's experiences of social camouflaging and their reflections on its impact. A meta-ethnography was planned as this methodology entails an interpretive rather than a merely aggregative approach (Noblit & Hare, 1988; Walsh & Downe, 2005). Unlike other methods of qualitative synthesis, meta-ethnography allows the reinterpretation of themes from the primary studies (second-order constructs) while taking into account the original participant quotes (first-order constructs) to create higher-order themes (third-order constructs) (Sattar et al., 2021). A central feature of meta-ethnography is the presentation of the synthesis as a 'line of argument' composed of first- second- and third-order constructs (Hannes & Macaitis, 2012). As a result, meta-ethnography is particularly suited for the generation of new theories (France et al., 2019; Sattar et al., 2021) and is therefore appropriate for exploring the relationship between social camouflaging and mental health. The present meta-ethnography explored the following questions:

1. Are there differences in the lived experience of social camouflaging for autistic people according to the type of strategy used?
2. Do autistic people's descriptions of their experiences suggest mechanisms for a relationship between social camouflaging and mental health?

Question 1 was selected to investigate the current definitions of social camouflaging and related concepts across the literature and whether these meaningfully relate to differences in the experiences of autistic people. Question 2 was selected to gain a deeper understanding of the relationship between camouflaging and mental health in autistic people.

## Methods

### ***Systematic literature search***

A search was conducted on 1<sup>st</sup> October 2021 using PsycINFO, Scopus, Web of Science, ASSIA, and OpenGrey. The search terms used are presented in Table 1. The reference lists of relevant studies were searched manually for additional papers. The search was rerun on 14<sup>th</sup> October 2022, with no additional studies meeting the inclusion criteria identified.

**Table 1.**

#### *Search terms used*

<b>Key concept</b>	<b>Search terms used</b>
Autism	exp Autism Spectrum Disorders OR autis* OR asperger* OR “social communic**”
Social camouflaging	camo* OR mask* OR social strateg* OR social compensat* OR imitat* OR exp Impression Management OR identity manag*

### ***Study selection***

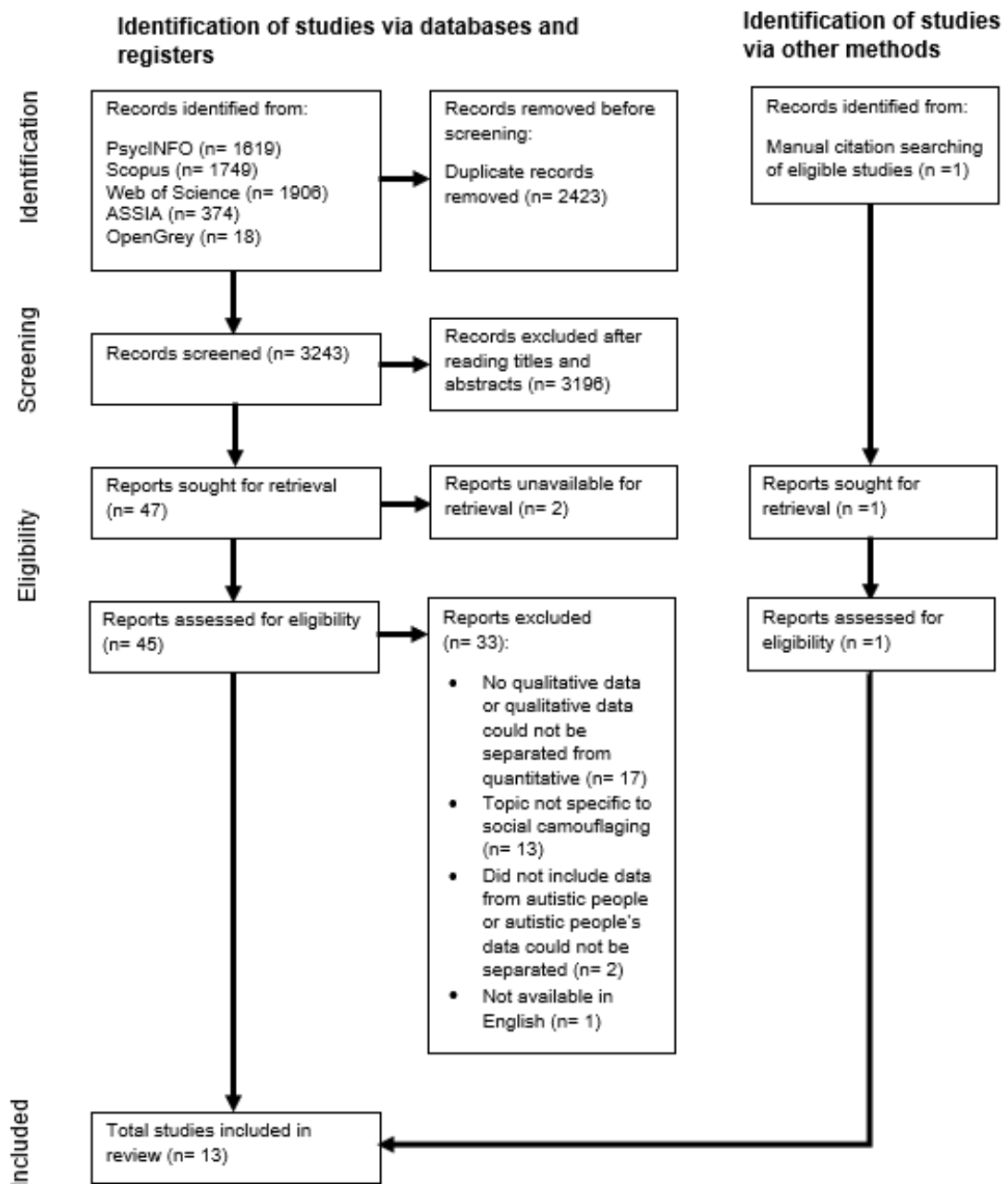
Studies needed to meet the following inclusion criteria: qualitative research on the topic of autistic people’s experiences of social camouflaging; or qualitative research on the topic of autistic people attempting to change their behaviour in social situations. Studies were excluded if: it was not possible to separate qualitative and quantitative data; it was not possible to separate the experiences of non-autistic and autistic people; they were written in a language other than English. There was no restriction on date of publication.

Figure 1 shows a PRISMA diagram (Page et al., 2021) illustrating the study selection process. The systematic review was registered on international prospective register of systematic reviews (PROSPERO) under the registration number CRD42021271675. The first author (SF) screened the titles and abstracts for relevant papers and then retrieved

potentially relevant studies in full. SF then applied the inclusion and exclusion criteria to the potentially relevant papers. A second rater (a clinical psychologist in training) independently screened 50% of the potentially relevant papers. Cohen's kappa was 0.77, representing moderate agreement (McHugh, 2012). Any disagreements were resolved via discussion.

**Figure 1**

*PRISMA diagram detailing search process and selection of studies.*



At the full-text retrieval stage 33 studies were excluded for not meeting the inclusion/exclusion criteria. Primary reasons for exclusion at this stage are given in Figure 1 with some studies excluded for multiple reasons. Of the excluded studies, 13 were primarily excluded for not being specific to the topic of social camouflaging. This meant that these studies were either unrelated or had a broader topic without a significant theme relating to camouflaging. Studies without a significant theme relating to camouflaging were deemed to have insufficient data to synthesise e.g. Cage et al. (2018) where there was a single subtheme relating to camouflaging with only 4 participant quotes given. Justifications for the exclusion of each paper at this stage can be found in the Supplementary Materials.

### ***Data extraction***

SF read the included studies in full and extracted the following information into a standardised table: authors, year, study aim and setting, method of data collection and analysis, sample characteristics and recruitment strategy (see Table 2).

### ***Critical appraisal***

The quality of included studies was appraised using the Critical Appraisal Skills Programme (CASP, 2018). The CASP is a widely used tool for the evaluation of qualitative research (Dalton et al., 2017; Hannes & Macaitis, 2012) recommended by the Cochrane Qualitative and Implementation Methods Group (Noyes et al., 2019). The CASP can be used to evaluate qualitative research in terms of the validity, potential for bias, and utility of the results. The present study followed previous meta-ethnographies in assigning studies a point for each criterion with a half point for each criterion that was partially fulfilled or unclear (Graham et al., 2020). The CASP has a total of 9 scored criterion, therefore each study could score a maximum of 9. The checklist was completed to aid interpretation during synthesis and was not used to exclude studies. The first author completed the CASP for all included studies and a second reviewer (a clinical psychologist in training) independently appraised 50% of these. Where SF and the second reviewer disagreed on a quality rating



this was discussed in detail. The purpose of this was to identify additional information about the quality of the studies that could have been overlooked by a single reviewer.

### ***Data synthesis***

A meta-ethnography was conducted to synthesise the studies. Meta-ethnography is one of the most used methods of qualitative synthesis, with improvements in the transparency of the search criteria and critical appraisal of studies in meta-ethnographies over time (Dixon-Woods et al., 2007; Hannes & Macaitis, 2012). The meta-ethnography used the 7 steps outlined by Noblit and Hare (1988) as follows:

1. Getting started - identifying the research question
2. Deciding what is relevant to the initial interest - defining inclusion and exclusion criteria and carrying out systematic searches
3. Reading the studies - repeated reading of selected studies, noting interpretative metaphors
4. Determining how the studies are related - determining relationships between studies by listing key concepts and comparing them. Concepts may be participants own interpretations of their experiences (first-order constructs) or study authors' interpretations of participants experiences expressed as themes (second-order constructs). Studies are deemed directly comparable and capable of being reciprocally translated into each other, or representative of a line of argument that puts similarities and differences into a new interpretive context
5. Translating the studies into one another - Reciprocal translation identifies third-order constructs that are interpretations of the original authors' interpretations. Refutational translation identifies differences in conflicting concepts
6. Synthesising translations - Comparing translations to identify overarching concepts and develop new interpretations from these (third-order constructs)
7. Expressing the synthesis via a written narrative and diagram

The review was conducted from an inductive critical realist position, which presumes that knowledge is filtered through the lens of human experience and may be more or less close to reality (Fletcher, 2017). As a result, it was important to consider the background of the reviewers. The synthesis was primarily conducted by a non-autistic trainee clinical psychologist (SF). SF is the sibling of an autistic person and has worked with autistic people in a variety of contexts. The meta-ethnography was discussed by all four authors (SF, MW, CJ and JF) at regular intervals during all seven stages of the synthesis to refine the concepts, improve the clarity of the results, and ensure they addressed the research questions. This involved reviewing the first- second- and third-order concepts, written narrative, and diagram. MW is a non-autistic clinical psychologist with experience in the field of eating disorders and health psychology. Throughout his clinical work MW has interacted with a range of individuals who were autistic or thought they might be. CJ is a non-autistic researcher who leads an autism research group that includes neurodivergent and neurotypical researchers. JF is non-autistic clinical psychologist with experience working with people with eating disorders and complex mental health difficulties. JF has significant experience of working with autistic people, especially within eating disorder services.

### **Community involvement**

An autistic consultant reviewed the results of the meta-ethnography to ensure they reflected the perspectives of the autistic participants. The consultant was asked to comment on a draft of the results during stage six of the meta-ethnography while the third-order constructs were being refined. The consultant was asked in lay terms to comment on whether the third-order constructs accurately reflected the perspectives of the autistic participants in the original studies. Previous qualitative research has also recruited autistic advisors to ensure themes accurately reflect the autistic voice (Babb et al., 2021). The consultant gave detailed reflections on how the third-order constructs related to the first-order constructs, and how the findings resonated with their own personal experiences. This guided the refinement of the third-order constructs and development of the visual diagram.

## **Results**

### ***Characteristics of the included studies***

Thirteen studies were included in the review and their details are shown in Table 2. Each study was assigned a number which was used for reference throughout the review. Across the 13 studies, data was collected from 1009 autistic people. Two studies (4, 5) utilised data from the same sample of participants but applied different qualitative analysis methods. Where information about participants' gender was given (n=12 studies), 59.3% identified as female, 35.9% identified as male, and 4.9% identified as 'other' or non-binary. Where reported (n=12 studies), ages of participants ranged from 12 to 79. Where information was given about autism diagnoses (n=9 studies), 88.3% had formal diagnoses and 11.7% self-identified as autistic.

### ***Quality appraisal***

The studies were assessed using the CASP checklist (CASP, 2018) and scores (out of 9) are shown in Table 2. All but one (11) of the included studies gave a clear statement of their aims, and all the studies were appropriate in selecting a qualitative methodology. Most studies gave a clear statement of their findings with consideration of their credibility (1, 2, 3, 4, 5, 6, 7, 8, 9, 10). A common weakness was a lack of explicit consideration of the researcher's role and potential bias, with 7 of the 13 studies not sufficiently considering author positionality (1, 3, 5, 7, 8, 9, 11). Some studies did not discuss their justification for aspects of their research design in detail (1, 3, 7, 10).

**Table 2.**

*Characteristics of included studies. Quality appraisal score is as rated from the CASP and is out of a maximum of 9.*

<b>Study No.</b>	<b>Author(s) (year)</b>	<b>Aim</b>	<b>Setting</b>	<b>Data Collection Method</b>	<b>Data Analysis Method</b>	<b>Sample Characteristics</b>	<b>Recruitment Strategy</b>	<b>Quality Appraisal Score</b>
1.	Bernardin et al. (2021)	To explore adolescent experiences of camouflaging and how they differ by sex and diagnosis	Qualitative, online questionnaire and follow-up interviews for subset of sample, USA	Open-ended questions on online questionnaire and semi-structured interview for subset of participants	Inductive thematic analysis (Moustakas method)	Online questionnaire: 76 self-reported autistic adolescents aged 13-18 (23 female, 53 male, M age=15.07, SD=1.64)  Interviews: 10 self-reported autistic adolescents (5 female, 5 male, M age=15.7, SD=1.64)	Database of autistic participants, email and social media adverts  Interviewed participants were contacted in the order they participated up to a maximum of 5 for gender and diagnosis	6
2.	Bradley et al. (2021)	To explore autistic adults' experiences of camouflaging and its impact on mental health	Mixed methods, online questionnaire, UK-based	Open-ended questions within wider online survey about mental health and autism	Inductive semantic-level thematic analysis (Braun and Clarke method)	277 autistic adults (206 diagnosed (128 female (M age=36.42, SD=10.57), 78 male (M age=42, SD=11.65)), 71 self-identifying (56 female (M age=39.34, SD=8.64), 15 male (M age=36.57, SD=9.83))	UK database of autistic participants, social media adverts	8

<b>Study No.</b>	<b>Author(s) (year)</b>	<b>Aim</b>	<b>Setting</b>	<b>Data Collection Method</b>	<b>Data Analysis Method</b>	<b>Sample Characteristics</b>	<b>Recruitment Strategy</b>	<b>Quality Appraisal Score</b>
3.	Cage and Troxell-Whitman (2019)	To examine reasons, contexts, and consequences of camouflaging in relation to mental health	Mixed methods, online questionnaire	Open-ended question within wider questionnaire	Content analysis	262 autistic adults, M age=33.62, SD=11.52, 135 female 111 male 12 other, self-reported diagnoses verified using RAADS-14  85.8% 'White', 8.4% 'Mixed/Multi-ethnic', 2.7% 'Asian', 1.9% 'other', 1.1% 'prefer not to say'	Social media advert and recruitment via autism charities and organisations	5
4.	Cook, Crane, et al. (2021)	To explore processes behind and experiences of camouflaging during an everyday social situation	Qualitative, Interpersonal recall study, UK	Participants watched a video of themselves interacting with experimenter. Asked to stop video when they used or thought about camouflaging strategies and asked open questions	Thematic analysis, critical realist framework, (Braun and Clarke method)	17 autistic adults, (M age=44.53, SD=12.03) (8 female, 6 male, 3 other) all formally diagnosed  12 participants 'White British', 3 'White Other', 1 'Mixed Other' and 1 'Hispanic'	Social media advert and London-based autism support groups	9

Study No.	Author(s) (year)	Aim	Setting	Data Collection Method	Data Analysis Method	Sample Characteristics	Recruitment Strategy	Quality Appraisal Score
5.	Cook et al. (2020)	To describe camouflaging used by autistic adults during everyday social interaction	As above	As above	Qualitative content analysis at surface level, (Graneheim and Landman method)	As above	As above	6
6.	Halsall et al. (2021)	To examine camouflaging strategies in autistic girls attending resource bases	Qualitative, interviews with girls, parents and educators attending a resource base attached to one of three schools in UK	Separate semi-structured interviews prompted with a visual scaling activity based on the CAT-Q	Inductive thematic analysis, social constructionist perspective, (Braun and Clarke method)	8 autistic adolescent females, M age=13 years 7 months, SD=11.17 months, all formally diagnosed  7 participants 'White British', 1 'White European'	Purposive sampling of girls attending 3 schools	8
7.	Hull et al. (2017)	To examine motivations, techniques, and impact of camouflaging on autistic adults	Mixed methods, online questionnaire, international sample	Open questions within online questionnaire	Inductive thematic analysis (Braun and Clarke method)	92 autistic adults, 55 females (M age=40.71, SD=14.14), 30 males (M age=48.03, SD=16.62), 7 other (M age=40.71, SD=14.29), formally diagnosed  Data on nationality only - 51 participants 'British', 16 'North American', 15 'Western European' and 10 'Other'	UK database of autistic participants and social media adverts	7

Study No.	Author(s) (year)	Aim	Setting	Data Collection Method	Data Analysis Method	Sample Characteristics	Recruitment Strategy	Quality Appraisal Score
8.	Jedrzejewska and Dewey (2021)	To examine online and offline camouflaging experiences of autistic adolescents	Mixed methods, semi-structured interview following a quantitative questionnaire, UK	Semi-structured interviews	Thematic analysis (Braun and Clarke method)	6 autistic adolescents, 3 females 3 males, M age=13.75, SD=1.06, all with formal diagnoses  5 participants 'White British', 1 'Black British'	Schools, colleges, and charity in London, classes completed questionnaire and autistic children who scored highest on CAT-Q invited for interviews until data saturation reached	8
9.	Livingston et al. (2019)	To investigate social compensatory strategies in adults with and without diagnosis of autism	Mixed methods, online questionnaire, international sample but UK-based	Open questions within questionnaire with open and closed questions	Inductive thematic analysis at the semantic level (Braun and Clarke method)	58 formally diagnosed with autism (37 female, 13 male, 8 other, M age=35.8, SD=11.5), 19 self-identified as autistic (9 female, 8 male, 2 other, M age=40.2, SD=11.1)  Data on 'residence' only – 53 'UK', 11 'USA or Canada', 6 'Europe', 6 'Australasia', 1 'Africa'	Social media advert and recruitment via UK autism charity	7.5
10.	Miller et al. (2021)	To explore experiences of masking in autistic and non-autistic adults	Qualitative, online questionnaire	One open question within wider questionnaire	Inductive thematic analysis, critical realist approach (Braun and Clarke method)	144 self-reported autistic adults (101 female, 28 male, 15 nonbinary, M age=36.3, SD=10.9)	Social media advert	8

<b>Study No.</b>	<b>Author(s) (year)</b>	<b>Aim</b>	<b>Setting</b>	<b>Data Collection Method</b>	<b>Data Analysis Method</b>	<b>Sample Characteristics</b>	<b>Recruitment Strategy</b>	<b>Quality Appraisal Score</b>
11.	Ryan and Räsänen (2008)	To explore how people with Asperger's syndrome negotiate social life	Qualitative, semi-structured interviews, UK	Semi-structured face-to-face interviews, one participant interviewed via email	Thematic analysis, constant comparative method	16 people with diagnoses of Asperger's syndrome, 4 of which interviewed with their partners, no data on age or diagnostic source	Support groups, online communities, charity advertising, and snowball sampling	6
12.	Schneid and Raz (2020)	To explore social interaction and impression management for autistic people	Qualitative, semi-structured interviews, Israel	Semi-structured interviews via telephone, email, or in person	Constant comparative method (Denzin and Lincoln method)	24 people with Autism/Aspergers/PDDNOS (22 formally diagnosed, 2 self-diagnosed) aged over 16 (M age=31), 10 male, 13 female, 1 other	Personal acquaintance, social networks, and snowball sampling	7
13.	Tierney et al. (2016)	To explore whether autistic adolescent females use social management strategies	Qualitative, semi-structured interviews, UK	Face-to-face semi-structured interviews	Interpretive phenomenological analysis	10 autistic adolescent females (M age=14.4, SD=1.02) with formal diagnoses	Referred by professionals at two CAMHS or self-referral on two autism charity websites	8

*Note.* USA = United States of America; UK = United Kingdom; RAADS-14 = Ritvo Autism and Asperger Diagnostic Scale; CAT-Q = Camouflaging Autistic Traits Questionnaire; PDDNOS = Pervasive Developmental Disorder Not Otherwise Specified; CAMHS = Child and Adolescent Mental Health Services.

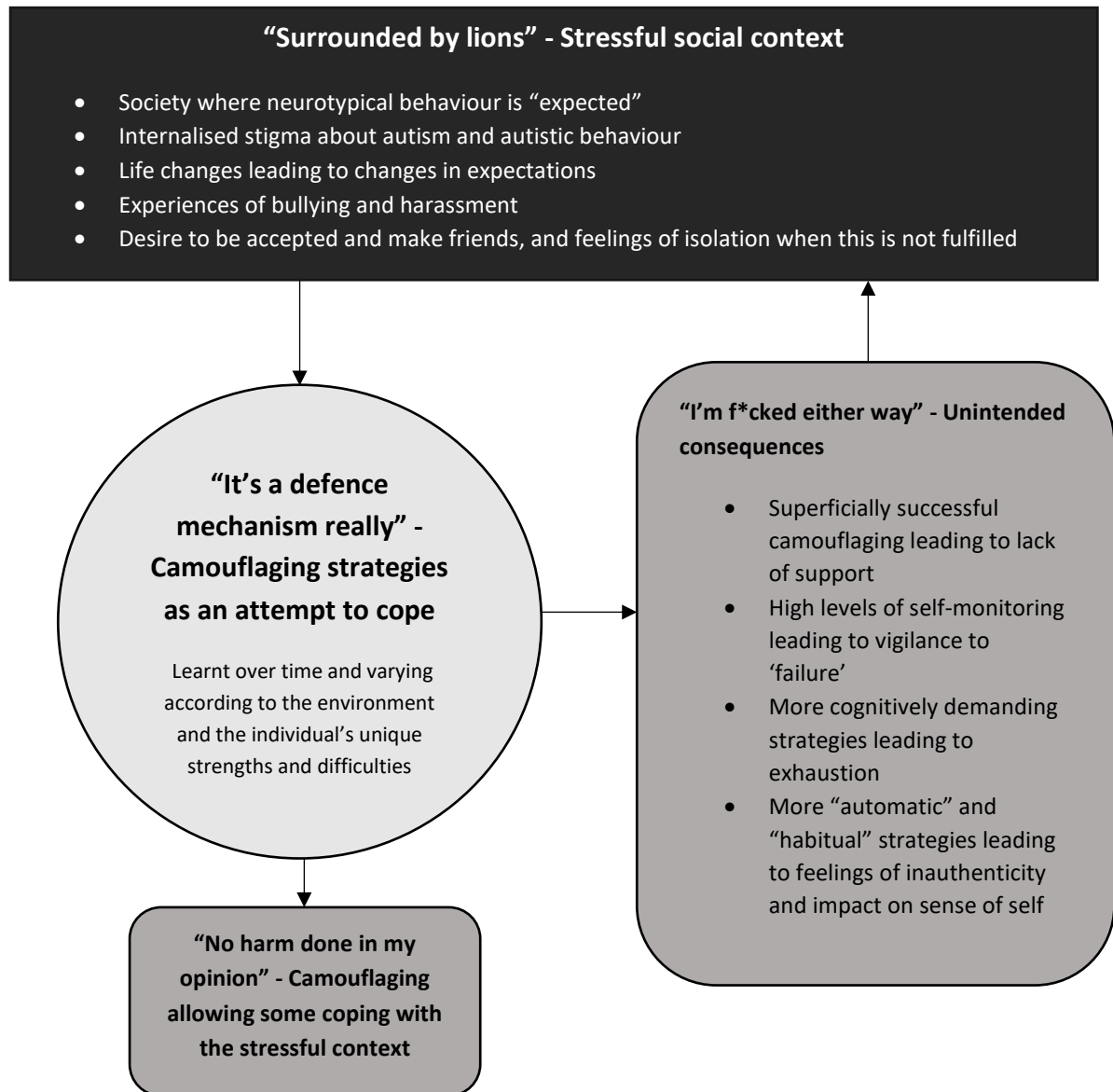


## ***Results of synthesis***

First-order constructs from participant accounts of their experiences and second-order concepts from researchers' interpretations of accounts were extracted and compared across studies using the method described by Noblit and Hare (1988). Reciprocal translation was used to identify similar concepts across the studies that could be grouped together under either an existing or new concept. Refutational synthesis was used to explore contradictory concepts. The meta-ethnographic process resulted in the development of four third-order concepts describing autistic people's experiences using social camouflaging. These third-order concepts were generated from the synthesis and reorganisation of second- and first-order concepts. A line-of argument synthesis was used to draw the third-order concepts together and determine how they relate to each other. The line-of-argument synthesis describes how autistic people use camouflaging to cope with the stressful social context, but that camouflaging itself has unintended negative consequences that make the context paradoxically more stressful. Four different qualities of camouflaging strategies appeared to affect mental health via their negative unintended consequences. Figure 2 shows a diagrammatic representation of the synthesis.

**Figure 2.**

*Diagrammatic representation of the four third-order concepts and line-of-argument synthesis (represented by arrows) from the meta-ethnography*



**“Surrounded by lions” - Stressful social context.** Across the reviewed studies, autistic people described a constantly present stressful social and societal context. This was described as like being “surrounded by lions” (Tierney et al., 2016). This context had the

potential to impact autistic people's mental health via internalised stigma about autism, and experiences of rejection and bullying.

Participants in several studies (2, 3, 4, 7, 9) described a social context where people "expect neurotypical behaviour" (Bradley et al., 2021) and "connections have to be made initially on neurotypical terms" (Hull et al., 2017). Participants described a pressure to change autistic behaviour to be "more socially acceptable" (Cook, Crane, et al., 2021). Schneid and Raz (2020) emphasised how this feels "coercive" to autistic people. Autistic people felt "you have no choice but to change" and "it's not possible to be 'out'... without incurring stigma and disapproval" (Bradley et al., 2021). There was a sense that if autistic people did not conform to neurotypical norms they would experience negative consequences, such as being perceived as "rude", 'sick' or 'shifty'" (Cook, Crane, et al., 2021). Autistic people (1, 2, 4, 7, 8, 11, 12) made references to being "abnormal" or "weird", suggesting that their awareness of how they are perceived in social contexts negatively affects how they perceive themselves. One participant in Schneid and Raz (2020) described the relationship between societal views and their view of themselves: "all these years I have been judging myself because I was judged by others". Cage and Troxell-Whitman (2019) referred to stigma becoming "internalised" and autism being associated with "shame".

Participants in the majority of studies (1, 2, 3, 6, 7, 9, 10, 13) described experiences of bullying and harassment. Autistic people also described or displayed a desire for friendships and connection (1, 2, 4, 6, 7, 8, 9, 13). Multiple studies (1, 2, 9, 11, 13) discussed autistic people's experiences of social rejection and isolation and the impact of this on mental health. One participant in Ryan and Räsänen (2008) discussed their experiences of isolation: "...sometimes it feels that it is just happening all over there somewhere and I am living in a bubble or living on the other side of a plate glass window to everybody else... it is kind of like really hard being alive sometimes".

Some studies (1, 7, 8, 13) considered how gender influenced experiences of the social context. Bernardin et al. (2021) suggested that "social landscapes for adolescent

females are more complex... which may make it more difficult for autistic females to fit in with peers". Participants in Jedrzejewska and Dewey (2021) noted how their gender affected whether others perceived them as autistic: "girls are expected to be quiet, so when they're quiet people don't really recognise autism as much in them". They felt their gender affected how they were "allowed" to act, with "women being more like hysterical than boys... so like if they're upset they wouldn't be like a problem more". Gender expectations may affect the neurotypical social expectations placed on autistic people. This is likely to vary depending on subtle aspects of the context, as highlighted by the fact that participants in Jedrzejewska and Dewey (2021) simultaneously felt girls are expected to be "quiet" and "hysterical". There was a lack of discussion in the literature of how other aspects of autistic people's identities might affect their experience of the social environment, with only one mention of sexuality (13), and no discussion of race or disability.

Multiple studies (1, 6, 9, 12, 13) noted changes in the social context lead to increased stress for autistic people. Some studies linked this to increased expectations being placed on autistic people, such as "major unspoken changes in social etiquette" (Tierney et al., 2016) during adolescence and "applying for jobs and being in the real world" (Livingston et al., 2019) during adulthood. These changes in expectations led to increased stress due to autistic people being expected to need less support, or because current coping or camouflaging strategies were no longer sufficient to meet neurotypical social norms.

**"It's a defence mechanism really" - Camouflaging strategies as an attempt to cope.**

Across the reviewed studies, camouflaging was framed as a "defence mechanism" (Hull et al., 2017) used to adapt to the stressful context. Autistic people (1, 2, 3, 6, 7, 9) described camouflaging to "protect [themselves] from violence, intimidation, bullying and harassment" (Cage & Troxell-Whitman, 2019). Additionally, participants and researchers (2, 3, 6, 7, 8, 9, 10, 11, 12, 13) described camouflaging being used to "fit in" to the "neurotypical world". For some autistic people (1, 2, 7, 9, 13) camouflaging was used to attempt to access opportunities such as relationships and work. Although two studies (1, 13) described autistic

adolescents “develop[ing] strategies in order to establish friendships” (Tierney et al., 2016), no studies described adolescents using camouflaging to obtain other opportunities such as to support success at school.

Some researchers (5, 7, 9, 12) attempted to categorise camouflaging, with some suggesting particular methods might be related to different outcomes. However, none of the suggested categories appeared consistently and without conceptual overlap across all the studies. There did not appear to be any ‘types’ of camouflaging that existed categorically and had meaningfully distinct impacts on the experiences of autistic people. Cook, Crane, et al. (2021) and Cook et al. (2020) instead described camouflaging as a range of diverse “idiosyncratic solutions” to an individual’s social differences and suggested camouflaging strategies may exist on a “continuum”. Some studies (5, 7, 10, 11, 13) described autistic people using areas of strength, such as memory, to compensate for areas of difficulty. Autistic people in most studies (1, 2, 4, 6, 7, 8, 9, 11, 12) reported camouflaging to different extents in different contexts. For example, some autistic people reported that “at home I can be myself” (Halsall et al., 2021) (11). Other contexts where some autistic people reported camouflaging less include with close friends and family (7, 8), when communicating online (8, 11), and with other autistic people (2, 11, 12). It appears that camouflaging strategies are adjusted to both the autistic individual’s unique strengths and challenges and the demands of their current context.

**“I’m f\*cked either way” - Unintended consequences.** Although camouflaging is an attempt to cope with a stressful context, many studies suggested it has unintended consequences. This is described as leaving autistic people “f\*cked either way” (Livingston et al., 2019) as they either suffer negative consequences from the social context or negative consequences from social camouflaging. These negative consequences did not appear to relate to particular ‘types’ of strategies (e.g. modifying eye gaze; using a social script) being used. Rather, they related to overarching qualities of the strategies being used, which included: i) the ‘success’ of the camouflaging; ii) the vigilance and monitoring needed; iii) the

cognitive demand required; iv) the automaticity of the camouflaging (see Figure 2). Many of these unintended consequences lead to the context becoming paradoxically increasingly stressful. These unintended consequences are potential mechanisms that help explain the negative impact of camouflaging on mental health for autistic people.

Participants (2, 7, 8, 9, 10, 13) described not having their needs recognised because of using social camouflaging. Some participants linked camouflaging with a “delay in formal diagnosis” (Bradley et al., 2021), which made it difficult to access support. Other participants discussed how camouflaging post-diagnosis led to others invalidating them or saying they were “faking being autistic” (Miller et al., 2021). This appeared to be an unintended consequence of superficially successful camouflaging. Cook, Crane, et al. (2021) felt participants’ experiences suggested they “[continue] to experience social cognition difficulties while engaging in camouflaging”. Autistic people suggested that appearing to cope meant others “don’t think [they] need the help that [they] sometimes do” (Bradley et al., 2021). The apparent ‘success’ of a strategy in making an autistic person appear to cope is one quality of camouflaging with a potential mechanistic impact on stress and mental health. As a result of superficially appearing to cope, the context can become increasingly unsupportive, inflexible, and unresponsive to autistic people’s needs, causing additional stress.

Some autistic people felt “uncertain” about their ability to camouflage (1, 4, 6, 7). “Continuous” monitoring of their behaviour and other’s social cues was part of the camouflaging process for some autistic people (4, 7, 11). Autistic people appeared particularly aware of and anxious about camouflaging “failing” (2, 4, 7, 9, 11); for example, “I go over and over and over what they said and what I said. Did I understand them correctly, did I respond appropriately, did I make a gaffe? Have I offended anyone?” (Hull et al., 2017). Ryan and Räsänen (2008) and Cook, Crane, et al. (2021) hypothesised that this “consciousness” may paradoxically make it more difficult for autistic people to become fully involved in interaction. Therefore, although vigilant monitoring of the social cues and context

may superficially lead to smoother interactions with neurotypical people, this may be at a cost to mental health and connectedness with others. The level of vigilance and self-monitoring needed as part of a camouflaging strategy, with consequential effects on social engagement and connectedness, is another potential mechanism whereby camouflaging impacts mental health. Additionally, when camouflaging is perceived to be 'failing' this may result in increased anxiety and the context being perceived as increasingly stressful.

Autistic people in several studies (2, 4, 7, 9, 11) described camouflaging as conscious and cognitively demanding "like trying to solve mathematical equations in your head all day long while carrying on as normal" (Bradley et al., 2021). The consequence of this was "exhaustion" and feeling "drained" after camouflaging (1, 2, 4, 6, 7, 9, 10, 11, 12). Autistic people described needing time to "recover" after camouflaging (2, 7, 9). Some studies (2, 9) linked exhaustion to other unintended consequences such as feeling "burnt out" and unable to do "simple" things like eating and washing. The amount of cognitive demand involved in a strategy is a potential mechanism whereby camouflaging impacts on mental health. Exhaustion from more cognitively demanding camouflaging may make autistic people less able to meet the demands of the context, leading to increased stress.

Contrastingly, autistic people in some studies (2, 3, 4, 7, 10) reported that over time their camouflaging strategies had become more "automatic", "habitual", and "involuntary". However, camouflaging did not become more automatic for all autistic people. Notably, none of the studies of adolescents described camouflaging becoming more habitual over time. Some studies (4, 7, 9, 10, 11, 12) described camouflaging being 'refined' over time. Miller et al. (2021) particularly emphasised that camouflaging may be learnt during childhood. Miller et al. (2021) noted that for some participants the more "instinctual" camouflaging became the more difficult it became to "work out where they ended and the mask begun" and the more autistic people felt confused about who they "really" are. Additional studies (1, 2, 4, 7, 9, 10, 12, 13) discussed feelings of "inauthenticity" or changes in their sense of self due to camouflaging. Schneid and Raz (2020) note that camouflaging to "pass as normal" appears

to increase autistic people's "sense of alienation". How automatic and habitual an individual's camouflaging is therefore another mechanism through which autistic people's mental health can be affected. Where camouflaging becomes more automatic, this appears to be associated with feelings of inauthenticity and confusion about their 'true' identity. Over time this cumulatively impacts autistic people's sense of identity. This sense of alienation may contribute to shame and stigma about autism, making the context increasingly stressful.

**"No harm done in my opinion" - Camouflaging allowing some coping with the stressful context.** Some autistic people reported that camouflaging was helpful overall, and for some there was "no harm done" (Bernardin et al., 2021). In Bernardin et al. (2021), some adolescent autistic boys did not feel there were any negative consequences to camouflaging, and reported feeling positive or neutral afterwards. For example, one participant reported "I feel I still have enough of my personality that I don't feel like a different person, but just enough so... it's proper for the situation." None of the other studies and none of the studies of autistic adults described a complete absence of negative consequences.

In other studies (7, 9), autistic people reported some negative consequences of camouflaging but felt these were not as severe as those of not camouflaging: "It cuts down the pain and makes me employable. ...To not compensate would make life more unhappy for me" (Livingston et al., 2019). Livingston et al. (2019) linked positive outcomes to autistic people refining their strategies, choosing environments where strategies were more successful, or balancing the time spent camouflaging with time where they are not. Both Hull et al. (2017) and Bernardin et al. (2021) noted that positive feelings about camouflaging appeared more common in autistic males than females. Hull et al. (2017) hypothesised that camouflaging is more likely to have positive consequences for males due to "present gendered socio-cultural contexts".



## Discussion

The current review sought to investigate how autistic people experience social camouflaging and whether this varies according to the type of strategy used. The review also aimed to explore the mechanistic relationship between social camouflaging and mental health. Our meta-ethnographic approach produced four third-order concepts, “stressful social context”, “camouflaging strategies as an attempt to cope”, “unintended negative consequences” and “camouflaging allowing some coping with the stressful context”. Crucially, these concepts highlighted how autistic people experienced bullying and harassment while simultaneously desiring and struggling to obtain friendships, suggesting a direct relationship between the social context and poor mental health. Social camouflaging was described as an attempt to cope with the stressful social context, with camouflaging varying depending on the context and strengths and differences of the individual. The mechanistic relationship between social camouflaging and mental health was found to be complex. Camouflaging enables autistic people to cope with aspects of the context that may otherwise negatively impact their mental health (e.g. avoid harassment), while paradoxically having other negative impacts on mental health (e.g. self-monitoring and vigilance to signs of ‘failure’). Some autistic people felt the negative consequences of camouflaging were not as significant as those they would face if they did not camouflage.

The previous literature on social camouflaging has suggested there may be a distinction between different types of strategies such as masking and compensation (Ai et al., 2022; Livingston et al., 2019). This meta-ethnography did not find any types of strategies that occurred consistently and categorically across all studies or were linked with particular mental health outcomes. The meta-ethnography instead suggested that certain qualities of camouflaging strategies have a mechanistic impact on mental health via the unintended consequences they have for autistic people. Camouflaging that was more ‘successful’ and made the autistic person seem to cope appeared linked with receiving less support, with a consequential impact upon mental health. Camouflaging that required a high level of self-

monitoring appeared linked with higher levels of vigilance and concern about camouflaging 'failing'. Camouflaging that was highly cognitively demanding appeared to exhaust autistic people and contribute to feelings of 'burnout' and poor mental health. Finally, camouflaging that had become highly 'automatic' or habitual appeared to be linked with a greater sense of inauthenticity, with consequential negative effects on identity and mental health. We argue that these qualities of camouflaging are potential mechanisms that explain some of the negative impacts of camouflaging on mental health in autistic people. The results of this review also link with the wider literature about stigma and social anxiety.

### ***Stigma***

Autistic people in the current review described the social context as inherently stressful and impacting on their mental health, particularly due to perceived stigma about being autistic. These reflections echo previous reports of the experience of stigma by autistic adults and adolescents (Bachmann et al., 2019; Botha et al., 2022; Brownlow et al., 2021; Mantzalas et al., 2021). Autism stigma has been theoretically linked with camouflaging (Turnock et al., 2022), and identified as a coping strategy for managing stigma by autistic people (Han et al., 2022). Botha and Frost (2018) suggested that autistic people can be viewed as an identity-based minority who are affected by minority stress. The Minority Stress Model (Meyer, 2003) suggests that as an identity-based minority, autistic people are vulnerable to social stigma, rejection, and victimisation, which can impact their health (Botha & Frost, 2018). In keeping with this review, Botha and Frost (2018) found that minority stressors, such as experiences of discrimination, significantly predicted poor mental health in autistic adults.

Social Identity Theory (SIT) (Tajfel & Turner, 1979) has also been used to understand social camouflaging in autism (Pearson & Rose, 2021; Perry, Mandy, Hull & Cage, 2022). SIT suggests members of a stigmatised group may attempt to gain a more positive identity by 'passing' in a group with higher status (Perry et al., 2022). Individuals might attempt to avoid stigma by monitoring how they appear to others (Pearson & Rose, 2021). This is

similar to descriptions of social camouflaging in the reviewed studies, where camouflaging could be considered an attempt to avoid stigma by 'passing' as non-autistic. The current meta-ethnography suggests autistic people's experiences of stigma within the social context directly impacts on their mental health. This impact is in addition to the negative unintended consequences experienced as part of camouflaging.

As the available evidence suggests camouflaging and the mental health of autistic people is influenced by stigma (Botha & Frost, 2018; Pearson & Rose, 2021; Perry et al., 2022), it is important to consider how this may differ for autistic people who experience stigma that is intersectionally related to other identities. This meta-ethnography suggests autistic women experience different social pressures that may influence their camouflaging and the impact it has on them. The reviewed studies did not discuss how stigma from other characteristics such as ethnicity and sexuality may affect autistic people, nor how autism stigma may be moderated by other identities and cultural contexts (Turnock et al., 2022). Some researchers suggest an additive effect of belonging to multiple minorities on mental health, although this is not necessarily observed in the data (Hayes et al., 2011). It remains unclear how belonging to other stigmatised identities may affect autistic people's mental health and use of camouflaging.

### ***Social Anxiety***

Autistic people's descriptions of social camouflaging in the current meta-ethnography bears similarities to cognitive-behavioural models of social anxiety (e.g. Clark and Wells, 1995). Within this model, people with social anxiety have higher self-focussed attention and closely monitor how they imagine they may be perceived. Self-focussed attention is hypothesised to increase the salience of negative self-perceptions (Kashdan & Roberts, 2004), similar to how some autistic people in the reviewed studies appeared sensitised to signs of camouflaging 'failing'. Furthermore, self-focussed attention is hypothesised to make it more difficult to engage with social situations, making it more likely for feared negative responses to occur (Clark & Wells, 1995; Hofmann, 2007). This bears similarities to the

findings from the current meta-ethnography, which show autistic people may find it more difficult to engage in interactions if they use high levels of self-monitoring as part of their camouflaging. It is possible that when autistic people monitor their own behaviour this sensitises them to potential signs of their camouflaging ‘failing’ and makes it difficult to engage with the social interactions. This maintains their perception of the social context as stressful and reinforces the need to camouflage, perpetuating the impact of both the social context and camouflaging on their mental health.

Although there are similarities between autistic people’s monitoring during social camouflaging and the type of self-monitoring theorised to sustain social anxiety, there are also important differences. Autistic people in the present research described closely monitoring the responses of others as well as their own behaviour. Contrastingly, traditional models of social anxiety (Clark & Wells, 1995) propose a lack of attention to others during interactions, meaning the person fails to learn that their social behaviours do not lead to rejection or other feared responses. Autistic people in the current meta-ethnography described using camouflaging because of their experiences of rejection, bullying, and harassment. Autistic children and adolescents are significantly more likely to be bullied than typically developing children and children with learning disabilities, with between 46.3% and 94% of autistic children experiencing bullying (Humphrey & Hebron, 2015). Autistic adults are also more likely to experience bullying than non-autistic adults (Weiss & Fardella, 2018), suggesting that autistic people experience genuinely high levels of rejection. Thus, there may be different mechanisms at play for autistic people, with close monitoring of others’ reactions either making them more aware of genuine rejection or stressed in ambiguous situations that are challenging to interpret.

### ***Clinical implications***

This meta-ethnography suggests social camouflaging is a strategy that autistic people use to cope with a difficult and stressful social context. Some autistic people find camouflaging allows them to cope with the social context, or that the negative consequences

of camouflaging are not as harmful as tolerating the context without camouflaging. For other autistic people, camouflaging has negative unintended consequences that make the context more stressful. This means that camouflaging has a complex mechanistic relationship with mental health, as it may reduce the impact of some factors that affect mental health (e.g. social rejection) while itself negatively impacting mental health via other routes (e.g. feelings of inauthenticity).

Our findings suggest one of the most effective ways to improve the mental health of autistic people would be to improve the societal context. This would involve creating a context where autistic behaviour is accepted and neurotypical social norms are not considered a superior way to make social connections. Some autistic people in the current meta-ethnography described particular contexts where they felt more accepted, such as with close friends or other autistic people. Conceptualising ways to decrease autism stigma, Turnock et al. (2022) argued that stigma may be best reduced by embracing neurodiversity. In this view autism is perceived as a 'difference', part of the wide variation in neural difference in society, rather than a deficit. The social context can also be improved for autistic people by making social spaces more 'autism friendly', including both social (e.g. shared rules of engagement) and environmental (e.g. reduced noise levels) accommodations. These adaptations are hypothesised to reduce autism stigma not only by supporting better integration of autistic people but also by supporting autistic people to be their true selves (Turnock et al., 2022). Clinicians can contribute to these changes by recognising neurodiversity and considering adaptations to clinical environments that support the comfort of autistic people.

Clinicians should be aware of the relative costs and benefits of camouflaging for autistic people in the current societal context. Some autistic people may wish to avoid or reduce their camouflaging because of the unintended consequences they experience, whereas others may feel these are less significant than the impact of not camouflaging. Some autistic people may find it beneficial to reconsider the ways they camouflage, for

example, trying to use strategies that involve a lower level of self-monitoring to attempt to reduce the anxiety they feel whilst camouflaging, or by reflecting on the impact of self-monitoring and attempting to reduce their level of vigilance. A nuanced approach is needed to avoid introducing additional issues, such as a reduction in vigilance leading to more automaticity, which we found could lead to feelings of inauthenticity. Clinicians should work sensitively with autistic people to formulate how camouflaging impacts them. This may allow autistic people to make informed decisions about when, where, and how they camouflage.

### ***Strengths and limitations***

The present meta-ethnography represents a systematic search of the literature on autistic people's experiences of social camouflaging. The meta-ethnography synthesised data from multiple studies involving adolescents and adults to generate a model to describe camouflaging and its impact on mental health. Meta-ethnography is a commonly used and well-established method of qualitative synthesis with multiple guidelines on maximising quality (Dixon-Woods et al., 2007; France et al., 2019; Hannes & Macaitis, 2012; Sattar et al., 2021).

It is important to note the diversity of participants in the reviewed studies. Many studies did not report the ethnicity of their participants, and when this was reported the majority of participants were white. The majority of studies did not collect other demographics such as sexuality, education, and employment. Several studies acknowledged that their participants were of average intelligence or above and did not represent autistic people with learning disabilities. As a result, the present meta-ethnography may not describe the experience of camouflaging for all autistic people. Future qualitative research should explore social camouflaging in autistic people with diverse backgrounds, particularly people with other stigmatised characteristics.

## **Conclusions**

This meta-ethnography systematically identified and synthesised 13 qualitative studies on autistic people's experiences of camouflaging. The findings framed social camouflaging as an attempt to cope with a stressful context where autistic behaviours are stigmatised. Camouflaging had negative unintended consequences for some autistic people, but others felt the negative consequences of camouflaging were not as severe as experiencing the stressful context without camouflaging. This means camouflaging has a complex relationship with mental health, where it may simultaneously reduce the negative impact of some aspects of the social context on mental health and increase the negative impact of other aspects. There were several mechanisms that lead to camouflaging unintentionally causing the context to become more stressful and lead to poor mental health. These mechanisms included superficially successful camouflaging leading to less support, high levels of self-monitoring leading to anxiety, highly cognitively demanding strategies leading to exhaustion, and highly habitual camouflaging leading to feelings of inauthenticity. It is important for clinicians working with autistic people with mental health difficulties to consider the role of camouflaging. Clinicians should sensitively support autistic people to explore their personal costs and benefits of camouflaging in different contexts.

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