

## **Brief report: Understanding the relationships between autistic identity, disclosure and camouflaging.**

**Eilidh Cage<sup>1,2</sup> & Zoe Troxell-Whitman<sup>1</sup>**

<sup>1</sup>Department of Psychology, Royal Holloway, University of London, Egham, UK, TW20 0EX

<sup>2</sup>Division of Psychology, Faculty of Natural Sciences, University of Stirling, Stirling, Scotland, FK9 4LA

**Corresponding author:** Dr Eilidh Cage, Division of Psychology, Faculty of Natural Sciences, University of Stirling, Stirling, Scotland, FK9 4LA, [eilidh.cage@stir.ac.uk](mailto:eilidh.cage@stir.ac.uk)

**Keywords:** Camouflaging; autistic identity; disclosure; autism acceptance.

*Manuscript accepted for publication in Autism in Adulthood on 22<sup>nd</sup> July 2020*

**Author confirmation statement**

EC and ZTW designed the study together. ZTW oversaw data collection. EC carried out the data analyses. All authors contributed towards the article draft. All authors have reviewed and approved of the article prior to submission. This article has been submitted solely to this journal and is not published, in press or submitted elsewhere.

Accepted manuscript

**Author disclosure statement**

No competing financial interests exist.

Accepted manuscript

## Abstract

**Background:** Camouflaging involves concealing an autistic identity, for example by adopting non-autistic behaviours in social contexts. We currently know little about the relationship between autistic identity and camouflaging. Further, other variables may mediate the relationship between camouflaging and identity, and this study examined whether disclosure (being openly autistic) might mediate the relationship. We predicted that fewer camouflaging behaviours would be associated with higher autistic identity when an individual is more open about being autistic.

**Methods:** 180 autistic adults (52% female; 42% male; 5% other gender identities and 1% preferred not to say) took part in the study. They completed an online survey with measures of camouflaging, autistic identity and disclosure of autistic status.

**Results:** We found a significant mediation effect such that autistic identity had an indirect negative effect on camouflaging mediated via disclosure. In other words, higher autistic identity linked to more disclosure, which in turn linked to fewer camouflaging behaviours. However, there was evidence for competitive mediation, such that the direct effect (the relationship between identity and camouflaging ignoring disclosure) was significant, with higher autistic identity linking directly to *more* camouflaging.

**Conclusions:** The initial hypothesis was confirmed, with higher autistic identity linked to less camouflaging via disclosure. This finding indicates that camouflaging can reduce when there is high autistic identification, *and* someone has openly disclosed being autistic to others. However, the direct effect between identity and camouflaging suggests that there may be conflicts for someone who has identifies strongly with being autistic but continues to camouflage. Other variables may play a role in the relationship between identity and camouflaging, such as fear of discrimination, self-awareness, timing of diagnosis, age,

ethnicity or gender. The findings indicate the importance of safe, non-discriminatory environments where individuals can disclose and express their autistic identity, which may in turn reduce camouflaging.

### **Lay summary**

#### **Why was this study done?**

Camouflaging involves hiding or masking being autistic or using strategies to appear as though non-autistic. Past research has found that camouflaging relates to poorer mental health. Given this, we must understand ways to reduce camouflaging. In this study, we looked at the links between camouflaging, autistic identity (a sense of affiliation with the autistic community) and disclosure (being openly autistic). We know from other research that identifying strongly with the autistic community may protect against mental health difficulties, so we wanted to explore the role autistic identity might play in camouflaging.

#### **What was the purpose of this study?**

The purpose was to understand the relationships between camouflaging, autistic identity and disclosure. We considered disclosure because someone could have a strong sense of autistic identity but might not be open about this to others. We tested the idea that someone with a strong autistic identity might be more openly autistic, and this then has a knock-on effect that links to less camouflaging.

#### **What did the researchers do?**

180 autistic adults completed an online survey. They answered questions about camouflaging, autistic identity and disclosure. They also answered questions about who they were (e.g. age, gender) and autistic characteristics. We analysed everyone's answers using an

analysis called ‘mediation analysis’. This analysis enables us to test how disclosure influences any association between camouflaging and identity.

### **What were the results of the study?**

We found that higher autistic identity related to more disclosure, and this then linked to less camouflaging, i.e. strong autistic identity can relate to less camouflaging when someone is more openly autistic. We also found that ignoring disclosure, autistic identity directly influenced camouflaging in the opposite way, i.e. higher autistic identity contributed to *more* camouflaging if we don’t take disclosure into account. This is known as ‘competitive mediation’ and suggests a complex picture when it comes to identity, disclosure and camouflaging.

### **What do these findings add to what was already known?**

As far as we know, no one has looked at these relationships before. We therefore add to camouflaging research and show that camouflaging might be reduced if autistic people identify strongly *and* they are able to be openly autistic.

### **What are potential weaknesses in the study?**

Participants were recruited online, which means the sample may be biased, and the findings won’t apply to all autistic people. We measured disclosure using one question, which could be a problem because individuals might have interpreted the question in different ways. The ‘competitive mediation’ suggests there are other variables impacting on relationship between identity and camouflaging, which we did not capture.

### **How will these findings help autistic adults now or in the future?**

This study indicates strong autistic identity *and* being openly autistic could reduce camouflaging, which we know to have negative effects on mental health. However, to enable

disclosure, these findings demonstrate the need for safe spaces where autistic people can explore their identity and be openly autistic, without fear of discrimination.

Accepted manuscript

## Introduction

Camouflaging involves masking autistic characteristics and using strategies to appear non-autistic<sup>1,2</sup>. Many autistic people report high levels of camouflaging<sup>1</sup> and camouflaging in some situations but not in others<sup>3</sup>. Previous research has established that camouflaging is associated with poorer mental health, with greater camouflaging associated with depression, anxiety, social anxiety, stress and suicidal thoughts<sup>1,3,4,5,6,7</sup>. Additionally, since camouflaging involves hiding autistic characteristics, it impacts on sense of self<sup>1</sup>. For example, late-diagnosed autistic women describe how ‘acting neurotypical’ makes them unsure of their identity<sup>8</sup>.

While camouflaging is thought to relate to personal identity (“*what makes me uniquely ‘me’?*”), autistic social identity (“*am I like other autistic people and do I feel part of the autistic community?*”<sup>9</sup>) may protect against camouflaging. For non-autistic people, research has shown that identifying with a social group or community can be beneficial for wellbeing<sup>10,11</sup>. Researchers have also noted this link for autistic people, finding that identifying with the autistic community may benefit self-esteem and protect against poor mental health<sup>12</sup>. Based on this research, the current study also focuses on autistic social identity, in terms of affiliation with the autistic community<sup>12</sup>, and further tests its relationship to camouflaging – to examine whether autistic social identity has any protective potential when it comes to camouflaging. To the best of our knowledge, this relationship has not yet been explored quantitatively.

However, any relationship between autistic identity and camouflaging may depend on other variables. In particular, after developing affiliation with the autistic community, some may still decide not to share or disclose that they are autistic – for example, if they believe society is unaccepting<sup>5</sup> or if they have experienced discrimination when openly autistic<sup>3</sup>. Therefore,



disclosure (being openly autistic) may mediate any relationship between autistic identity and camouflaging. Past research in the disability literature has shown that greater disability disclosure relates to higher life satisfaction, less fear, anxiety and self-doubt<sup>13,14,15,16,17</sup>.

Theoretically, it is possible that regardless of identification, without disclosure, camouflaging may persist. Given the effects of camouflaging on mental health<sup>4</sup>, it is important we understand conditions wherein camouflaging might lessen, and if disclosure is one variable which may mediate any relationship between autistic identity and camouflaging.

The current study therefore aimed to understand the relationships between camouflaging, autistic identity and disclosure. Based on the literature discussed, we hypothesised that higher autistic identity would relate to more disclosure, which would subsequently relate to less camouflaging.

## Methods

### *Participants*

The sample contained 180 autistic adults (see Table 1 for full demographic information, including self-reported diagnosis, gender, age, ethnicity, education and country). The sample was mostly White, Western and educated to degree level. All participants, including those who self-identified, scored above the Ritvo Autism and Asperger's Diagnostic Scale-14 (RAADS-14)<sup>18</sup> cut-off score of 14 (mean=32.11 (*SD*=6.34)).

Table 1. *Participant demographics and sample characteristics (n = 180)*

| <b>Characteristic</b>        |       |
|------------------------------|-------|
| <i>Diagnosis<sup>a</sup></i> |       |
| Autism Spectrum Condition    | 54.4% |
| Asperger's Syndrome          | 60.6% |
| PDD-NOS                      | 1.7%  |
| Seeking diagnosis            | 12.2% |

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*Gender*

|                           |       |
|---------------------------|-------|
| Female                    | 51.7% |
| Male                      | 42.2% |
| Other gender identities   | 5%    |
| Preferred not to disclose | 1.1%  |

*Mean age* 33.89 (*SD* = 11.21)

*Ethnicity*

|                           |       |
|---------------------------|-------|
| White – British           | 58.9% |
| White – Other background  | 26.7% |
| Mixed or multi-ethnic     | 8.3%  |
| Asian or British-Asian    | 3.3%  |
| Other ethnicities         | 1.7%  |
| Preferred not to disclose | 1.1%  |

*Education*

|                            |       |
|----------------------------|-------|
| Undergraduate degree       | 32.8% |
| Postgraduate degree        | 23.9% |
| High school qualifications | 23.4% |
| Other qualifications       | 10.0% |
| No qualifications          | 6.1%  |
| Preferred not to disclose  | 3.9%  |

*Country*

|                           |       |
|---------------------------|-------|
| United Kingdom            | 51.1% |
| North America             | 29.4% |
| Other European countries  | 12.0% |
| Australia                 | 3.9%  |
| Hong Kong                 | 0.6%  |
| South Africa              | 0.6%  |
| Preferred not to disclose | 2.8%  |

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<sup>a</sup> Percentages total over 100% as participants could select multiple options, due to changes in the diagnosis of autism spectrum conditions. Historic diagnoses of Asperger's Syndrome reported. PDD-NOS: Pervasive Developmental Disorder Not Otherwise Specified

We recruited participants through social media (e.g. Facebook groups, Twitter, Reddit), autism charities and organisations, and contacts via the university Disability Service, using adverts and emails including a link to the online survey. Participants had the option to participate in a prize draw as thanks for their time. After reading the information sheet, all participants provided informed consent, with ethical approval obtained from Royal Holloway. We collected the data between November 2017 and February 2018.

### *Materials*

The survey was initially reviewed by two autistic people who offered feedback on the questions and validity of the topic for the autistic community. Camouflaging was measured using the Camouflaging Autistic Traits Questionnaire (CATQ, Cronbach's  $\alpha=.89$ )<sup>4</sup>, which includes 25 items rated on a 7-point scale ('strongly disagree' to 'strongly agree'; e.g. *"In social situations, I feel like I'm 'performing' rather than being myself"*) giving a total summed score between 7 and 175, with higher scores indicating greater camouflaging. For autistic identity, participants rated five items adapted from the Disability Identification Scale<sup>13</sup> (which measures social identification with a group<sup>9</sup>) on the same 7-point scale (e.g. *"Being a member of the autism community is central to my identity"*,  $\alpha=.88$ ), giving a total possible score between 7 and 35, with higher scores indicating more identification with the autistic community. Disclosure was measured with one item adapted from the disability literature<sup>14,15</sup>: *"I am generally open about acknowledging and discussing my status as an autistic person"*, rated on a 5-point scale ('does not describe me' to 'describes me extremely well'), giving a total possible score between 1 and 5, with higher scores indicating greater disclosure.

### *Procedure*

We used 'Qualtrics' to display the survey online. Participants completed questions regarding autistic identity first, then disclosure and CATQ. Finally, they reported diagnoses and completed the RAADS-14 and demographic questions.

### *Design & Data analysis*

This study had a cross-sectional design, using an online survey to reach participants and enable initial examination of the hypothesis. We used the PROCESS (version 3.4) add-on for SPSS<sup>19</sup> for mediation analysis, with the bootstrapping method for 1000 samples<sup>20</sup>. All assumptions for the model were met, including normal distribution of the data and no significant outliers.

### **Results**

Mean camouflaging score was 116.12 ( $SD=20.48$ ), mean autistic identity score 23.01 ( $SD=7.41$ ) and mean disclosure score 2.84 ( $SD=1.26$ ).

The path between identity and disclosure was significant ( $b=.080$ ,  $t(178)=7.11$ ,  $p<.001$ ), as was the path between disclosure and camouflaging ( $b=-3.04$ ,  $t(177)=-2.34$ ,  $p=.026$ ). The direct effect (the unmediated effect of identity on camouflaging, with disclosure held constant) was significant ( $b=.63$ ,  $t(177)=2.73$ ,  $p=.007$ ). The total effect (the sum of all direct and indirect effects) was not significant ( $b=.38$ ,  $t(178)=1.87$ ,  $p=.063$ ). There was a significant negative indirect effect ( $a*b=-.24$ ) with a 95% confidence interval not including zero ( $-.47$  to  $-.060$ ): autistic identity had an indirect negative effect on camouflaging through greater disclosure (Figure 1).

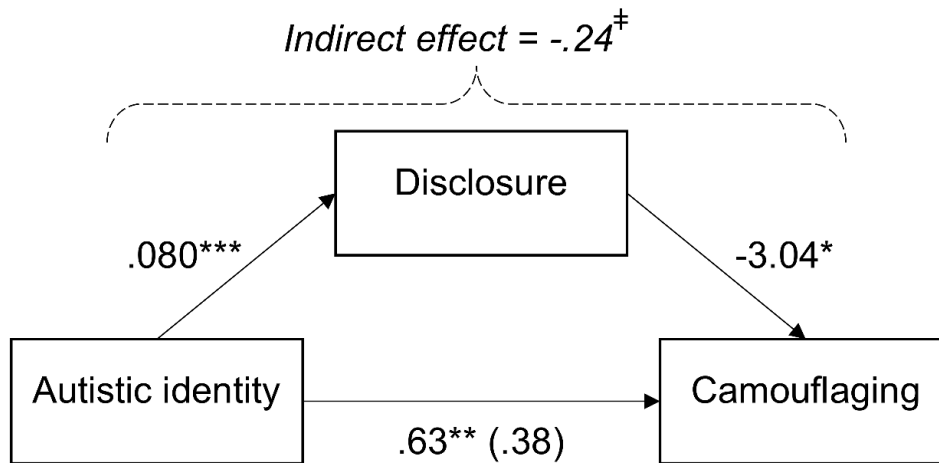


Figure 1. Mediation diagram between autistic identity, disclosure and camouflaging. Note \*\*\* $p < .001$ , \*\* $p = .007$ , \* $p = .026$ . † Significant indirect effect indicated as the 95% confidence intervals do not cross zero (-.47 to -.060).

## Discussion

Our hypothesis was met: higher autistic identity linked to fewer camouflaging behaviours via being openly autistic. However, there was competitive and partial mediation<sup>21</sup>, with a positive direct relationship (ignoring disclosure) between autistic identity and camouflaging, with higher identity linked to *more* camouflaging. This competitive mediation suggests other variables likely affect the relationship between identity and camouflaging<sup>21</sup>.

These findings may indicate camouflaging could reduce via autistic identification leading to greater disclosure. The decision to disclose involves evaluating who, what, when and how much to disclose<sup>17</sup>. If non-disclosure is the safest option, camouflaging persists, maintaining a non-autistic social presence (even if disclosure could be beneficial<sup>22</sup>). The competitive mediation may stem from fear of stigma, despite autistic identification<sup>3,23</sup>. Trapped in an internal conflict between high autistic identity and fear of discrimination, autistic people may

feel resigned to camouflaging. These findings highlight the difficult process for autistic people in terms of weighing up the costs and benefits of disclosing or camouflaging in different contexts<sup>24</sup>.

Past research discusses the impact of camouflaging on personal identity<sup>1,8</sup>. This study adds to the literature by highlighting the complex relationship between autistic identity, disclosure and camouflaging. Our findings suggest that supporting autistic identity and disclosure may be one means of reducing camouflaging. These findings imply the importance of a diversity-valuing society<sup>25</sup> which supports autistic identity exploration<sup>26</sup> while ensuring safe spaces exist to do so. Future researchers must test the development of safe spaces<sup>27</sup> and policymakers should ensure there is funding for these spaces, as well as examining other ways to best support autistic people who find camouflaging to be detrimental to their wellbeing.

There are several limitations: the competitive mediation suggests other unmeasured variables may be influencing the relationships in the model<sup>21</sup>. Potential variables could include self-awareness (including of autistic characteristics), social anxiety, timing of diagnosis or culture. We did not measure these but future research could add further insight by considering these variables. The sample is biased since it is self-selected, recruited online, relies on self-report and may consist of individuals with strong autistic identities or who identified as being ‘camouflagers’. Further, we measured disclosure with one item, which may lack nuance. The model also did not include demographic variables such as gender, age, education level or ethnicity. These variables could influence the relationships in the model – for example, there may be gender differences in camouflaging<sup>28</sup> and it is likely that disclosure decisions could also be influenced by gender. For example, autistic women may have to make decisions (in terms of identity, disclosure and camouflaging) which include reflecting on one’s

positionality specifically as an autistic woman within different contexts<sup>3,8</sup>. Accordingly, research should consider how the intersection of different identities (not limited to gender, but also including, for example, ethnicity or culture) may relate to camouflaging, autistic identity and disclosure. Future research should endeavour to examine these different variables with large sample sizes as well as recruiting more diverse offline samples.

We hope the current findings stimulate further research into these variables, with a goal of supporting autistic people to ‘take the mask off’<sup>25</sup>. Overall, the findings suggest autistic people need discrimination-free spaces and societal change to disclose and explore autistic identity: doing so may help to reduce camouflaging.

## Acknowledgements

Thank you to the autistic people who kindly reviewed the original proposal for this work.

Thank you to all of the participants for their time.

## References

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- <sup>1</sup> Hull L, Petrides KV, Allison C, Smith P, Baron-Cohen S, Lai MC, Mandy W. “Putting on my best normal”: social camouflaging in adults with autism spectrum conditions. *Journal of Autism and Developmental Disorders*. 2017; 47(8): 2519-34.
- <sup>2</sup> Livingston LA, Shah P, Milner V, Happé F. Quantifying compensatory strategies in adults with and without diagnosed autism. *Molecular Autism*. 2020; 1;11(1):15.
- <sup>3</sup> Cage E, Troxell-Whitman Z. Understanding the reasons, contexts and costs of camouflaging for autistic adults. *Journal of Autism and Developmental Disorders*. 2019; 49(5): 1899-911.
- <sup>4</sup> Hull L, Mandy W, Lai MC, Baron-Cohen S, Allison C, Smith P, Petrides KV. Development and validation of the camouflaging autistic traits questionnaire (CAT-Q). *Journal of Autism and Developmental Disorders*. 2019; 49(3): 819-33.
- <sup>5</sup> Cage E, Di Monaco J, Newell V. Experiences of autism acceptance and mental health in autistic adults. *Journal of Autism and Developmental Disorders*. 2018;48(2): 473-84.
- <sup>6</sup> Cassidy SA, Gould K, Townsend E, Pelton M, Robertson AE, Rodgers J. Is camouflaging autistic traits associated with suicidal thoughts and behaviours? Expanding the interpersonal psychological theory of suicide in an undergraduate student sample. *Journal of Autism and Developmental Disorders*. 2019; 9:1-1.



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- <sup>7</sup> Beck JS, Lundwall RA, Gabrielsen T, Cox JC, South M. Looking good but feeling bad: “Camouflaging” behaviors and mental health in women with autistic traits. *Autism*. 2020; 24(4): 809-21.
- <sup>8</sup> Bargiela S, Steward R, Mandy W. The experiences of late-diagnosed women with autism spectrum conditions: An investigation of the female autism phenotype. *Journal of Autism and Developmental Disorders*. 2016;46(10): 3281-94.
- <sup>9</sup> Hogg MA, Abrams D. Social identifications: A social psychology of intergroup relations and group processes. London: Routledge; 1988.
- <sup>10</sup> Stets, JE, Burke, PJ. Identity theory and social identity theory. *Social Psychology Quarterly*. 2000; 224-37.
- <sup>11</sup> Jetten, J, Haslam, C, Haslam, SA, Dingle, G, Jones, JM. How groups affect our health and well-being: The path from theory to policy. *Social Issues and Policy Review*. 2014; 8(1): 103-30.
- <sup>12</sup> Cooper, K, Smith, LG, Russell, A. Social identity, self-esteem, and mental health in autism. *European Journal of Social Psychology*. 2017; 47(7): 844-54.
- <sup>13</sup> Nario-Redmond MR, Oleson KC. disability group identification and disability-rights advocacy: contingencies among emerging and other adults. *Emerging Adulthood*. 2016;4(3):207-18.
- <sup>14</sup> Troxell-Whitman Z. *Motivated Disclosure Patterns: Disability Identity Management in the Higher Education Environment*. [Dissertation]. Portland, OR: Reed College; 2016.

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- <sup>15</sup> Chaudoir SR, Fisher JD. The disclosure processes model: understanding disclosure decision making and postdisclosure outcomes among people living with a concealable stigmatized identity. *Psychological Bulletin*. 2010; 136(2): 236-56.
- <sup>16</sup> Chaudoir, SR, Quinn, DM. Revealing concealable stigmatized identities: The impact of disclosure motivations and positive first-disclosure experiences on fear of disclosure and well-being. *Journal of Social Issues*. 2010; 66(3): 570–84.
- <sup>17</sup> Trammell, J. Red-Shirting College Students with Disabilities. *Learning Assistance Review*. 2009; 14(2): 21–31.
- <sup>18</sup> Eriksson, JM, Andersen, LM, Bejerot, S. RAADS-14 Screen: validity of a screening tool for autism spectrum disorder in an adult psychiatric population. *Molecular Autism*. 2013; 4 (49).
- <sup>19</sup> Hayes, AF. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd Edition). New York: Guilford Press; 2018.
- <sup>20</sup> Shrout, PE, Bolger, N. Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*. 2002; 7(4), 422-45.
- <sup>21</sup> Zhao, X, Lynch Jr, JG., Chen, Q. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*. 2010; 37(2): 197-206.
- <sup>22</sup> Sasson NJ, Morrison KE. First impressions of adults with autism improve with diagnostic disclosure and increased autism knowledge of peers. *Autism*. 2019;23(1): 50-9.
- <sup>23</sup> Goffman, E. *Stigma: Notes on the Management of Spoiled Identity*. London, UK: Penguin Books; 1990.

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<sup>24</sup> Schneid I, Raz AE. The mask of autism: Social camouflaging and impression management as coping/normalization from the perspectives of autistic adults. *Social Science & Medicine*. 2020 Mar 1;248:112826.

<sup>25</sup> Cage, E, Di Monaco, J, Newell, V. Experiences of autism acceptance and mental health in autistic adults. *Journal of Autism and Developmental Disorders*. 2018; 48(2): 473-84.

<sup>26</sup> Cresswell, L, Cage, E. 'Who Am I?': An Exploratory Study of the Relationships Between Identity, Acculturation and Mental Health in Autistic Adolescents. *Journal of Autism and Developmental Disorders*. 2019; 49(7): 2901-12.

<sup>27</sup> Mandy, W. Social camouflaging in autism: Is it time to lose the mask? *Autism*. 2019; 23(8): 1879-81.

<sup>28</sup> Hull L, Lai MC, Baron-Cohen S, Allison C, Smith P, Petrides KV, Mandy W. Gender differences in self-reported camouflaging in autistic and non-autistic adults. *Autism*. 2020 Feb;24(2):352-63.