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SHORT REPORT

A repeated cross-sectional study of daily activities of autistic adults

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Abstract

It is crucial to arrive at a comprehensive understanding of the types of daily activities autistic adults typically engage in. However, previous research has almost exclusively focused on vocational or education activities. Further, it remains unclear how and whether specific daily activities participation rates change proportionally over time, vary by gender, or compare to nationally representative data. Utilizing eight annual data waves from the Netherlands Autism Register (NAR) this study aims to bridge this gap. Participants were 2449 autistic adults who indicated their participation in 18 daily activities. Results suggest that autistic adults engaged most frequently in vocational activities (e.g., paid employment, study) and participation rates were stable over time. Participation rates in non-vocational activities (e.g., hobbies, homemaking) fluctuated proportionally over time, with reports of no structured daytime activities reducing over time. Labor force participation amongst NAR participants was significantly lower than Dutch population data for the same time periods. Unemployment rates fluctuated, and were significantly higher than population data, but not for all time points. Females compared to males were overrepresented in unpaid daily activities (e.g., study, volunteer, housemaker) and work incapacitation, and underrepresented in paid employment. Employment differences in gender corresponded to national data. These findings characterize more clearly the daily activities of autistic adults, and highlights areas where support may have greater impact (e.g., females in employment).

Lay Summary

Research shows that autistic people have challenges in participating in fundamental life activities, such as finding a job or study. However, less is known about what activities autistic adults actually do with their life, and whether participation rates change over time or by gender. Participants in the study were 2449 autistic adults who were recruited from the Netherlands Autism Register (NAR). Participants indicated at eight annual time points what daily activities they were participating in from a list of 18 different activities. Results suggest that autistic adults participated most in vocational activities, like paid employment, and that the proportion of people taking part in these activities did not change over time. In

contrast, non-vocational activities such as hobbies or homemaking did change over time. Participation in the labor force was significantly lower than the general population at each time point. However, unemployment was higher, but not for each time point. Female participants were more likely to be overrepresented in unpaid daily activities like volunteer work and were underrepresented in employment. This study gives a better idea about the activities autistic adults are engaged with, which may help better understand where support may be best placed. For example, support autistic women in accessing the labor force.

KEYWORDS
autistic adults, daily activities, employment, gender differences, outcomes

INTRODUCTION

Autistic adults experience challenges accessing diverse important life activities and environments including transitioning from secondary school into vocational training and employment (Flower et al., 2021; Hedley et al., 2018; Shattuck et al., 2012), or achieving good psychosocial outcomes (Howlin, 2013; Howlin & Magiati, 2017). However, there is a paucity of research on what specific activities autistic adults engage in, whether they vary by gender or change proportionally across time. Subsequently, we lack a basic understanding of the lives of autistic people and where supports might be needed most. To address this research gap, drawing on unique access to comprehensive longitudinal data spanning 8 years, we provide detailed characterization of daily activities of autistic adults living in the Netherlands.

Daily activities

Research to date has focused on vocational activities whilst overlooking participation in non-vocational activities (e.g., hobbies), incapacitation from work, or activities across the lifespan (e.g., retirement). Daily activities are often classified in hierarchical categories of psychosocial outcomes, with levels generally dictated by vocational status, with 'good' outcomes reflecting paid employment (20% of autistic adults), 'fair' outcomes supported/sheltered employment (27% of autistic adults), and 'poor' reflecting no-employment (49% of autistic adults; Mason et al., 2021). While these approaches use comprehensive interviews that ask about a range of activities, combining social relationship and independence items into hierarchical categories largely reflecting vocational status, obscures understanding of participation rates in daily activities. Other methods show that autistic adults tend to be overrepresented in sheltered/supported employment, rather than employment in the community, education, or volunteer work (Taylor & Seltzer, 2012); however, reliance on single items rather than comprehensive assessments limits depth of insight from these studies (Sahin et al., 2020; Taylor & Seltzer, 2012). Additionally, research is limited by small sample size (Howlin et al., 2004; Scheeren et al., 2022) affecting generalizability, or single cross-sectional design, limiting knowledge of participation rates over time (Migliore et al., 2012).

Employment

The autistic population is characterized by low employment rates (e.g., 28% Australia; Australian Bureau of Statistics, 2019; 14% US; Roux et al., 2017; 32% UK; The National Autistic Society, 2016; 14% Canada; Zwicker et al., 2017), reduced working hours, or positions poorly matched to skills or qualifications (Hedley et al., 2023; Zwicker et al., 2017). Little is known about vocational activities by gender, age, or compared to the general population (Shattuck et al., 2012). Even where large data sources are used (Australian Bureau of Statistics, 2019; Zwicker et al., 2017), findings are limited to a single point and thus cannot investigate whether this data is reflective of employment outcomes for autistic people more broadly, or reflect that year of data collection.

Gender

Women are underrepresented in most studies concerning daily living activities (Halladay et al., 2015; Howlin & Magiati, 2017). While gender is suggested as an important factor for accessibility of daily outcomes in the general population (e.g., employment, education; Hayward et al., 2020), results for autistic adults are mixed. Some studies report males outperforming females in employment (Alverson & Yamamoto, 2017), but others no difference (Maslahati et al., 2022) or the opposite pattern (Chiang et al., 2013). Other research has shown reduced success regarding employment and education for women over time (Taylor et al., 2015). However, these studies are also limited by sample size, age range, and assessment method.

Current study

In this study, we capitalized on the Netherlands Autism Register (NAR) – a unique, well characterized, and well

powered longitudinal sample, to investigate (a) what vocational and non-vocational activities autistic people engage with, (b) whether employment and labor force participation differ from the general population, and (c) whether participation rates differ by gender or between time points.

METHOD

Participants

Participants were 2449 autistic adults ($n = 1077$ identified as male, $n = 1352$ female, $n = 20$ non-binary; $M_{age} = 42.25$, $SD = 14.24$ years; *Range* = 15–84) recruited through the NAR, a longitudinal dataset administered annually to autistic people. Participants were required to be aged at least 15 years of age and report an autism diagnosis, with autism diagnosis established by an authorized professional (e.g., psychiatrist) upon registration into the NAR.

Data from the Netherlands Centraal Bureau voor de Statistiek (2023) was also utilized to compare employment outcomes with the NAR data. Data matching the same year as NAR data was available for employment aged (15–64 years of age) members of the Netherlands population. Participant rates ranged from 10,950,000 to 11,200,000 participants across years, with the proportion of male participants reflecting 51.1 to 51.2% of the population, with information on non-binary participants unavailable.

Procedure

This study reports data from baseline (Wave 0; 2013) and seven annual waves collected between 2015 and 2021 (Waves 1–7) through the NAR. The NAR is a longitudinal dataset administered annually to individuals who have received a formal autism diagnosis. Existing participants are invited to complete the current version of the study at each data wave, with new participants recruited at the same time, with 60% of the sample completing 3 or more time points (see Supplementary Table S1). Data from this study, however, will be treated as repeated cross-sectional data due to the nature of the data and to allow comparison to population data. National data from the Centraal Bureau voor de Statistiek (2023) reflects the same year as data collected from the NAR. The study was registered through Open Science Framework (Hedley et al., 2020).

Measures

Daily activities. At each wave, participants indicated their participation in one of 18 daily activities up to five times (see Table 1) and hours spent per week on each activity (0–4, 4–8, 8–16, 16–24, 24–32, 32–40, >40). As participants could report up to five activities, they can appear in multiple categories across analyses. For Wave 1 only, participants indicated participation for all 18 activities and average hours for 10 activities. Data points were collapsed at each wave, producing one binary variable for each activity at each wave for each participant. *Autism traits* were assessed with the Abridged Version of the Autism-Spectrum Quotient (AQ-Short; Hoekstra et al., 2011), McDonald's Omega (ω) = 0.838. *Employment level and content*. Except for Wave 1, participants indicated whether employment aligned with their level of education and training on a 4-point scale (Do not know; No; Yes, partially; Yes, completely); as scores did not differ across waves, participants most recent responses are reported.

Analysis plan

Utilizing the full NAR sample, we first use Chi-square analyses to investigate changes in daily activities and gender differences across all waves applying a Bonferroni corrected alpha of 0.003 to indicate statistical significance. To investigate differences in the employment rate between the NAR and data from the Centraal Bureau voor de Statistiek (2023), we first truncated the NAR data to match the age range of the population data (age 15–64) to ensure a meaningful comparison between datasets. We then recoded the daily activities measure into three separate binary variables that matched employment data from the Centraal Bureau voor de Statistiek (2023), these include the following. *Labor force participation* represents the percentage of participants who are engaged in the labor force as a proportion of the entire population (aged 15–64). It includes both people who are employed (paid, self-employed) and those who are unemployed/seeking (or required to be seeking to receive government benefits) employment. *Unemployed labor force* represents the percentage of participants who are engaged in the labor force and who are unemployed and seeking employment as a proportion of those engaged in the labor force (i.e., employed unemployed/seeking employment, not the entire population). *Employment status* represents the 'net labor participation rate' from national data, which is determined by calculating the percentage of employed people (reporting unsubsidised employment with at least 1 hour a week) as a proportion of the entire population.

RESULTS

Demographics

Average age of autism diagnosis was 33.44 years ($SD = 15.93$, range 1–74). Most participants were Dutch

TABLE 1 Percentage of recorded daily activities with chi-square analyses of changes across time.

Daily activities	W0	W1	W2	W3	W4	W5	W6	W7	χ^2 (7)	*p*
n	**2302**	**612**	**671**	**799**	**876**	**1101**	**1073**	**1208**		
1 Paid employment	37.4[a]	34.0[a]	35.8[a]	36.9[a]	35.7[a]	36.4[a]	39.4[a]	39.6[a]	9.63	0.211
2 Self-employed	6.0[a]	7.0[a]	5.7[a]	5.5[a]	5.7[a]	6.7[a]	7.3[a]	7.0[a]	5.71	0.574
3 Study	13.7[a]	9.3[a,b]	11.2[a,b]	10.6[a,b]	12.1[a,b]	9.9[b]	11.3[a,b]	11.9[a,b]	17.38	0.015
4 Volunteer	22.1[a]	26.8[a,b]	27.9[b]	26.0[a,b]	26.4[a,b]	25.4[a,b]	25.0[a,b]	24.1[a,b]	16.31	0.022
5 Internship	3.3[a]	2.8[a]	1.8[a]	2.4[a]	2.4[a]	2.0[a]	2.1[a]	2.0[a]	10.20	0.178
6 Work w/retention of benefits	2.3[a]	2.1[a]	1.5[a]	2.1[a]	2.2[a]	1.7[a]	1.2[a]	1.0[a]	12.25	0.093
7 Sheltered employment	2.2[a]	1.8[a]	1.9[a]	1.8[a]	2.2[a]	1.7[a]	1.7[a]	1.8[a]	2.12	0.952
8 Guided work schemes	1.4[a,b]	2.8[b]	1.0[a,b]	1.5[a,b]	1.0[a,b]	1.2[a,b]	1.2[a,b]	0.5[a]	18.44	0.010
9 Work or care farm	1.8[a]	3.1[a]	3.3[a]	3.1[a]	3.7[a]	2.7[a]	2.6[a]	2.5[a]	11.93	0.103
10 Day activities	6.0[a]	7.7[a]	6.4[a]	7.9[a]	8.0[a]	8.1[a]	6.5[a]	6.8[a]	8.81	0.267
11 Day treatment in psychiatric institution	1.0[a,b,c]	1.8[c]	1.0[a,b,c]	0.9[a,b,c]	1.5[b,c]	0.9[a,b,c]	0.2[a]	0.3[a,b]	19.99	0.006
12 Jobseeker/Unemployed	6.6[a]	6.9[a,b]	3.3[b,c]	3.5[b,c]	3.1[c]	2.6[c]	2.5[c]	3.6[c]	64.08	**<0.001**
13 Hobbies	20.4[a]	3.3[b]	32.0[c]	38.0[c,d,e]	36.8[c,e]	43.3[d,e]	43.8[d]	42.5[d,e]	589.05	**<0.001**
14 Sickness benefit/incapacity to work	9.4[a]	19.3[b]	7.9[a]	10.5[a,c]	8.3[a]	11.4[a,c]	11.3[a,c]	14.1[b,c]	73.30	**<0.001**
15 Homemaker	12.5[a]	11.6[a,b]	18.9[c]	19.8[c]	17.2[b,c]	21.2[c]	20.2[c]	19.8[c]	79.63	**<0.001**
16 Retired – VUT	1.6[a]	4.1[b]	3.3[a,b]	3.5[b]	3.5[b]	4.0[b]	4.1[b]	3.6[b]	26.94	**<0.001**
17 No structural daytime activities	16.7[a]	13.6[a,b]	10.6[b]	10.6[b]	10.4[b]	12.4[b]	10.3[b]	9.3[b]	62.57	**<0.001**
18 Other	5.2[a]	3.9[a]	8.5[b]	8.4[b]	7.4[a,b]	6.5[a,b]	7.2[a,b]	7.1[a,b]	24.99	**<0.001**
Employment–(Age 15–64)										
n	**2211**	**589**	**631**	**746**	**810**	**1020**	**975**	**1111**		
Labor force participation	46.4[a]	45.7[a]	43.7[a]	44.1[a]	43.1[a]	44.4[a]	45.2[a]	49.1[a]	10.21	0.177
*National labor force participation data**	*79.4*	*79.6*	*79.7*	*79.7*	*80.3*	*80.9*	*80.9*	*83.7*		
Unemployed labor force	12.2 [a]	12.3[a,b]	7.2[a,b,c]	7.0[a,b,c]	7.2[a,b,c]	3.9[c]	5.2[c]	6.8[b,c]	46.49	**<0.001**
*National unemployment population data***	*7.3*	*6.9*	*6.1*	*4.9*	*3.8*	*3.4*	*3.9*	*4.2*		
Employment status	40.8[a]	40.1[a]	40.6[a]	41.0[a]	40.0[a]	42.9[a]	42.9[a]	45.7[a]	11.32	0.125
*National employment population data****	*73.6*	*74.1*	*74.8*	*75.8*	*77.2*	*78.2*	*77.8*	*80.1*		

Note: W0 = Baseline data; W1 = Wave 1, etc; bold values signify significant findings at a Bonferroni corrected $\alpha = 0.003$; Each subscript letter denotes a subset of waves whose column proportions do not differ significantly from each other at a Bonferroni corrected 0.05 level.

*These data were taken from the Netherlands Centraal Bureau voor de Statistiek (2023) and represent the 'Labor for participation rate' or the percentage of the population reporting being employed or unemployed in the general population for the age range.

**These data represent the percentage of the labor force who reported being unemployed (Centraal Bureau voor de Statistiek, 2023).

***These data represent the 'Net labor participation rate' or the percentage of the employed labor force in the general population for the age range (Centraal Bureau voor de Statistiek, 2023).

with a high or medium level of education and were from very highly or highly urbanized municipalities (see Supplementary Table S1 for detailed demographic information).

Daily activities

Participants primarily reported only one activity at each wave (between 41.4–56.2%), with between 0.3% and 3.2% reporting five activities (see Supplementary Table S2). Table 1 reports participation rates across the 18 daily activities (%) for each wave. Participants reported higher rates of paid employment, volunteer work, and engaging in hobbies, with the lowest rates reported for day treatment in psychiatric institution, sheltered employment, and work on care farm. Rates of participation were stable for most activities; Chi-square analyses showing no significant differences for most activities between time points. However, for Jobseeker/Unemployed and no structural daytime activities, participation rates diminished significantly early before leveling off. Homemaker data differed with rates rising in Waves 1–3 before leveling off. Sickness benefits fluctuated across waves, with a large percentage increase at Wave 1. Hobbies differed between waves; however, few people reported hobbies at Wave 1.

Participation hours were stable for the categories with higher rates of participation (see Supplementary Table S5): 45%–56% of participants who indicated paid

TABLE 2 Percentage of total recorded Daily Activities across time points by male and female gender with chi-square analyses.

	Male	Female	Non-binary	χ^2 (2)	*p*
n	**3866**	**4716**	**58**		
1 Paid employment	40.5[a]	34.7[b]	32.8[a,b]	30.98	**<0.001**
2 Self-employed	6.3[a]	6.4[a]	3.4[a]	0.85	0.652
3 Study	9.5[a]	13.3[b]	32.8[c]	53.91	**<0.001**
4 Volunteer	21.7[a]	27.2[b]	32.8[a,b]	36.70	**<0.001**
5 Internship	1.8[a]	3.0[b]	3.4[a,b]	12.32	**<0.001**
6 Work w/retention of benefits	1.9[a]	1.7[a]	8.6[b]	15.48	**<0.001**
7 Sheltered employment	2.1[a]	1.8[a]	0.0[a]	1.98	0.372
8 Guided work schemes	2.0[a]	0.7[b]	0.0[a,b]	31.06	**<0.001**
9 Work or care farm	2.7[a]	2.5[a]	10.3[b]	14.15	**<0.001**
10 Day activities	7.8[a]	6.4[b]	3.4[a,b]	7.76	0.021
11 Day treatment in psychiatric institution	0.5[a]	1.2[b]	3.4[a,b]	14.45	**0.001**
12 Jobseeker/unemployed	5.0[a]	3.8[b]	0.0[a,b]	7.04	0.008
13 Hobbies	30.9[a]	33.1[a]	56.9[b]	21.18	**<0.001**
14 Sickness benefit/incapacity to work	8.6[a]	13.2[b]	10.3[a,b]	44.65	**<0.001**
15 Homemaker	13.9[a]	19.8[b]	22.4[a,b]	53.03	**<0.001**
16 Retired – VUT	5.4[a]	1.4[b]	0.0[a,b]	115.21	**<0.001**
17 No structural daytime activities	11.2[a]	13.4[b]	12.1[a,b]	10.07	0.007
18 Other	5.7[a]	7.2[b]	10.3[a,b]	8.89	0.012
Employment (Age 15–64)	3376	4360	58		
Labor force participation	50.4[a]	42.0[b]	32.8[b]	61.00	**<0.001**
National labor force participation data≠	*84.9*	*76.1*	*(n/a)*		
Unemployed labor force	8.9[a]	7.7[a]	0.0[a,b]	3.31	0.191
National unemployed population data≠	*4.9*	5.3	*(n/a)*		
Employment status	46.0[a]	39.7[b]	32.8[a,b]	44.88	**<0.001**
National employment population data≠	*80.78*	*72.3*	*(n/a)*		

Note: Bold values signify significant findings at a Bonferroni corrected $\alpha = 0.003$. ≠ = Percentage rate averaged across study years; Each subscript letter denotes column proportions that do not differ significantly from each other at a Bonferroni corrected 0.05 level.

employment reporting above 32 hours per week, 33%–58% of participants who reported volunteering spending up to 4 hours per week, and 48%–65% percent of participants who reported taking part in hobbies spending up to 16 hours a week on their hobbies.

Employment

We compared NAR employment data with published population data for the same years as each wave of the NAR. On average 45% of participants in the NAR engaged in the labor force, with no significant differences between waves (see Table 1). Participation rates were significantly lower than the national data at all waves, $\chi^2(1) = 355.70–122.58$, *p's*<0.001. The percentage of the labor force who reported unemployment differed significantly across waves, reducing over time. The NAR data differed significantly from national data at Waves 0, 1, 4, and 7, $\chi^2(1) = 8.85–35.82$, $p<0.003$, but did not differ at other Waves, all *ps*>0.07.

On average, 40% of participants reported being employed across waves in the NAR, with no significant differences between waves. Employment status was significantly higher in the national data with significant differences between samples at each wave, $\chi^2(1) = 355.70–122.58$, *p*s <0.001. In the NAR from 45% to 53% (48% averaged across waves) of participants reported working more than 32 hours a week across waves (Table S5 Supplementary materials). At their most recent wave, 41% of participants reported working *completely* and 30% *partially* at a level commensurate to their training; 36% and 31% reported their employment fully or partially matched their training, respectively.

Gender differences

There were significant gender differences for most daily activities (see Table 2). Females reported lower paid employment, guided work schemes and retirement, and higher rates of study, volunteer work, internships,

sickness benefits, and homemaking than males. Non-binary compared to the other genders reported higher rates of study, work with retention of benefits, work or care farm, and hobbies. Non-binary and females reported significantly lower rates of labor force participation, and females reported lower rates of employment and unemployment than males. National data reflected the higher male scores of differences seen in the binary gender data, with percentage rates about 30% lower for labor force participation and employment, and similar rates for unemployment.

DISCUSSION

In this study, we sought to characterize the types of daily activities autistic adults engaged with, and how overall participation rates varied between timepoints and by gender. Autistic adults were engaged most frequently in paid employment, study, or volunteer work. Importantly the proportion of those engaged in these activities did not change over time. Other forms of unpaid/supported engagement with the workforce, such as internships or sheltered employment were stable and lower than reported in other studies (e.g., Taylor & Seltzer, 2012), possibly reflecting the overall high education level of this current sample.

Contrary to vocational related activities, the proportion of participants engaged in non-vocational activities were more likely to fluctuate over time. Specifically, a large number of participants reported spending time with hobbies or as homemakers, with participation in these activities increasing over time. Changes in retirement could potentially reflect a significant but small increase in participant mean age ($d = 0.16$) between baseline and the first wave of data collection (see supplementary Table S3). However, other changes in non-vocational activities do not seem to reflect demographic changes between timepoints. For example, although homemaker is traditionally engaged in more frequently by females (Hayward et al., 2020), as it was in this study, an increase in male participants in the NAR between baseline and the first wave was not reflected in the homemaker participation rates.

Approximately 45% of participants were engaged with the labor force, which was about half that reported in the Netherlands population data. Nonetheless, labor force engagement for autistic people was higher than reported in other countries (Australian Bureau of Statistics, 2019; Zwicker et al., 2017). Higher levels of education and diagnoses age in this self-reporting NAR sample might explain this difference, but also highlights the challenges a well-educated autistic sample has gaining employment. While unemployment as a proportion of the labor force did fluctuate significantly across waves, it did not always differ from the general population. In previous research autistic people report higher rates of underemployment as well as unemployment in relation to the match between their level of vocational training and employment (Baldwin et al., 2014; Hedley et al., 2023) or hours worked (Roux et al., 2013). Consistent with others (Baldwin et al., 2014; Frank et al., 2018), roughly one third of participants reported that their employment was completely on parity with their level of education. On average, 48% of employed participants worked 32 hours a week or more (69% working 24 hours and above), which is not too dissimilar to the population data for the Netherlands (Centraal Bureau voor de Statistiek, 2023), where 53% of the employed population (15–64 years) worked full time (≥35 hours). Contrary to other studies (Hedley et al., 2017; Roux et al., 2013; Zwicker et al., 2017), employed participants tended to work similar hours to the general population, but below their level of training.

Females were overrepresented in unpaid daily activities (e.g., study, volunteer, housemaker), more likely to be incapacitated for work, and underrepresented in paid employment (both percentage of work obtained and labor force engagement). These findings are reflected in the national data (Centraal Bureau voor de Statistiek, 2023), and reports of gender differences in the literature more broadly (Hayward et al., 2020). There were no statistically significant differences in unemployment rates between autistic males and females.

Strengths and limitations

This study utilized a large data set across multiple timepoints to characterize the daily living activities of autistic adults. However, although the impact on the findings is likely negligible, caution is nevertheless required in interpreting our comparison with national population data as participants in the NAR dataset are also likely to be accounted for in the national dataset. Additionally, participants were limited in the number of daily activities they could report at each wave (except W1), meaning participants may have participation not captured. While only 0.3% to 3.2% reported five activities (Supplementary Table S2), and thus the amount of potential data missing is likely small and would not greatly affect the findings, this is a limitation.

Participants in this study had a high mean age of diagnosis. However, we do note that it is becoming increasingly common for autistic adults to receive their diagnosis in adulthood, sometimes following their own child's diagnosis or an assessment for other co-occurring mental health concerns as an adult (Huang et al., 2020). Furthermore, it is not uncommon in self-reported data collected online for participants to report a higher age of diagnosis than might be expected, as well as relatively high levels of education. (e.g., Bury et al., 2023). This may reflect the accessibility of online self-report methods to the broad range of people on the autism spectrum.

While this may limit the generalisability of findings, it also emphasizes the challenges autistic people have in gaining employment, even for this potentially more able and highly educated sample.

Conclusion

This is the first study to provide an in-depth characterization of the cross-section and changing patterns of the daily activities of autistic adults across time. Efforts to increase accessibility to the labor force continue to be important, and data suggests greater efforts to support autistic females in workforce programs should be a priority.

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CONFLICT OF INTEREST STATEMENT

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DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

Ethics approval was received from Vrije Universiteit Amsterdam (VCWE 2015/2021-041R1).

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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