Exploring Autistic Adults' Psychosocial Experiences Affecting Beginnings, Continuity, and Change in Camouflaging Over Time: A Qualitative Study in Singapore

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Abstract

Camouflaging (or otherwise referred to as masking or passing) involves hiding one's autistic-related characteristics and differences to get by in social situations in predominantly non-autistic societies. Very little is known to date about the course of camouflaging motivations and strategies over time or the psychosocial factors that may influence autistic people's camouflaging choices and trajectories. In an exploratory qualitative study within an Asian sociocultural context, we interviewed 11 Singaporean autistic adults (9 males, 2 females, aged 22-45 years) about their camouflaging experiences to better understand (i) their camouflaging motivations and strategies over time, and (ii) related psychosocial influences. Organised across four phases (pre-camouflaging, beginnings, continuity, and change over time), 17 themes relating to camouflaging motivations and 8 themes relating to strategies were identified. The earliest camouflaging motivations were predominantly relational, linked to a negative self-identity that had been shaped by adverse social experiences. Camouflaging strategies became increasingly complex and integrated into one's sense of self over time. Our findings highlight the role of psychosocial pressures precipitating camouflaging and emphasise the need for individual and societal changes, including moving towards enhanced acceptance and inclusion to reduce psychosocial pressures on autistic people to camouflage.

Lay Abstract

Over their lifetimes, many autistic people learn to camouflage (hide or mask) their autism-related differences to forge relationships, find work, and live independently in largely non-autistic societies. Autistic adults have described camouflaging as a "lifetime of conditioning…to act normal" involving "years of effort", suggesting that camouflaging develops over an autistic person's lifetime and may start early on, in childhood or adolescence. Yet, we know very little about why and how autistic people start to camouflage, or why and how their camouflaging behaviours continue or change over time. We interviewed 11 Singaporean autistic adults (9 male, 2 female, 22-45 years old) who shared their camouflaging experiences. We found that autistic adults' earliest motivations to camouflage were largely related to the desire to fit in and connect with others. They also camouflaged to avoid difficult social experiences (such as being teased or bullied). Autistic adults shared that their camouflaging behaviours became more complex and that, for some, camouflaging became a part of their self-identity over time. Our findings suggest that society should not pathologise autistic differences, but instead accept and include autistic people, to reduce the pressure on autistic people to hide who they truly are.

Introduction

Autistic people often experience poorer quality of life, lower independence, generally poorer outcomes in adulthood, and are more susceptible to social vulnerability and isolation, including bullying, discrimination, and ostracism, compared with non-autistic people (Howlin & Magiati, 2017; Magiati et al., 2014; Griffiths et al., 2019; Schroeder et al., 2014).

Recent work has suggested that some autistic people learn to cope with challenging social experiences by developing strategies to 'camouflage' (otherwise often referred to as 'masking' or 'passing') their autistic differences or difficulties (Hull et al., 2017). Autistic camouflaging has been broadly described as efforts made by autistic people to hide their autistic characteristics so as to appear "less autistic" and more "socially typical" (Hull et al., 2017; Lai et al., 2011). Camouflaging strategies include *masking* (hiding one's autism-related characteristics, such as controlling or hiding stimming behaviours); *compensation* (which can be "deep" or "shallow" learning of social behaviours to "fill in" the socio-communication gaps between autistic and non-autistic people, such as memorising and performing social "scripts" or studying and copying others' body language); and *assimilation* (strategies used to get by social situations including concealing one's discomfort in social situations, such as avoiding or forcing social interactions with others, putting on an act or "performing" rather than being oneself; Hull et al., 2019; Livingston et al., 2019; 2020).

Although recent research has explored camouflaging experiences, ways to measure, and correlates of, camouflaging (see Cook et al., 2021a for a review), very little is known about when and how the motivations for camouflaging and the behaviours themselves emerge, and how they develop and change over time. In this study, we adopt a retrospective in depth exploration of autistic adults' experiences of the origins of their motivations to camouflage and explore how motivations and behaviours remained the same or changed over time.

Motivations and costs of camouflaging

Research so far suggests that autistic people camouflage to adapt to their predominantly non-autistic social environments for two main reasons: interpersonal/ relational reasons (e.g., to form social relationships; to reduce bullying or rejection; Bargiela et al., 2016; Cage & Troxell-Whitman, 2019; Livingston et al., 2019; Pearson & Rose, 2021); or conventional reasons (to get by in formal contexts, such as work and school; e.g., to communicate ideas to colleagues or classmates, to do well in their studies, or be successful in job interviews; Cage & Troxell-Whitman, 2019; Hull et al., 2017; Livingston & Happé, 2017). These motivations highlight that autistic people camouflage not only because of their own desire for social connection and personal achievement, but also because they are acutely aware of their environment's social demands, and often feel pressured to camouflage to meet these demands, and/ or to avoid the negative repercussions of standing out (Milton, 2012; Sasson et al., 2017).

Despite the potential benefits, camouflaging has been consistently described as stressful (Cage & Troxell-Whitman, 2019), exhausting (Bradley et al., 2021; Cook et al., 2021b; Hull et al., 2017), detrimental to one's self-identity (Leedham et al., 2020), and a potential barrier to timely and accurate autism diagnosis and supports (Bargiela et al., 2016; Begeer et al., 2013; Livingston et al., 2019). In cross-sectional self-report studies, increased camouflaging behaviours are consistently associated with elevated depression, anxiety, or suicidality (Beck et al., 2020; Bernardin, Lewis, et al., 2021; Cassidy et al., 2018, 2020; Hull, Levy, et al., 2021), and with autistic burnout (Higgins et al., 2021; Raymaker et al., 2020). Chronic negative social experiences have also led many autistic people to internalise the stigmatising attitudes of others, holding the belief that they should align their behaviours with the non-autistic environment's demands in order to be accepted by others (Cage & Troxell-Whitman, 2019; Cook et al., 2021b, Perry et al., 2022).

Continuity and Change in Camouflaging Across the Lifespan

While most camouflaging research to date has involved autistic adults, there is increasing qualitative (Bernardin, Mason, et al., 2021; Halsall et al., 2021; Cook et al., 2018; Tierney et al., 2016) and quantitative evidence (Bernardin, Lewis, et al., 2021; Corbett et al., 2021; Hull, Petrides, & Mandy, 2021) suggesting that autistic children as young as seven years old (Dean et al., 2016) and teenagers 13 to 19 years old (Chapman et al., 2022) also engage in camouflaging. Autistic people have described camouflaging as a "lifetime of conditioning, [training] to act normal" (Cage & Troxell-Whitman, 2019) which takes "years of effort" (Leedham et al., 2020), suggesting that camouflaging develops over an autistic person's lifetime.

Regarding camouflaging *motivations*, some autistic adults have reported that gaining social acceptance, facilitating social relationships or avoiding negative social experiences (i.e., "relational" reasons) were more common motivations in childhood and adolescence than in adulthood (Hull et al., 2017; Bernardin, Lewis, et al., 2021; Cage & Troxell-Whitman, 2019), whereas camouflaging for "conventional" reasons (to serve mostly functional purposes and day-to-day interactions at work or in education) was reportedly more common in adulthood than in childhood (Bargiela et al., 2016; Cage & Troxell-Whitman, 2019; Hull et al., 2017). These findings suggest possible changes in camouflaging motivations over time.

In terms of camouflaging strategies, little is known about continuity and change over time. Late-diagnosed autistic women have recounted being passive and compliant in their primary school years to hide their differences (Bargiela et al., 2016), and school-aged autistic girls have been observed to play in close proximity to peers but not consistently in active engagement with them (Dean et al., 2016), suggesting early camouflaging strategies. In autistic adults, various camouflaging strategies have been described (such as scripting, imitating neurotypical communication, minimising body movements or stimming; for more examples, see Hull et al, 2019; Livingston et al., 2020; Cook et al., 2022). Yet, very little is known about what

drives the emergence and development of different camouflaging behaviours over time. To our knowledge, no study to date has specifically explored the beginnings and trajectories of autistic camouflaging or its associated psychosocial factors.

Finally, contextual factors such as the quality of friendships and the perception of social norms and stereotypes have been associated with engaging in camouflaging behaviours (Perry et al. 2022) and it is likely that sociocultural contextual experiences may influence the reasons and ways in which people camouflage (van der Putten et al., 2023). Yet, to our knowledge, most, if not all, research on camouflaging in autistic individuals to date has been carried out within Western countries (e.g., Cook et al., 2021b; Hull et al. 2017; Livingston et al., 2019; van der Putten et al., 2023), which are often characterised as lower context (valuing individualism, independence, personal responsibility and freedom). This is in contrast to higher context cultures, such as Asian cultures, that typically endorse group harmony, cohesion or similarity (Hofstede, 2001; Markus & Kitayama, 1991; Vignoles et al., 2016).

To the best of our knowledge, no study has yet examined camouflaging motivations and behaviours in individuals from higher context and more collectivist cultures, where it is possible that autistic individuals may experience stronger external demands to camouflage in order to get by interpersonally, attain formal achievement or reduce negative social experiences. There have been numerous calls to reduce social pressures that appear to drive camouflaging, such as through increased education about autism or stigma reduction programmes (e.g., Cook et al., 2021b; Jedrzejewska & Dewey, 2021; Perry et al., 2022). Therefore, examining camouflaging motivations and behaviours in autistic people living in different sociocultural environments can also shed more light on the spectrum of motivations, strategies and impact of camouflaging across different geographical and sociocultural contexts.

The Present Study

In this study, we explored the emergence and developmental trajectories of camouflaging motivations and strategies over time through qualitative interviews with Singaporean autistic adults.

Exploring camouflaging developmentally and drawing from a dynamic biopsychosocial framework (Lehman et al., 2017) may help us better understand (i) the psychological, developmental, and/or social factors implicated in camouflaging; and (ii) specific periods or social contexts in which autistic people may be more or less likely to experience pressures to camouflage. Such knowledge could in turn help reduce the societal pressure on autistic people to camouflage, and/or alleviate the costs of camouflaging to their mental wellbeing.

We investigated the following research questions:

(1)   What are autistic adults' earliest recollections of the emergence of their camouflaging behaviours? What individual psychological and sociocultural experiences motivated them to start camouflaging?

(2)   In what ways do autistic adults' camouflaging behaviours and motivations remain stable or change over time? More specifically, what individual psychological or sociocultural experiences influenced continuity and change in their camouflaging motivations and strategies over time?

Further, whilst the present study did not directly investigate sociocultural effects on camouflaging, we explored our research questions from the perspective of Singaporean autistic adults within an Asian sociocultural context. As almost all existing camouflaging studies published to date have been conducted in the UK, US, or Australia, the themes identified may also provide insights into the potential influences of the broader sociocultural environment on camouflaging.

Method

Participants & Recruitment

Through purposive sampling aiming to invite autistic adults who camouflage to participate in this study, participants were recruited via personal and professional contacts of the study investigators, social media, support groups for autistic adults in Singapore, and via an existing research database. Interested participants first completed an online pre-screening set of questions to ensure that they (i) reported currently or previously engaging in camouflaging behaviours; (ii) were 21+ years[1] and (iii) reported a formal autism diagnosis by a qualified professional. Individuals with inadequate capacity to provide informed consent, who were non-English speakers, or who reported experiencing acute mental health difficulties currently or within the last six months[2] were not included. Eleven autistic adults, all of whom were Singaporean citizens who had lived in Singapore for most of their lives, participated (see Table 1 for their demographic characteristics).

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[1] The age when a person is legally considered an adult in Singapore, where this study took place, by common law is 21 years old.

[2] This was because the student interviewers (first and second authors) were not trained/ qualified to manage possible high-risk information being shared. Only two autistic adults who expressed interest in the study were excluded for this reason, and appropriate support service contacts were provided to them.

Table 1

Participants' Characteristics (N = 11)[a]

	N or Mean (SD) [Range]
Gender	
Male	9
Female	2
Ethnicity[b]	
Chinese	10
Malay	1
Age (years)	30.3 (7.2) [22-45]
Age at diagnosis (years)	18.5 (11) [3-44]
	9/11 diagnosed in adolescence or adulthood
Autism diagnosis	
Autism	3
Asperger's	6
Autism Spectrum Disorder and Asperger's[c]	2
Highest education level	
Apprenticeship/College/Diploma	5
Undergraduate	5
Postgraduate	1
Employment status	
Student	4
Unemployed	1
Full-time employment	6
AQ-Short Total	80.3 (11.2) [69-97]
CAT-Q Total	102.9 (11.2) [81-116]

[a] Sample demographics are provided at a group level to maintain the confidentiality of participants, in the context of a relatively small Autism community in Singapore; [b] Singapore is a multi-ethnic society comprising four main racial groups: Chinese (76%), Malay (15%), Indian (7%), and Others (1.5%; https://www.strategygroup.gov.sg/files/media-centre/publications/population-in-brief-2020.pdf); [c] Participants could select as many diagnoses as applied to them. Two participants indicated ASD in addition to Asperger's Syndrome; [d] AQ-Short = Autism-Spectrum Quotient (Short Form; Hoekstra et al., 2011); CAT-Q = Camouflaging of Autistic Traits Questionnaire (Hull et al., 2019).

Materials and Measures

Self-Reported Autistic Traits and Camouflaging Measures

Just prior to the start of the interview, participants completed the 28-item *Autism-Spectrum Quotient Short* (AQ-Short; Hoekstra et al., 2011; range 28-112; higher scores = more autistic traits). A score > 65 has a sensitivity of .97 and a specificity of .82 in differentiating autistic from non-autistic people (Hoekstra et al., 2011). All autistic adults scored > 65 in this study (see Table 1). They also completed the Camouflaging Autistic Traits-Questionnaire (CAT-Q; Hull et al., 2019) to ensure that they engaged in at least some camouflaging behaviours. Rated on a 7-point Likert scale, the CAT-Q comprises 25 items (range 25-175; higher scores= more camouflaging). The CAT-Q has excellent internal consistency (α = .94) and good test-retest reliability in an autistic sample (r = .77; Hull et al., 2019).

Interview Guide

In developing the interview guide, we first reviewed the existing camouflaging qualitative research to explore aspects of autistic people's camouflaging experiences related to beginnings, continuity, and change over time. Next, BL, TT, IM and DJL co-developed an initial interview guide draft which was subsequently reviewed by the other authors.

The interview guide was organised into two parts: 1) participants' earliest recollections of camouflaging motivations and strategies; and 2) participants' reflections on their camouflaging trajectories, specifically how their camouflaging has changed or not over time and across different social contexts. Each part contained a broad opening question, followed by prompting questions used flexibly to obtain further details as necessary (see Appendix for the interview guide; for a full copy, please contact the corresponding author).

Procedure

This study obtained ethical approval from the {blind for review} (Ref. Number S-19-363).

Prior to the interview, all participants received a summary of the main interview questions and were asked if they required any accommodations (e.g., interview room lighting). On the day of the interview, participants first gave informed consent and completed the two self-report questionnaires. Interviews were then conducted in a quiet private room in a psychology clinic by BL and TT, overseen by IM. Breaks were offered whenever needed. Interviews lasted 60-90 minutes. Participants received $30SGD (Singapore dollars) for their participation and up to $20SGD for transportation costs.

Analytic Approach

Underpinned by a phenomenological approach, the interviews were coded within a framework analytical approach (Ritchie & Spencer, 1994; Ritchie et al., 2013), which incorporates reflexive thematic analysis (Braun & Clarke, 2021) with a structured coding system, thus enabling both an inductive and a deductive approach.

Our study aimed to explore participants' experiences of camouflaging motivations and strategies, and this focus guided the analyses through applying some *a priori* structure (motivations and strategies domains). As we also aimed to explore participants' development, continuity and/ or change in camouflaging over time, we organised data analysis a priori in relation to four within-individual developmental phases of camouflaging: pre-camouflaging, beginnings, continuity, and change. Within this broad deductive structure, transcripts were then analysed using an inductive process, where codes, clusters and categories/ themes were generated from the data, rather than grounded in any specific theory. Some pre-specified terms from the literature were used (i.e., masking, compensation, and assimilation), when the themes were consistent with these terms' definitions.

We followed procedures for framework analysis consistent with those outlined in Ritchie & Spencer (1994). All 11 interviews were audio-recorded and transcribed verbatim. Coding was primarily conducted by BL (at the time, a Masters Psychology student) and TT (at the time, an undergraduate Psychology Honours student) with extensive guidance and input from the senior author, who has prior experience in qualitative research. First, BL and TT familiarised themselves with the data through listening to the audio files and transcribing the interview recordings. Then, initial codes were generated for the first five interview transcripts and entered in an Excel spreadsheet codebook, which formed our working analytical framework. Several iterations occurred, with data extracts and corresponding initial codes discussed extensively between BL and TT, then reviewed and discussed with IM. We then summarised the initial codes into categories/ initial themes within the two domains (motivations/ strategies) and four developmental phases of our a priori framework structure, reorganising and classifying together similar data. These themes were provisionally finalised following discussions and reviewing by the first two authors, senior author and autistic consultant. These were then applied to the remaining interview transcripts in the second coding cycle, again independently coded by BL and TT and discussed extensively with IM until consensus was reached. Themes were reviewed and refined in a recursive process and any further themes derived from the remaining manuscripts were integrated into the coding scheme. Before finalising and summarizing the data by theme/ category, another consultation took place with DJL to ensure relevance, accuracy, and clarity.

We acknowledge our positionalities in the research analytical process. All researchers are non-autistic, except DJL who is an autistic researcher, advocate and multi-artist. All authors have training and/ or background in psychology, with some providing clinical assessment or support services to autistic people. Six authors, including our autistic consultant, are Singaporean and the senior author is a European expat who lived and worked in Singapore's

largest national university for 11 years, while the remaining three authors are UK based researchers. Five authors were Honours, Masters or PhD students during the time when this study was completed, and the research team comprises early, mid and senior-career autism researchers, some of whom are employed in academic teaching and/ or research roles. All authors have specific interests in and passion for work that can improve the wellbeing of autistic people, and mental health in particular, and all authors align with the social model of disability and take a neurodiversity affirming perspective in their work.

Community Involvement

The interview guide was developed in partnership and consultation with DJL, who met with the first and senior authors several times throughout the project. Initially, DJL shared her camouflaging experiences and understanding of other autistic adults' shared experiences and provided her views and input on the ethical appropriateness, relevance, and clarity of the interview guide as it was being developed. She also provided her experiences, opinions and input on the initial and revised codes derived which guided the revisions, finalisation and interpretation of the themes. As a co-author, she reviewed all manuscript drafts including the final manuscript and affirmed that the final submitted manuscript is consistent with her input and relevant to her camouflaging experiences.

Results

Themes

Deductive analysis involved exploring camouflaging and motivations of camouflaging across the four pre-determined camouflaging phases (pre-camouflaging, beginnings of camouflaging, continuity in camouflaging, and changes in camouflaging over time). Through inductive analysis within these levels, 25 themes were identified, which are summarised visually in Figure 1.

Figure 1

Themes in Relation to Beginnings, Continuity and Change in Camouflaging Motivations and Strategies Over Time
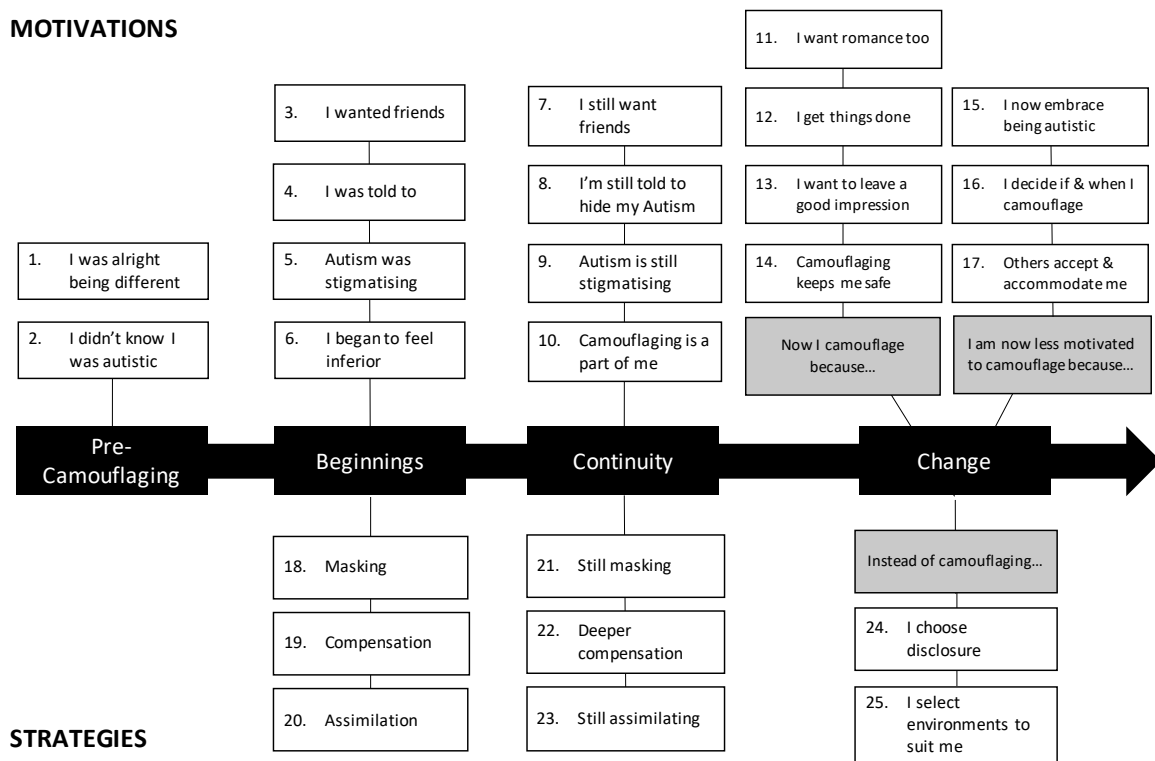
Note. Themes are presented in white rectangles. Themes relating to camouflaging motivations are presented above the dense arrow, while themes relating to camouflaging strategies are presented below the dense arrow.

Motivations

Pre-Camouflaging

1. I Was Alright Being Different. Most participants (*n* = 9) recalled a phase in their childhoods, mostly their preschool or early primary school years, when they were "alright being different". While many could recall feeling that they were in some ways different from others, most reported that they did not find their social differences impairing or concerning – "I didn't see the lack of interaction as a downside" [P02]. Others expressed a liking for being left to their passions and interests; that they "just weren't bothered at all" [P06].

Some participants also recalled viewing their differences positively, expressing a distaste for what their peers were interested in, and for the expectations that were placed on them to be like others. One participant explained, "I don't like being normal, doing what everyone else is doing. That's boring. So sometimes I purposely did something different, I liked that" [P09].

2. I Didn't Know I Was Autistic. All but two participants were diagnosed in adolescence or adulthood. Many reported that their parents were unaware of their autism or autism in general. For some, their intense interests were interpreted as a sign of exceptional intellect in their childhood. A late-diagnosed participant recounted: "When I was in kindergarten, my parents kind of thought that I was going to be some genius kid because I was so far ahead. [...] they saw my special interest as just another thing that maybe smart kids are interested in" [P01]. Labels such as "bookworm" or "nerd" [P04] were neutral or sometimes positively perceived and did not place pressure on our participants to change the way they were.

Beginnings

3. I Wanted Friends. Most participants ($n = 7$) expressed that a desire to fit in with others and develop friendships played a role in precipitating their earliest attempts to camouflage.

"I wanted to join them and I wanted to be accepted. I wanted to belong." [P03]

Seven participants reported one of their earliest motivations to camouflage was to avoid being ostracised by classmates and many recounted how they were frequently teased or bullied, often for behaving "autistically". Camouflaging helped "stop the bullying and at least have some friends so [they] wouldn't feel so depressed" [P03].

4. I Was Told To. More than half of our autistic participants recalled being pressured to camouflage because adult figures in their lives (e.g., parents, teachers, therapists) told them "to be more like others" [P01] and "don't embarrass me" [P03].

5. Autism Was Stigmatising. One participant [P03] described how his family would try to "normalise" him, attributing it to the "Asian culture of [saving] face" (i.e., avoidance of being humiliated or disgraced). Another suggested that "even today, people think that autism is like an attitude problem" [P06]. There was often a lack of understanding surrounding autism, and frequent collective negative attitudes about autistic people motivated them to camouflage.

6. I Began To Feel Inferior. While some labels, usually in preschool or early primary school were neutral or somewhat positive, participants reported increasingly feeling like they were "abnormal", "stupid" or "wrong" , which prompted them to try to "fix" things through camouflaging.

"Not to pass off as stupid, I just laughed along, like smile, laugh along, as if I understood what they're saying, but actually I didn't understand anything they were saying." [P03]

There was also a motivation to camouflage to stay out of people's attention and not stand out. They would "try not to be noticed" [P02] and attempted to behave in ways that would reduce ridicule or punishment. One participant diagnosed in childhood recalled that "the foundations of my camouflaging was that I didn't want people to know [I was autistic]" [P11].

Continuity In Camouflaging Motivations Over Time

7. **I Still Want Friends.** Camouflaging for social connections continued to be a motivation in adulthood. Even amongst those who reported having friends, some also described camouflaging at times, so that "[their] friends' lives become easier", because "if I [the autistic person] rely on others to accommodate [me] too much, they [non-autistic friends] will start to move away. It's not their fault also, everyone has limited energy" [P08].

8. I'm Still Told To Hide My Autism. For a handful of participants, their families continued to remind them of "socially appropriate" behaviours when they were behaving "socially inappropriately, especially before social events" [P03].

9. Autism Is Still Stigmatising. Most participants described the continuing persistent stigma attached to being autistic. One participant explained the strong emphasis on conformity in Singapore's culture as compared to their experience in the UK:

"People here [in Singapore] are more judgemental and more prejudiced. If we do not really behave in a way that's the norm, people immediately call you out on that. In the UK, they don't really care what you do, as long as you mind your manners." [P01]

10. Camouflaging Has Become A Part Of Me Now. Camouflaging became more automatic for many participants ($n = 7$). One likened this process to "learning how to ride a bike, like procedural memory" [P08]. Another explained that camouflaging had become so ingrained that it was difficult to stop, despite feeling positive about being autistic.

"I became overly positive of autism, to the extent that it became like, what I call, Asperger's Supremacy. [...] On one hand, I was thinking autism is superior but on the other hand, the old habits {referring to camouflaging} continued to carry through without being questioned" [P10]

Changes In Motivations To Camouflage Over Time: Now I Camouflage Because…

11. I Want Romance Too. Three participants reported a desire for romantic connection as a camouflaging motivation, and all three camouflaged within their romantic relationships, which was especially exhausting. They "enjoyed being in the company of [their partners], but at the same time [they were] also drained" [P01].

12. It Just Makes My Life 'Easier', I Get Things Done. Adopting a pragmatic and seemingly resigned view of why they now camouflage in their adult years, more than half of

our participants explained that "it's just easier for one person to try and adapt instead of waiting for society to adapt to you" [P05]. Many commonly felt the need to camouflage for practical/ functional purposes, as more formal demands in college/ university or work emerged, especially when working in teams. For some, being their autistic selves led to more conflict, while autism disclosure led to pressures to repeatedly explain autism and its nuances to others.

"I cannot be explaining what autism is to every single person I meet, right? I have more productive things to do. So then, what I do is still make the decision to camouflage." [P08]

13. I Want To Leave A Good Impression. Our participants strived to make good first impressions and build a good reputation, particularly in new social settings. One participant shared that "the biggest reason why [they] camouflage" is that "over time [they] get more accepted by the general large community" and that they consider this a "victory" won [P02].

"Junior college was supposed to be a new start for me [...] Basically I was trying to make myself give off a positive, or at least a neutral impression, so that I don't come off as annoying at the start." [P06]

14. Camouflaging Keeps Me Safe. Two participants mentioned that, as adults, camouflaging served to reduce their vulnerability in interpersonal situations and even prevent unwelcome sexual advances at times. For example, one participant said that they camouflaged because they realised that "when others realise you take things at face value, they take advantage of you" [P06].

Changes In Motivations To Camouflage: I Am Now Less Motivated To Camouflage Because...

15. I Now Embrace Being Autistic. Participants also shared an increased comfort with being different and a reduced desire to camouflage over time. For example, one participant shared that "society, our family shouldn't expect us to hide, and people should just allow us to

be ourselves" [P03]. They also noted that "this attitude" of being "proud to be autistic" strengthened after "connecting with other autistics" in adulthood [P03]. Another adult noted that "receiving my autism diagnosis was definitely the first step towards accepting myself as I am" [P05]. Accepting their autistic identity also included an affirmation of the unique and individual strengths of autism. Rather than "always being worried about hiding" [P11] their social communication differences and difficulties, some participants described gradually choosing to invest time and energy into honing some of their autistic strengths.

16. I Decide If And When I Camouflage. Some participants ($n = 4$) reflected on developing increased autonomy over whether or not, when, with whom, and how they camouflage over time. One described having "learnt different ways to camouflage and then decided which [they] wanted to use" [P09]. After years of camouflaging, some "decided that [they] didn't want to do it anymore" [P03; P05]. Some talked about integrating disclosure alongside their camouflaging strategies, choosing to disclose in some situations with particular groups of people, but also not disclosing and instead camouflaging in other contexts.

17. Others Accept And Accommodate My Needs. Most participants ($n = 10$) mentioned that over time they found others who were "not just accepting, but appreciated the things that come with being autistic", such as being "very logical and less emotionally charged" [P09], which led to less camouflaging with these friends.

Camouflaging Strategies

Beginnings: Earliest Camouflaging Strategies

18.   Masking Was The Earliest Camouflaging Strategy. Most participants ($n = 7$) described masking (Hull et al., 2017) as their earliest strategy to camouflage their differences, which involved initially simple strategies, such as inhibiting talking about their passions, making stimming behaviours less visible to others, and, most commonly, purposefully regulating their eye contact, which "was one of the first things that [they] learnt" [P09]

"[I would] blend in subtly so no one would notice me, like putting a very big metal sheet in front of me" [P11].

19. **Compensation.** Participants described several compensatory strategies, such as showing exaggerated interest in social interactions or copying others' mannerisms. One participant hoped "that reading the newspaper will at least give [him] some topics to talk about", which he used to strike up conversations in school [P03]. The earlier compensatory strategies described tended to be less flexible (akin to 'shallow' compensation as described by Livingston and Happé, 2017).

20. **Assimilation Through Escape/ Avoidance.** Most often in a school context, just under half of the participants (*n* = 5) removed themselves from and avoided difficult social situations to hide their discomfort or distress and appear to fit in:

"I just took a lot of offs [days off - sick leave] *from school. But I'm just pretending. Because I was just too tired of trying to do this day in, day out. Trying to face people day in, day out."* [P06].

Continuity in Use Of Camouflaging Strategies Over Time

21. **Still Masking.** Several participants described continuing to mask regularly, such as by inhibiting stimming behaviours or making efforts to speak less extensively about their interests.

22. **Deeper Compensation.** Some of our participants described their compensatory strategies becoming more complex, less effortful, and more flexible over time, akin to 'deep' compensation (Livingston & Happé, 2017). About a third of our participants explicitly talked about using a deliberate combination of various sources of information (e.g., logic, tone of voice) and their autistic strengths (i.e., noticing patterns),"like a formula" [P09], to develop and employ 'deeper' alternative ways to process social situations.

"When social interaction comes I will always try to see how the person talks and behaves. Their thinking process also. I dive right deep into that. [...] And react to it accordingly. I have developed this over time because I like to process a lot. How can I avoid this in the future? Is it something that I have done, or something about me that they are just picking out? So that allowed me to evaluate people more, how they behave, and react accordingly." [P11]

23.   **Still Using Assimilation.** Some of our participants described continuing to use escape or avoidance as a way to conceal and manage their discomfort in social situations, for example "going to the toilet and just staying inside for 15-20 minutes to recharge" [P01]. Another participant described adjusting personas to suit various contexts – he was "flamboyant" and outgoing with close friends but assumed another personality with acquaintances, "a more aloof kind of persona so they don't push themselves too much on you", hence avoiding the discomfort of unwelcome social interaction [P04].

Change In Use Of Camouflaging And Other Strategies Over Time: Instead Of Camouflaging…

24.   **I Sometimes Choose Disclosure.** Five participants talked about now opting for disclosure instead of camouflaging, and they all shared positive impacts of doing so. One participant [P04] disclosed being autistic at job interviews so that he would not "have to worry about everything", explained his need for support, such as "[needing] to set up some sort of structure for collaborative work and make sure everyone sticks to the structure", and found that "the interviews actually went okay". Another participant worried about letting classmates know of their diagnosis, but shared their surprise in the following quote:

"I am so glad that my psychologist encouraged me to tell the class I was autistic because they went out of their way to include me in everything. [...] They were very

patient, to the point where I jokingly called them my "fellowship"… they were literally a

case of "safe space" [P07].

25. **I Now Select Environments To Suit My Needs.** Many participants described needing to mask less because they now more carefully selected social environments to play to their strengths and better suit their needs. For example, one participant said "a research job is probably one of the few places you can wear more casual clothes", which suited their sensory needs [P05], while another "negotiated with [their] boss not to get [them] to front too many customers" [P10].

Discussion

This study explored the beginnings, continuity, and change in camouflaging motivations and strategies through qualitative interviews with 11 autistic adults, deriving several themes and subthemes of emerging trajectories of continuity and change in camouflaging over time.

Beginnings: The Emergence of Early Camouflaging Motivations

During their earlier schooling years, most participants described not feeling a need to camouflage. Some participants were unaware of their differences, preferred to spend time alone, or were not pressured by others to adjust their behaviours, as their social differences were perceived as personality differences or a sign of intelligence.

In contrast to their earlier comfort with being different, many participants began camouflaging in their later primary or secondary school years, because they now felt inferior to their peers, often as a consequence of negative social experiences. Such experiences have been reported by autistic people in previous studies (e.g., Cappadocia et al., 2012; Griffiths et al., 2019). Drawing from a biopsychosocial framework (see Bolton & Gillett, 2019; Engel, 1977), this social pathologising of autistic differences negatively impacts the construction of autistic people's self-identity (Humphrey & Lewis, 2008; Zahavi, 2010; Huang et al., 2017), signalling to autistic young people that their differences are a negative aspect of their identity, with

camouflaging emerging as a "remedy" to hide these differences. Camouflaging can be conceptualised as a stigma-management strategy involving the concealment of one's autistic identity in response to autism-related stigma (Botha et al., 2020; Cage & Troxell-Whitman, 2019; Pearson & Rose, 2021; Perry et al., 2022).

Evolving Camouflaging Strategies Over Time

Camouflaging Became More Complex and "Deeper" Over Time

Our participants told us that masking, compensation, and assimilation were their earliest camouflaging strategies, with masking being the most common; these strategies continued but also evolved over time, becoming "deeper" and more complex. Some autistic adults learnt to use their autistic strengths (e.g., excellent recall) to make sense of new social situations and to create social rules and systems to adjust their autistic behaviours. This process was viewed positively by some participants, as developing more "sophisticated" and flexible camouflaging strategies was often coupled with an increased sense of "success" and ease of camouflaging.

Autistic adults in Schneid and Raz (2020) also considered that "deeper" camouflaging - seeking and understanding the meaning of social interactions - was better than shallow imitation (e.g., laughing when others laugh without understanding why) which to them represented a coerced way of socially blending. Our findings are consistent with those of Schneid and Raz and suggest that utilising autistic strengths may facilitate deeper compensation strategies which could be useful. It is also possible that deeper compensation may become less taxing and potentially less linked to autistic burnout and poor mental wellbeing (as also speculated by Livingston and Happé, 2017), although this hypothesis needs to be empirically investigated.

Camouflaging Became More "Integrated" to Autistic Self-Identity Over Time

Several participants described that camouflaging became more "natural", "automatic", and better integrated into their autistic self-identity over time, consistent with others' qualitative findings (Bradley et al., 2021; Cage & Troxell-Whitman, 2019; Cook et al., 2021b; Miller et al.,

2021). They viewed this as an adaptive change from their earlier more pressurising and taxing camouflaging efforts. More integrated camouflaging involved "just being a natural me in a way that fits with other people, but without losing my true self… something that neurotypicals attain at a very early age", as P13 described. This description of camouflaging shares a striking similarity to impression management by non-autistic people, which involves adjusting self-presentations in different social contexts, but without compromising one's core sense of self, a view also expressed by other autistic adults (Schneid & Raz, 2020). However, empirical investigations exploring overlaps and differences between camouflaging and impression management are currently lacking (but see Ai et al., 2022 for a discussion of this from a theoretical perspective).

At the same time, some autistic adults may not experience automatisation of camouflaging and may instead find it a continuing struggle to "successfully" camouflage (Cook et al., 2021b; Livingston et al., 2019). Camouflaging may even become increasingly difficult with age (Miller et al., 2021), and some autistic individuals may have a reduced capacity to camouflage due to autistic burnout (Higgins et al., 2021; Raymaker et al., 2020). Integrating the above studies' findings with our own, there are large variations in autistic adults' camouflaging experiences and beliefs about camouflaging, and such variation may relate to the extent to which one engages in camouflaging, the type of camouflaging (e.g., superficial social behaviours, hiding fundamental aspects of oneself), or the outcome (e.g., degree of "success") of camouflaging attempts.

Camouflaging Reduced Over Time

Lastly, a key change in adulthood for some participants was a shift towards choosing autism diagnosis disclosure over camouflaging. Hull and colleagues (2019) also reported a negative association between age and CAT-Q scores, and Livingston et al., 2019 found that a subgroup of autistic people reported using fewer compensatory strategies over time. Reduced camouflaging over time may also be related to autistic adults more actively seeking out

environments that suit them better (akin to accommodation described by Livingston et al. (2020)) and communicating their differences, strengths, and needs to others, thereby paving the way for better acceptance of autism as a different identity, without stigma (Schneid and Raz, 2020).

Several participants described that this change was linked to a shift towards embracing autism as diversity not deficit, greater self-compassion, and re-evaluating others' standards of social "normalcy". This is consistent with Cage and Troxell-Whitman's (2020) finding that a stronger autistic identity was linked to greater autism disclosure, which in turn was associated with reduced camouflaging. Obtaining an autism diagnosis in later life, which for many of our participants marked the beginning of understanding and accepting their differences and identifying their autistic strengths and their social "tribe" (see also Cribb et al., 2019), was also helpful. This aligns with the process of identity-building described by late-diagnosed autistic women (Bargiela et al., 2016; Leedham et al., 2020). Furthermore, all our participants who had disclosed being autistic generally reported obtaining accommodations and support at school or work, and increased peer understanding of their differences. This fits with findings from Sasson and Morrison (2019)'s study that non-autistic people's first impressions of autistic adults improved with diagnostic disclosure and with increased autism knowledge. Overall, our findings echo and extend recent qualitative studies suggesting that reducing camouflaging over time stems from a process of self-acceptance (aided by an autism diagnosis for some) and other-acceptance (Bradley et al., 2021; Cook et al., 2021b).

Finally, we found it worth noting that several of our participants (all of whom were Asian and had lived in Singapore for most of their lives; 10 of 11 were Singaporean Chinese, the majority racial group in Singapore; and one was Malay Singaporean) described camouflaging as a skill to "improve", with some expressing satisfaction or pride when their camouflaging behaviours became more "natural", "automatic" and "a part of [them]". While the broader sociocultural context may have contributed to some of our participants viewing

camouflaging behaviours as adaptive and necessary, it is also possible that sociocultural pressures have bred, to some extent, shame and internalised ableism for some (Silverman, 2019; Hwang et al., 2008) - that participants may have internalised believing that social acceptance is possible only for autistic people who are able to conform to the non-autistic society. According to Hofstede's (2011) Model of Cultural Dimensions, this may be because the Singaporean society subscribes more to being a largely collectivist culture, where belonging to an in-group, social conformity, maintaining group harmony and interdependence are highly valued (Hofstede, 2001; Markus & Kitayama, 1991; Triandis, 1989; Vignoles et al., 2016). As camouflaging is primarily a socially motivated behaviour, exploring broader sociocultural influences in camouflaging motivations and behaviours will be a worthwhile future research endeavour.

Limitations

All of our participants were formally diagnosed, most identified as male, were Chinese Singaporeans (the majority, but not only, ethnic group in multi-ethnic and multi-cultural Singapore) and were educated at tertiary level and/ or employed. While many autistic adults often experience high rates of mental health difficulties (Hollocks et al., 2019; Cassidy et al., 2018), individuals who reported significant acute emotional distress or thoughts of harming themselves or others currently or in the past six months were not included in this study.

Most of our participants were diagnosed in adulthood, and it is possible that individuals who knew their autism diagnosis at a younger age may have had different social experiences and motivations in relation to camouflaging, and/ or may have experienced camouflaging differently compared to those who did not know their autism diagnosis in childhood, although to our knowledge no research has yet explored this. These sample characteristics may need to be considered as individuals from other backgrounds and with other demographics or characteristics may have different experiences. Future camouflaging research should include autistic individuals with other diverse gender identities, social and emotional experiences to

shed further light on motivations, continuity and change of camouflaging over time and across individuals. Additionally, given a number of studies documenting differences in camouflaging behaviours between males and females (Cook et al., 2021a; Corbett et al., 2021; Dean et al., 2017; Wood-Downie et al., 2021), it would be worthwhile comparing differences in camouflaging trajectories and sociocultural influences with a larger female sample in the future.

At times, our participants found it difficult to clearly recall the details of the underlying personal characteristics or processes involved in change in camouflaging motivations or strategies. Future research will benefit from qualitative interviews within prospective follow-up designs. Our interview methodology was able to tap on what autistic adults thought about their camouflaging efforts, but less conscious camouflaging (e.g., unconscious social mimicry) would not be reported. Discrepancy approaches (comparing social behaviour and underlying socio-cognitive processing) have been suggested as an alternative method (e.g., Livingston et al, 2019). Finally, we did not member-check our data or results for accuracy and resonance by returning these back to the participants for their comments, if any; however, we did discuss the data on multiple occasions for relevance and resonance with our autistic consultant.

Lastly, recruiting participants who were willing to disclose private information about their lives was a challenge despite efforts to advertise the study widely across the adult autistic population in Singapore. As a result, the sample size was achieved by the maximum number of participants who had responded to our advertisements during the recruitment phase rather than by a priori guidelines such as saturation (Guest et al., 2006). Limited accessibility to the research population is often highlighted as a factor limiting the sample size of qualitative studies (Mocanasu, 2020). It might be that the adult autistic population in Singapore is hidden and hard to access. Some evidence supporting this hypothesis is the observation that there are no qualitative studies (to the best of the researchers' knowledge) in Singapore that have successfully recruited large samples of autistic individuals for their study (e.g., Han et al. (2021) recruited 5 autistic adults; Poon et al. (2014) recruited 4 autistic youths; McConachie et al.

(2020) recruited 11 autistic adults). Nonetheless, information from a small sample may still provide valuable insight and knowledge, especially for a largely inaccessible research population (Adler & Adler, 2012).

Implications and Recommendations for Clinical Practice and Social Change

Our results extend previous research (e.g., Cage & Troxell-Whitman, 2020) by showing that building a strong autistic identity may reduce autistic people's pressure to camouflage and may increase their sense of autonomy over whether, when, with whom, and for which purposes they engage in camouflaging. It would therefore be important to more systematically investigate positive autistic identity and the extent to which this may buffer from the negative impacts of camouflaging. Focusing on navigating a new autistic identity, building authentic relationships, and engaging constructively with the autistic community towards acceptance, understanding and belonging may facilitate a more positive self-identity and strengthen autism self-acceptance (Cage et al., 2018; Crane et al., 2021), reducing the pressure to camouflage and potentially protecting against autistic burnout while improving overall wellbeing.

People living with concealable stigmatised identities sometimes still express a preference to continue hiding their identity to secure acceptance despite it reducing feelings of authenticity and belonging (Davidson & Henderson, 2010; Newheiser & Barreto, 2014). This captures the dissonance and dilemma that autistic people may face when "choosing" between camouflaging and disclosure. Autistic people could be aided to identify and select individuals and communities who would accept and support them, which could reduce the commonly felt fear of disclosure (Huws & Jones, 2008; Johnson & Joshi, 2014). This could involve facilitating relationships with autistic peers and the wider autistic community, as many autistic individuals report being more comfortable and authentic around other autistic people (Crane et al., 2021; Crompton et al., 2020; 2022). Psychosocial supports and services could also focus on supporting autistic people to strategically, yet confidently, present themselves as autistic to others, rather than focusing merely on skills-based interventions (e.g., social skills training) as

many interventions currently do (Kandalaft et al., 2013; Nuernberger et al., 2013). In this way, it may be possible to use both disclosure and camouflaging strategies as impression management at different times to "get things done" and form connections, while retaining a strong (autistic) self-identity.

We hope that this study will prompt future age cohort comparisons and prospective longitudinal research on how social camouflaging starts, continues, and changes over time across sociocultural contexts. Such work can inform psychosocial efforts directed towards alleviating the pressures on autistic individuals to camouflage. These efforts can focus on reducing autism stigma and encouraging acceptance and accommodation of autistic people's needs in their families, school, work and community settings; as well as strengthening autistic self-identity in psychological work with autistic people.

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Appendix: Interview Guide

> **PART 1: Origins/ earliest memories/ experiences of camouflaging**

Opening question

> **Tell us about your earliest memories of you camouflaging.**
>
> This could be your first earliest memories of camouflaging, if you already knew you were doing something like camouflaging at the time, OR, it could be memories or experiences relating to camouflaging that you now realise looking back (with hindsight) were your first attempts to camouflage, even if you didn't know that was what you were doing at the time or if you called it something else at the time.

a) Further prompts (if and as needed) to obtain richer, deeper, more detailed lived in **experiences and memories** (e.g., where were you? what aspects of your autism did you try to hide? how did you camouflage your autistic behaviours at the time? etc.)

b) Further Prompts (if and as needed) to elicit richer **thoughts and beliefs** at that time (i.e., at that point in time and looking back, what do you think were the *reasons* why you started masking /camouflaging? Was camouflaging something you felt you had to/ *needed* to do, or something you *wanted* to do? What makes you think so? Looking back, were you *consciously* thinking that you needed to camouflage or did you do so without knowing at the time that that was what you were doing? Did you start camouflaging almost automatically, without really realising that you were doing so until later?)

c) Prompts (if/ as needed) to elicit richer **emotions and feelings** at that time: can you describe how you were feeling at that time?

If the above opening questions do not spontaneously lead to discussions, then ask the follow up questions below (flexible prompts if/ as needed):

Awareness of difference

a) Do you remember when and how you started to *realise that you may be different from others*? Can you pinpoint the situation/ time/ moment you realized, or was it more gradual over many experiences? (prompts if/ as needed: how did realizing this make you feel at the time? what kinds of things did you do or say at the time, if any, that made you different from other people around you? Can you give some examples? Did you realise yourself or did others tell you?Looking back, was there any connection between knowing you were autistic or different from others and starting to camouflaging or not?

Self-esteem

2) When you first began to camouflage, how would you describe how you saw yourself and how confident (or not) you were in yourself?

a) Do you think there may have been a connection between how you viewed and valued yourself, and your camouflaging efforts and behaviors? If yes, what? Tell me more?
  i) If you felt differently about yourself at the time, what do you think you may have done differently? i.e. camouflage the same, more, less?
b) When you started to camouflage at the time, how did masking make you feel about yourself? Better? Worse? the same? More or less confident in yourself? Valuing yourself more/ less? Why do you think that was? (probing the inverse relationship)

Follow up question on earlier societal and cultural expectations and norms
3) Do you think the ***social context*** of where someone lives, grows up ***affects the pressure or need you felt to start to camouflage*** your autism? Can you tell me how? Which contexts/ environments/ settings? (further prompts flexibly used if/ as needed): Can you tell me about your family influences? What about the school context and your peers? Any other social environments or people you think may have affected the pressure or need to camouflage (i.e. community groups, church or religious communities, work, others). How about the broader cultural context? I.e. living ***within an Asian culture*** (**or in Singapore specifically**) versus living in a different culture? Tell me more.

PART 2: Continuity and change in camouflaging over time

Opening question:

> Looking back, has your camouflaging ***changed*** in any way/ in one or more of the different areas listed in the discussion aid?

1) If it has, can you say more about ***how it has changed***? {Prompts as needed: are there any parts of your camouflaging that have stayed more or less similar/ the same over time? If you noticed that your camouflaging has changed multiple times, could you also provide some information or examples about how it has changed?
2) Do you have some thoughts on ***why*** some aspects of your camouflaging have changed over time? Can you share in more detail? [prompt: What has changed for you as a person or in your environment(s)/ social contexts that influenced this change?]
3) How would you ***describe your camouflaging/ masking at present***?
  i) Are you generally OK with how, where and when you are camouflaging at present?
  ii) What makes you OK/ not OK with your current social camouflaging behaviours?

If the opening questions above do not lead to rich, detailed discussions about the following factors, ask the follow up questions below:

BEGINNINGS, CONTINUITY AND CHANGE IN CAMOUFLAGING

Optional question i.e. if relevant information is mentioned spontaneously by the participant about learning how to understand the social rules rather than just applying specific camouflaging behaviours - we can follow up with the below question if needed:
1) Over the years of camouflaging, do you actually better understand social cues & situations when you camouflage, or is camouflaging something you do "blindly" just because it works? Could you give us some examples of unspoken social rules/ cues that you now understand that you didn't before?

Follow up question on receiving an autism diagnosis
2) When did you receive ***your diagnosis of autism***?
   i) (if in childhood) Looking back, how did knowing you were autistic affect your camouflaging behaviours, if at all, and what you thought about camouflaging?
      i) What did the adults around you think or feel about your diagnosis?
         (1) How did others' reactions and opinions make you feel about being autistic/ having autism?
      ii) Did your family, or other significant adults e.g. teachers/ other caregivers ***teach you to behave "better"***, or to behave less autistically/ hide your autism?
   ii) (If diagnosis received later in life) Did receiving the diagnosis change whether or how much or the ways you camouflage?
      i) Do you recall masking/ camouflaging *before* you knew of your diagnosis, just perhaps not knowingly masking or not clearly knowing why you were doing this or not having a word for this?
      ii) Did you ever think about why and how/ how much you masked/ camouflaged before and after you found out about your diagnosis?
         (1) Was there anything different about your camouflaging before & after receiving a diagnosis? You may tell us as many details as you can remember.

Follow up question on acceptance and identification with autism
3) How much do you ***identify with being autistic***/ do you ***accept being autistic*** now?
   i) Has the way you identify with (or not identify with) your autism changed over time?
4) If you have accepted your autistic identity, did this ***influence how much you camouflage***?
   i) Do you think whether you identify with being autistic or not has affected ***how much you camouflage*** or ***how camouflaging affects you***?
5) Are you ***proud*** of being autistic?
      i) If only partly/ sometimes, which parts of your autism are you proud of & which parts are you less proud or happy with?
      ii) Do you think you being/ not being proud of being autistic affects how much you camouflage/ how camouflaging impacts you?

Follow up question on social support
6) Growing up, how have ***your social relationships and supports*** and/ or ***acceptance from others*** changed over time, if at all (e.g. family, school or work, friends, peers, work colleagues)?

i) E.g. do you have different friends now than before? Were there any changes in the way your family understands or treats you? If there are other changes please elaborate on them as well.

ii) Have these changes in social relationships and supports and/ or acceptance from others **changed your camouflaging** in any way? If so, in what ways and why?

Follow up question on person-environment fit

7) Over the years, did you **make different choices** about your social or other environments or that **your environments have changed** to fit better or worse with your lifestyle and needs?

i) In what ways have your choices about your environment or changes in your environments suited you and your needs better?

ii) Do you think these choices you made or changes in your environment changed your camouflaging? If yes, how? In which aspects/ parts and why?

Follow up question on the changing effects of social and cultural expectations and norms

8) Over the years, it is possible for certain societal and cultural norms to change and/ or for some of them to become more or less relevant to you. Do you think that **societal and cultural expectations affecting you have changed** over the years?

i) What aspects of societal and cultural expectations and norms have changed (or stayed the same) for you?

ii) How have these changes affected you from when you were a child up till now as an adult? (can reference to the participant's response in PART 1 Q3 to compare childhood and the present)

iii) How has this change affected your camouflaging behaviours, if at all? Why do you say so?