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2022-05-19

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Published online: 02 Apr 2022.

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Autistic graduates: graduate capital and employability

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ABSTRACT

An unprecedented number of autistic people are completing university and they frequently face unemployment after graduation. However, research focusing on the forms of graduate capital and their employability is scarce. The focus of existing research has been on non-autistic, or neurotypical, graduates. The human, social, cultural, identity and psychological capital might be different for autistic graduates due to the characteristics of autism. Using a participatory approach, our aim was to examine the five areas of graduate capital in the context of autistic graduates. The study involved semi-structured interviews with 15 autistic university graduates from England, Finland, France and the Netherlands. Data were analysed using theory guided content analysis and 'data-driven' approaches. Findings indicate that the five areas of graduate capital are particularly relevant to autistic graduates, who typically expose gaps in several capital, jeopardising their employability.

Introduction

Autism is a neurodevelopmental condition characterised by impairments in social interaction and communication, involving restricted patterns of cognition or behaviour, as well as sensory-perceptual challenges (APA (American Psychiatric Association) 2013). The number of autistic[1] people graduating from university has been steadily increasing (HESA (Higher Education Statistics Agency) 2021). Although important employability factors that should be strengthened whilst at university have been identified in previous studies (Tuononen 2019), autistic graduates are consistently struggling to find employment when they enter the workforce. Graduate employability is often demonstrated through five forms of graduate capital: human, social, cultural, identity and psychological (Tomlinson 2017). These are important resources that bring benefits and advantages, and the development of these capital is supported by the university education and thus foster graduates' employment opportunities (Clarke 2017; Tomlinson 2017). However, autistic graduates are systematically at a disadvantage compared to non-autistic, or neurotypical, graduates when securing employment (Moreau and Leathwood 2006; Wehman et al. 2015; Vincent 2019; Allen and Coney 2021). In England, autistic graduates were the least likely to be employed when compared to other disability groups, and the least likely to secure a permanent contract (Allen and Coney 2021). Those who do find a job tend to be overqualified for their role, find themselves in roles inconsistent with their skill set, or stay in junior roles longer than others (Romoser 2000; Frank et al. 2018). Research further indicates that due to inadequate careers advice at university (Pesonen et al. 2020a), limited social networks and access to the 'hidden job market' (e.g., Pesonen et al. 2020a), as well as poor previous work experience (e.g., internships or placements) (Martin et al. 2019) contribute to this

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employment gap. Although these challenges encountered by autistic graduates have been docu-mented, research focusing on graduate capital potentially associated with autistic graduates' poor employment outcomes is scarce. Furthermore, previous studies on graduate capital and employ-ability have only focused on non-autistic graduates (Tomlinson 2017; Pham, Tomlinson, and Thompson 2019). The human, social, cultural, identity and psychological graduate capital might be different for autistic graduates due to the characteristics of autism, and thus provide an interesting and novel lens through which to examine this under-researched topic.

To explore this, we analysed interviews with 15 autistic graduates from England, Finland, France and the Netherlands to examine the challenges autistic graduates face when transitioning into the labour market, with a specific focus on Tomlinson's (2017) five areas of graduate capital. Our aim was to explore the graduate capital of autistic graduates and to understand how these capital are associated with their employability.

Theoretical framework

Several employability models describe factors that are important for graduates' employability (e.g., Knight and Yorke 2003; Tomlinson 2017). 'USEM', Knight and Yorke's (2003) employability model includes understanding (U), skills (S), efficacy beliefs (E) and metacognition (M). Fugate, Kinicki, and Ashforth (2004) defined employability as consisting of human and social capital, career identity and career adaptability. In recent years, employability has frequently been demonstrated through capital that include the elements of career adaptability within them. Tomlinson's (2017) graduate capital model consists of five areas: *human, social, cultural, identity and psychological capital*. The forms of capital are important resources that bring benefits to individuals, but capital can vary between individuals and one capital can compensate for the lack of another capital (Tuononen 2019). For example, having work experience may provide graduates with confidence in the transition phase, although their perceptions of the competencies developed at university were poor, they had confidence in terms of career success (Tuononen, Parpala, and Lindblom-Ylänne 2017). Thus, it is important for graduates to interlink the various capital so that they can make use of their strengths (Pham, Tomlinson, and Thompson 2019).

The five areas of graduate capital

According to Tomlinson (2017), *human capital* refers to the knowledge and skills which graduates acquire and which are a foundation of their labour market outcomes. The role of generic compe-tencies or skills, such as critical thinking, problem solving, communication and communication skills is emphasised in successful transition and career success (Braun, Sheikh, and Hannover 2011; Tuononen, Parpala, and Lindblom-Ylänne 2019). On the other hand, there is evidence that there is a gap between the skills needed in the workforce and developed during studies (Andrews and Higson 2008; García-Aracil and Van der Velden 2008; Tuononen, Parpala, and Lindblom-Ylänne 2019). For example, graduates have perceived the need for better collaboration and communication skills (Challis, Robinson, and Tomlinson 2009; García-Aracil and Van der Velden 2008; Tuononen, Parpala, and Lindblom-Ylänne 2019). Furthermore, graduates might find it challenging to reflect on and describe their skills (Tuononen, Parpala, and Lindblom-Ylänne 2017), which is worrying if they are not able to articulate these highly desired transferable skills to potential employers (King et al. 2017).

Social capital refers to social relationships and networks, including family, peers, higher education institutions, and social organisations that graduates use to access the labour market. Social capital can also enhance awareness of labour market opportunities. One important form of social capital concerns employer engagement, formal or otherwise, in the form of meaningful and gainful inter-actions between graduates and employers. In addition, acquiring work experience via internships or other forms of employment may be crucial, particularly if this provides rich knowledge or employ-ment opportunities. Many studies indicate that having good networks and previous work experience

are important for career success and transition to the workforce (Sanchez-Gelabert, Figueroa, and Elias 2017; Monteiro, Almeida, and Garcia-Aracil 2016). For example, Pham, Tomlinson, and Thompson (2019) found that most of the successful graduates had good networks and relationships and so-called significant others who helped graduates to contact potential employers. On the other hand, some graduates had limited social networks and developing networks was difficult (Pham, Tomlinson, and Thompson 2019).

Cultural capital can be conceived as the formation of culturally valued knowledge, dispositions and behaviours that are aligned to the workplaces that graduates seek to enter (Tomlinson 2017). This capital is illustrated as a 'personality package' that includes accent, body language, and humour. An Australian study exploring the international graduates found that from most challenges were related to cultural capital, mainly in the embodied and linguistic form, and this caused difficulties in entering some fields (Pham, Tomlinson, and Thompson 2019). Furthermore, evidence shows that graduates from lower and marginalised socioeconomic backgrounds are disadvantaged in terms of social and cultural capital and must often use existing economic capital or make more effort to enrich their social network (Tomlinson 2017).

Identity capital refers to how individuals make active self-investments in their future employment. Their efforts could be used to form their personal identity and are also presented as form of narrative. Tomlinson highlighted the curriculum vitae (CV) as a tool allowing graduates to present compelling employability narratives that convey their identities to impress employers. Ability to present and perform as an employable self was emphasised by employers, and especially human, organisational-cultural and identity capital are valuable in competitive labour markets (Tomlinson and Anderson 2020).

Finally, *psychological capital* includes capacities that enable graduates to overcome barriers, adapt to new situations, and respond proactively to inevitable career challenges. It includes resilience, adaptability and self-efficacy, which are becoming increasingly important because of the intense competition and continuously changing labour market (Tomlinson 2017). Previous studies indicate a positive and statistically significant relationship between psychological capital and the perceived employability of students (Ayala Calvo and Manzano García 2021; Ngoma and Dithan Ntale 2016). Furthermore, there is evidence of the importance of self-efficacy for graduates' employability (Pool and Qualter 2013; Tuononen, Parpala, and Lindblom-Ylänne 2017). Graduates with strong self-efficacy beliefs in finding a job had more interviews and job offers than graduates with lower self-efficacy beliefs (Moynihan et al. 2003). Furthermore, continuously changing labour markets require adaptability and resilience to adapt to new situations and respond to inevitable career challenges (Tomlinson 2017). For example, some international students adapted admirably to their studies, work environments; whereas some students showed less effort in socialising with mainstream people, and easily gave up when confronting difficulties (Pham, Tomlinson, and Thompson 2019). Individuals with strong self-efficacy are more likely to view challenges as something to be mastered rather than avoided (Gbadamosi et al. 2015).

Research questions

Although recent research has indicated important factors associated with the five areas of graduate capital and their relationship to graduate employability (e.g., Tomlinson 2017; Pham, Tomlinson, and Thompson 2019; Tuononen, Parpala, and Lindblom-Ylänne 2017), there has been little research on the five areas of graduate capital amongst autistic graduates, who might have challenges with the capital due to the characteristics of autism. To fill this research gap, our aim with this study was to examine Tomlinson's five areas of graduate capital by focusing on participant perceptions. Interviews with 15 autistic graduates were analysed to address the following research questions:

(1) How are Tomlinson's five graduate capital associated with autistic graduates' employability?
(2) What challenges do they present for autistic graduates?

Examining autistic graduates' perceptions with regard to the graduate capital can generate suggestions for developing teaching and support services to improve employability for autistic people.

Methods

Context

The European Union has key policies in place to promote graduate employment, enhance career guidance and involve employers in the design and delivery of graduate programmes (EC (European Commission) 2020). All 15 participants studied at European universities observing the Bologna process for supporting students' development of competencies and employability skills in preparation for their transition to work (European Parliament Council 2008; Ministry of Education and Culture 2018), yet the participants' universities were in four European nations with different regulations concerning the university-to-work transition (EC (European Commission) 2018). In Finland and England, universities are encouraged to support university-to-work transition (e.g., preparing for interviews, helping to build networks) through incentives, whereas in France, the institutions are required to provide transition support, and in the Netherlands, there are no obligations or incentives (EC (European Commission) 2018). Furthermore, work placements are important for graduates' employability, yet in Finland and in England not all the higher education institutions are regulated to organise them, in France all institutions have obligatory regulations, and in the Netherlands there are no incentives (EC (European Commission) 2018).

Participants

A European research project focusing on improving the employability of autistic university students and graduates was the source of the data (see http://www.imageautism.com), for which the participants were purposefully recruited using snowball sampling. The researchers used their professional networks in distributing information (via social media, Internet forums and email) about the search for interviewees for the research.

For the current study, 15 participants (six female and nine male) from England, Finland, France and the Netherlands were purposefully selected. Inclusion criteria were 1) participants had received a formal diagnosis of Autism Spectrum Disorder (ASD) or Asperger's Syndrome from an educational or health professional, and 2) they had graduated from university within the last ten years. Employment history was not a criterion.

The participants' ages ranged from 24 to 37 (mean age = 29.53, SD = 3.76). Of the 15 participants, four had a bachelor's degree, nine a master's degree and one a PhD. Nine graduates were currently working, six of whom had a job related to their field of study. The remaining six graduates were either unemployed or looking for work. Detailed participant descriptions are outlined in Table 1.

Procedure

Institutional ethics approval was granted by the ethical review board, and written informed consent was obtained from each participant prior to data collection. Participation was voluntary.

The researchers developed the interview protocol in collaboration with autistic people who were not interviewed for the present study. First, the interview questions were drafted by the researchers. The corresponding author then held two official co-design meetings with the participants. These meetings were based on the principles of participatory research (Kemmis and McTaggart 2005). The draft interview questions were the starting point for discussions and an iterative process of creating the interview protocol. The participatory research cycle also included receiving feedback from the wider autism community after the first co-design meeting. This was followed by a further development of the interview protocol during a second co-design meeting.

Table 1. Participant characteristics[a].

Participant	Degree country	Age	Sex	Diagnosis**	Year of diagnosis	Field of study (highest degree)	Graduation year	Currently working	Job related to field of study
FI1	Finland	37	F	AS	2013	MA Biology	2008	✓	✓
FI2	Finland	34	M	AS	2015	MA Physics	2018	✓	
FI3	Finland	32	F	AS	2016	MA Theology	2014	✓	
NE1	Netherlands	34	F	ASD	2018	MA Education (teacher training)	2011		
NE2	Netherlands	26	F	ASD	2016	MA Linguistics	2015		
NE3	Netherlands	30	M	ASD	2003/2004	MA Chemistry	2012	✓	✓
NE4	Netherlands	31	M	Pervasive Developmental Disorder	1992	MA Analytical sciences	2014	✓	✓
NE5	Netherlands	30	F	ASD	2011	BA Social work	2017	✓	
NE6	Netherlands	26	F	ASD	2013	MA Special education	2017	✓	
NE7	Netherlands	24	M	ASD	2002/2003	BA Audiovisual and BA Theatre	2014 and 2015	✓	
EN1	England	32	M	ASD	2002	BA Political Science	2018		
EN2	England	27	M	ASD	2000	BA Computer forensics	2013		
EN3	England	27	M	AS	2009	MA Data Science	2018		
FR1	France	27	M	ASD	2017	MA Education	2015	✓	✓
						MA Mathematics	2016		
						MA Applied Mathematics	2018		
FR2	France	26	M	ASD	2012/2013	PhD Mathematics	2015	✓	✓

*The participant background information was collected via pre-interview survey and confirmed during the interview
** AS = Asperger Syndrome; ASD = Autism Spectrum Disorder. AS is part of the umbrella term ASD

The protocol was then pilot tested in an interview with an autistic person who was not included in the study. The pilot interview resulted in feedback from the interviewee. Finally, based on the insights received, the protocol was finalised. Interview questions covered support factors at university associated with employability.

Prior to interviews, participants completed a pre-interview questionnaire that collected information about their individual characteristics and preferences regarding interview location and sensory needs, and whether to bring a support person to the interview. Based on this information, semi-structured interviews were then conducted in distraction-free environments in a location of the participant's preference. The same interview protocol was followed in each interview situation in each country. All interviews were audio-recorded. Interviews ranged from 35 to 75 minutes.

Data analysis

Theory-guided content analysis and 'data-driven' (Schreier 2012) methods were used to analyse the qualitative interview data. We also used the COREQ 32-item checklist ('consolidated criteria for reporting qualitative research') to ensure comprehensive qualitative data reporting (Tong, Sainbury, and Craig 2007, 352).

First, interviews were transcribed verbatim, anonymised and if required, translated into English. The transcripts and translations were completed with great care to ensure correct meanings by researchers who were fluent in both languages. Interview transcripts were imported into Atlas.ti 9 software for coding and analysis that consisted of two phases.

In the first phase, the data were read multiple times with reading being guided by the five graduate capital (Tomlinson 2017) and the research questions. This was followed by the data being coded (single sentence, multiple sentences or paragraph) according to Tomlinson's graduate capital descriptions (Table 2).

In the second phase, the data were further analysed within each capital, continuing the analysis in accordance with the coding scheme and also enabling 'data-driven' (Schreier 2012) sub-dimensions of each capital to be identified (e.g., limited social relationships and networks, neurotypical working culture, knowing one's autistic characteristics).

To ensure the trustworthiness of the findings, researcher triangulation (Patton 2015) was used throughout the analysis to discuss the codes and sub-dimensions of each capital. Three data validation meetings (Given 2008) were held, and the analysis processes and emerging sub-dimensions were discussed until consensus was reached. Further, the Atlas.ti 9 software aided the systematic analysis, as the assigned codes were assessed in relation to other coded extracts and the whole data set.

Findings

Human capital: internalising job application skills is challenging

Participants' educational background had provided them with human capital consisting of subject-specific hard skills, as well as knowledge and skills around the job application process. Apart from one Dutch participant, there was evidence to support human capital in the data. Although in theory their education should have prepared the autistic graduates for the world of work, it did not necessarily mean that it was enough on its own to guarantee a job. As one graduate put it: 'They [university studies] showed me . . . my strengths [theoretical capabilities], and those aren't the most important things during the recruitment itself'. (FR2) The participants spoke about how important it was to know about writing effective CVs and cover letters, as well as to be enthusiastic and appealing during interviews. Even though the graduates had

Table 2. Coding scheme for the first phase of analysis.

Capital	Definition
Human	Acquired knowledge and skills including hard skills (e.g., subject specialism, formally acquired knowledge) and career building skills (knowing where and how to apply for and access work)
Social	Social relationships and networks that help graduates turn existing human capital into employment opportunities (e.g., networks, contacts and relationship formation).
Cultural	Cultural knowledge, tendencies and behaviours that are aligned to graduates' target place of employment (e.g., behaviours at the work environment).
Identity	A personal investment that graduates make towards their future career and employability (e.g., development of work identities, personal investment in employment and employability narratives)
Psychological	Psychological resources enabling graduates to adapt and respond to career challenges (e.g., resilience, self-efficacy and adaptability).

attended courses about 'how you can write the best CV, how to come across as spontaneous in an interview … ' (NE2), it was still challenging to ' … find out how to go about applying [for jobs] … how do you do that?' (NE4).

Responses in the interview data suggest that challenges in internalising job application skills and applying those skills in practice creates barriers in the job search process, which could lead to being left out of the labour market.

Social capital: building professional relationships and networks with potential employers is challenging

Themes related to social capital were consistent among all participants (three Finnish, five Dutch, three English and two French participants). According to the interviews, having insufficient social networks led participants to relying exclusively on their job application skills when trying to secure employment. In contrast, those graduates who were employed often had better social relationships – generally stronger social capital. Participants' limited social relationships and networks appeared to be common due to challenges in social interaction and communication (cf. APA 2013). For example, participants mentioned that 'Belonging to a group is always a little challenging' (FI1), 'I have anxiety about strangers … ' (NE6), and ' … I'm not that social to be honest, I never have been … ' (EN3). The graduates were aware of these issues in their social interaction and expressed how networking can be challenging and frustrating. As one participant put it: ' … networking … [sound of exasperation] … networking!' (NE2). There were further indications in the interviews about the barriers they experienced in networking appeared to lead to limited social capital, and therefore hidden jobs might become unattainable, for example:

> Well networking is difficult … and it is also a risk that you will be left out of the community … so finding hidden jobs is challenging. You would need a bigger network for that … In my field there are many hidden jobs that you only find through networks … (FI2)

Although challenges with social capital were significant, some participants were fortunate enough to have been supported by a committed academic, who had helped to increase participants' social capital and employment opportunities through their own professional networks. Graduates described helpful academics: 'So it was the thesis supervisor who told me that … she had requested funding from the doctoral school [to have me employed in a paid PhD student position at the university]' (FR1), and:

> … he was very proactive in that most students that had enrolled in his module would get regular emails and things saying I have got contacts in … So, come to me and I will put in a good word for you, I will help you with the application and … put you forward. But that was very much something that he took on himself … (EN1)

Few participants had independently built their social capital that could help them to find employment. For example, 'I can honestly say, the jobs where I've been hired . . . I've been tagged in social media messages about them. I didn't just find them by myself; someone in my network tagged me who knew what my qualities are'. (NE7), and 'I was headhunted [by academics] for my [paid] PhD . . . and postdoc position . . . '(NE3). Furthermore, some graduates also talked about assessed internships and compulsory work placements that had helped to increase social networks.

Although some participants had been luckier than others in building and benefiting from social networks, overall, the graduates had limited, almost non-existent, social capital, which can significantly hinder finding jobs when transitioning from university to the workplace.

Cultural capital: entering a neurotypical work environment

Themes related to cultural capital were present in all participant data. Autistic graduates were expected to understand neurotypical working environments. This meant adhering to the ways 'typical' people think, behave and present themselves. Such working environments can be challenging for autistic graduates without a clear understanding of the 'neurotypical culture' in a professional field. Such barriers had already appeared during the job search process. Job descriptions rarely offered adaptability to respond to the autistic graduates' preference to work part-time, as full-time working hours can be mentally and physically overwhelming for many autistic individuals. For example.

> During the job-search process, the most difficult thing for me is finding a suitable post. Because everything that I do takes more energy than it does for other people, I can't work full-time. In my experience, 18 hours per week is my maximum and many posts ask for more than that. (NE6)

Another perceived barrier is related to the expectations surrounding behaviour, communication and protocols during interviews; for example: 'Recruitment is based on social skills and by nature, autistic people present a lack [of] social skills'. (FR2) Another graduate continued: ' . . . trouble was with my interviews . . . I just felt like I didn't know how to communicate with them to make them believe that I had potential. It was horrible, it was a really stressful time'. (EN2)

Those who found jobs struggled significantly in their work environment, in which casual sociability with other employees was expected. For example: 'When you go into the workplace there's so much expectation on you socially and I just didn't feel ready at the time' (EN2), and ' . . . everybody talks to you and I'm not very good at that'.(EN3) Graduates spoke about the challenges in informal situations like breaks and 'getting along with colleagues' (NE1). For example: 'I don't waste time on unnecessary things or having social chats at the coffee machine'. (NE5), and ' . . . really having coffee together moments . . . .I felt really lonely. It was not nice to be in those'. (FI2).

Although most had challenges with the cultural capital, some had influential or supportive family members. For example: 'My mum is a statistician . . . I read her grad level books when I was about seven . . . ' (EN3), and 'My wife . . . helped me a lot in terms of job interviews and how to act in professional workplaces'. (EN3). Participants also mentioned mentors who helped to navigate into the world of work, for example, ' . . . having the mentoring support [at work] was fantastic, the fact that it was advertised as autism mentorship was amazing . . . '. (EN2). These extracts demonstrate how parents' educational background, family support and mentoring is related to increased cultural capital (Tomlinson 2017). Unfortunately, such support of family members and mentors was rare.

Identity capital: autism in the quest of building professional identities

Themes related to identity capital were present in all participant data. Autistic graduates had been goal-orientated in their career progression and building their narratives; for example: 'For that, I aimed for and went to [place of study] and completed the qualification and then I got a job in my own field. That was my plan' (FI1). Another graduate had built his professional identity around autism, also using his social skills as strengths:

> . . . I've learned to not just put my business qualifications on my CV, but also other things, for example, Dungeons and Dragons . . . I'm also a game-leader . . . something that I also usually include . . . I can also link the qualities required to lead games with teamwork and such. (NE2)

Five of the graduates had been able to find jobs that suited the professional identities developed at university (see Table 1). There was evidence in the interviews that these graduates had been goal-orientated in their career progression and building their narratives; for example: 'For that I aimed for and went to [place of study], and completed the qualification and then I got a job in my own field. That was my plan' (FI1). Another graduate had built his professional identity around autism, also using his social skills as strengths:

> My main strengths are that I'm good at forming relationships, which is not something that you necessarily associate with autism. I've always found that I am quite good at getting on with people. I'm slightly unusual in that because my career has been based on my autism . . . I'm a good sales product for myself but also for autism as a concept . . . (EN1)

Furthermore, four of these five participants appeared to have been able to build their employability narrative with the help of caring and supportive academics who had also expanded their social networks for better employment opportunities (as presented under the social capital findings heading).

However, most participants did not have a clearly developed employability narrative, the absence of which can hinder graduates from seeking careers advice at university. For example, 'The reason that I didn't really go and see the careers team at the university, was that I didn't really know what sort of job I wanted . . . I didn't know what to ask, I didn't know how they would be able to help if I didn't know what I wanted, maybe I should have done that'. (EN1) This extract portrays how uncertainty about personal employability narratives and future directions can prevent autistic graduates from asking for help, as they do not know what to ask for without having a proper idea of their employability narrative and identity capital.

Psychological capital: responding to challenges encountered

Themes related to psychological capital were present in all 15 participant interviews. Six of the 15 participants reported being unemployed at the time of the study. They were either actively searching for a job or still figuring out future directions (see Table 1). As one participant put it: 'The trouble was I had no idea what to do, I had no direction really, no real clear direction of what kind of career I wanted to go into' (EN2). To find a job, the graduates had to overcome barriers and respond proactively to career challenges. For example, one graduate had understood that teaching is not a suitable profession for them:

> I would most prefer a job where I can share knowledge, but without interaction with pupils . . . So something like writing textbooks. Because I found the social side of being a teacher unbelievably hard. And books are great. And I love writing and developing student material . . . .(NE1)

The passion for imparting knowledge stands in stark contrast to the challenge of performing in a classroom, with all the social and communication barriers that may involve. However, the graduate had been able to use existing professional qualities as strengths in planning future directions. The above extract also evidences a certain resilience and creativity in applying skills and finding a different job in a labour market that is both competitive and uncertain (see also Pham, Tomlinson, and Thompson 2019).

Although one participant said they enjoyed teamwork (as outlined under the identity capital results section), there were clear indications in the interviews that most participants had a strong desire to work independently. For example: 'I like to work from home. I am not the most gracious social person ... Not good at teamwork. I work best by myself'. (EN3), and 'I am pleased with this current arrangement with a lot of independent working' (FI1).

There was evidence in the data suggesting that in addition to difficulties with the social aspects of teamwork, the unpredictability and fast-changing nature of working in teams also takes its toll. Working independently avoids unwanted surprises, especially when the path to task completion is clearly laid out. For example, one graduate highlighted that 'I really have a need for clear instructions and I also think it's best if deadlines are clearly given in advance'. (NE2) Another continued ' ... there's too much switching. Too often I don't get to see things through, I have too much oversight over all little projects. That's just too chaotic for me'. (NE4)

Adapting to the physical work environment was challenging. For instance, graduates mentioned this was easier when the workplace was ' ... calm and quiet as at home. No fluorescent lights ... ' (NE1) Further, graduates talked about how they could be ' ... really sensitive to sounds ... ' (EN3). These extracts demonstrate the expectation that the autistic person will adapt to the physical environment, rather than the other way round. This can be particularly challenging when employers are inflexible and insist on fixed working arrangements (e.g., limited opportunities to work from home).

Discussion

In this study we examined the five areas of graduate capital for autistic university graduates. The findings offer a novel contribution to the existing literature (Pham, Tomlinson, and Thompson 2019; Tomlinson 2017) by widening the perspective to include views of autistic graduates in relation to the capital, as authors of previous studies have only focused on neuro-typical graduates. Our analysis revealed that the five areas of graduate capital are of relevance to autistic graduates, who typically expose gaps in multiple capital. Although the graduates were from four European countries, they evenly endorsed each of the five capital areas investigated, and the issues related to them. Thus, there were no cross-country differences. Tomlinson (2017) conceived these five capital as cumulative and recursive, giving an advantage to graduates who cover all five areas well. This puts autistic graduates at a disadvantage, because it constitutes a wider issue of whether autistic graduates actually 'lack' competencies in any area of graduate capital, or whether graduate capital are a construct borne out of the expectation to meet certain societal norms – a construct that ought to be challenged.

Tuononen (2019) posits that gaps in one capital can be compensated for increased competency in another, yet this fallback position does not appear to be readily available to autistic graduates due to them struggling across the range of capital. Consequently, it is conceivable that employers are more likely to reject these job applicants, considering them to be lacking important resources and not quite fitting into their work environment or team. Tomlinson (2017) acknowledged this when talking about how the presence or absence of graduate capital can shape how others perceive a graduate's potential. This is supported by the lived experiences of study participants as well as by the wider literature, in which it has been stated that employers can hold negative views based on a lack of autism understanding and perceived barriers such as the cost of

reasonable adjustments (Scott et al. 2019). The situation is further exacerbated when considering that autistic people might find it harder to adapt to new situations when compared with neurotypical people (Robic et al. 2015).

Our findings demonstrated that there are pertinent challenges with human capital. The difficulties with internalising essential job application skills present an early and substantial barrier to employment. Further, subject-specific hard skills acquired at university, which should arguably benefit the applicant, are less useful if the recruitment strategy is designed around evidencing soft skills such as fitting into the team and being sociable and approachable during the interview. Such exclusionary recruitment practices and unreasonable social demands are in line with prior scholarly work (Hedley et al. 2018; Scott et al. 2019).

Weak social capital was repeatedly mentioned as an inhibitor to building professional relationships with employers. This clearly affects autistic graduates at all stages of the transition into employment. Building and maintaining social networks before searching for jobs is an employability enabler that eluded most of the study participants, thereby preventing access to the 'hidden job market'. The lack of social capital could be ameliorated through careful mentorship and support by academics who made available their own social and professional networks. Thus, universities should emphasise inclusive services and revise the policies to meet the needs of all (Moriña 2017; Zeedyk, Bolourian, and Blacher 2019). The participants were from universities in four European countries that use different regulations in their approach supporting graduates' development of competencies and employability skills in preparation for the transition to work (European Parliament Council 2008; Ministry of Education and Culture 2018; EC (European Commission) 2018). However, the issues appeared to be the same in all the countries and it was based on 'pure luck' when a participant met caring and supportive academics who widened their social networks and helped to improve and widen employment opportunities (cf. Pesonen et al. 2020a).

The issue of cultural capital, when mapped against participants' experiences, appears to be closely linked with autistic graduates adapting, or failing to adapt, to a neurotypical working environment (Pesonen et al. 2021). Participants repeatedly talked about having to behave, think or perform in a way that was at odds with their natural preferences (cf. Pesonen et al. 2020b). This can be exhausting for the individual and it might also foster misconceptions by the employer about autism and an individual's capacity to adapt their unique cognitive style, thereby delegitimising the autistic experience (Vincent and Fabri 2020). Some participants were coached by friends or family members on how to behave 'correctly', but there is a clear danger that this amounts to masking. This coaching to enable the autistic to appear non-autistic may actually perpetuate a social model of disability in which societal norms create the barriers that the disabled person is then expected to (learn to) overcome (Woods 2017). Previous research has shown the link between masking autistic characteristics and poor mental health (Cage and Troxell-Whitman 2019; Hull et al. 2021; Mandy 2019). It appears that workplace culture and attitudes are still lacking in neurodiverse understanding, if striving to 'behave correctly' is encouraged. Furthermore, the graduates' experiences of work environments suggest that understanding the 'neurotypical culture' seems to be required. Although there is legislation that protects individuals with disabilities from discrimination in the workplace (e.g., The Equality Act 2010 in the UK and Non-Discrimination Act [1325/2014] in Finland), our results imply that autistic graduates experienced barriers related to the expectations surrounding communication and protocols during interview, as well as social expectations in the job.

Our findings demonstrated that identity capital, or the quest for building an employability narrative, appeared to be linked to the ability to self-advocate and having caring and supportive academics. Unfortunately, most participants did not have a clearly developed employability narrative. Perhaps supporting self-advocacy skills should be more emphasised throughout higher education (Daly-Cano, Vaccaro, and Newman 2015). The importance of self-advocacy as a powerful enabler for autistic students in navigating the job market (cf. Fabri et al. 2020). Conversely, lacking in self-advocacy is likely to have a direct impact on career planning and development, with those who need careers support most generally not seeking it.

Our findings further showed that the participants recognised their strengths and adapted them into their career goals accordingly. This is an appealing finding regarding psychological capital, as researchers have indicated that some graduates have difficulties recognising their strengths and using them to attain a career (Tuononen, Parpala, and Lindblom-Ylänne 2017). Although the participants especially had challenges with the social capital, there needs to be a stronger emphasis by the universities on strengthening the autistic graduates' psychological capital that would compensate for the capital areas that appear to need strengthening. For example, autistic graduates could be directed to start building their career direction so that it would require less from them in terms of social participation. However, this does not mean that the graduate is expected to adapt to their working environment, the environment should still be adapting to the diversity of people (Pesonen et al. 2021).

Practical implications

As a major implication of our study, the strengths and challenges graduates expressed will provide suggestions for higher education career services, academics and higher education managers. More individualised approaches to meet the needs of autistic graduates are needed. The services and teaching need to consider that if higher education institutions welcome a diverse population of students, they also need to ensure the diversity when preparing their students for the workforce. The findings encourage the development of services that meet the ever changing and increasing diversity of higher education students and graduates. Higher education managers and academics should carefully consider how to emphasise all five areas of graduate capital in the curriculum and the teaching. In their current form they only meet the needs of non-neurodiverse people. For example, social capital is emphasised today (Yan and Mao 2015) and flexibility by employers' is also necessary. Supporting social capital and improving adaptations to it is not solely a responsibility of higher education. Liaison between universities and employers must be strengthened (see also Hedley et al. 2018). Furthermore, the 'double empathy problem' should be carefully considered in the issues related to current and future practices, which suggests that both autistic and neurotypical people have challenges in understanding each other (Milton 2012, 2020). In other words, neurotypical employers or colleagues may also have difficulties in reading an autistic person's facial expressions in interactions in the workplace, and this could create additional barriers for autistic people trying to fit in.

Limitations and future research

This study has its limitations. First, the data were not specifically collected for the purposes of investigating the five graduate capital. Although the data included all the areas of graduate capital to be analysed, our sample could have benefitted from including specific questions related to the capital when planning the interview questions. Future studies should thus consider this when planning interview questions. For example, specific theory-guided questions could be developed further and the graduate capital model modified to be more applicable to autistic graduates. Further, the current study has a small sample; more interviews would lead to more generalisable conclusions and would also facilitate modification of the theoretical model to improve consideration of the autistic graduates. Lastly, although the research project was built on participatory principles (e.g., autistic graduates participated in developing the interview protocol) (see www.imageautism.com), richer interpretations might have emerged from engaging the participants at various stages of the research, including the analysis stage (Vincent et al. 2017).

The findings from this study contribute to the literature by offering novel observations about autistic graduates' five areas of graduate capital and their relationship to employability. In the current study we highlighted various important areas that need to be considered when improving inclusive services and the university curriculum to accommodate autistic individuals better. Such improvements and adjustments will clearly benefit all university students and graduates. Although our study provides

appealing insights into the autistic graduates' areas of graduate capital and the issues related to them, future studies are unquestionably needed so that more generalisable conclusions are reached, that can lead to developing a theoretical model of autistic graduates' capital.

Notes

1. In this article, we use identity-first language, as it is preferred by many autistic people (Kenny et al. 2016; National Autistic Society 2018).

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

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