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Cambridge Journal of Education

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ccje20

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To cite this article: Zoe Baker, Neil Harrison, Jacqueline Stevenson & Paul Wakeling (2021): Patterns of postgraduate transitions amongst care-experienced graduates in the United Kingdom, Cambridge Journal of Education, DOI: 10.1080/0305764X.2021.1994922

To link to this article: https://doi.org/10.1080/0305764X.2021.1994922

Published online: 09 Dec 2021.

CAMBRIDGE JOURNAL OF EDUCATION
https://doi.org/10.1080/0305764X.2021.1994922

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Patterns of postgraduate transitions amongst care-experienced graduates in the United Kingdom

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ABSTRACT

Those who have spent time in state care as children, and are therefore 'care-experienced', are known to have lower life chances than the general population. While we know that care-experienced young people are significantly underrepresented in Higher Education nationally and internationally, little is known about their progression to postgraduate level study. Using data from the national Destinations of Leavers from Higher Education (DLHE) survey, this paper explores patterns of postgraduate progression for care-experienced graduates in the United Kingdom. As postgraduate qualifications have been found to provide numerous benefits, this is important to understand; these benefits could be particularly transformative for those with care experience – mitigating their background disadvantages. The authors' data present a positive picture, showing that care-experienced graduates who successfully access and complete an undergraduate degree are significantly more likely to progress to postgraduate study than non-care-experienced graduates. We propose explanations for these findings, and make recommendations for practice to establish further equality in these patterns of progression.

ARTICLE HISTORY
Received 31 March 2021
Accepted 14 October 2021

KEYWORDS
Care-experienced students; care leavers; postgraduate; transition; inequality; widening access

Introduction

Transitions to postgraduate education in the United Kingdom (UK),[1] specifically in relation to social inequalities, is a growing research area (Higher Education Funding Council for England [HEFCE], 2013; Wakeling, 2005, 2009; Wakeling & Hampden-Thompson, 2013). Several predicting factors for progression from undergraduate to postgraduate taught degrees have been identified in the literature, including attainment, subject studied, institution type, socioeconomic background, ethnicity, disability status, age and gender (HEFCE, 2013). Yet, little is known about patterns of postgraduate progression for care-experienced students, who are considered among the most marginalised groups in society (Barn, 2010) and one of the most underrepresented groups in UK higher education (HE) (Harrison, 2020).

The term 'care-experienced' is used to describe those who have spent time in the care system as a child, having been removed by a local authority through a 'care order'. The most common reason for removal is maltreatment within the birth family (Department for Education [DfE] 2019). Children are then usually placed in foster care, residential

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homes, or in kinship care with extended family. Care-experienced young people often undergo significant educational and social disruption as well as mental-health difficulties caused by childhood trauma and societal stigma (Stein, 2012).

While there is a growing body of international literature on care-experienced individuals' access to, and retention in, undergraduate study (Harvey, McNamara, Andrewartha, & Luckman, 2015; Jackson & Cameron, 2012; Rafaeli & Strahl, 2014; Styrnol, Matic, & Hume, 2021), little is known about care-experienced graduates' transitions to postgraduate study.[2] This is important to consider for three reasons. First, the benefits associated with postgraduate qualifications, such as access to the professions and increased earning potential (Walker & Zhu, 2013), could be particularly transformative for those with care experience. Second, as Wakeling and Laurison (2017, p. 550) note, access to postgraduate qualifications is one of the 'new frontier[s] of social mobility'. Participation in postgraduate study should therefore be regarded as a key social justice and social mobility concern. Third, the proponents of widening access to higher education point to the transformative capacity of HE for mitigating background disadvantages. If, despite multiple burdens, care-experienced students achieve successful outcomes such as entry to postgraduate study, this may partially vindicate such hopes.

Using data from the national Destinations of Leavers from Higher Education (DLHE) survey for those graduating in 2016/17, this paper explores patterns of postgraduate progression for care-experienced graduates relative to potential predicting factors. Although some similarities are observed between patterns for care-experienced graduates and the general graduate population, there are indications that some are distinct for those with a background of care. We go on to propose explanations for these findings, drawing on two bodies of existing knowledge: postgraduate progression and the particular challenges associated with a background of care.

Literature review

Care-experienced individuals are more likely to experience structural instability and disadvantage, such as homelessness (CSJ, 2019), lower earnings (Gypen, Vanderfaeillie, De Maeyer, Belenger, & Van Holen, 2017) and higher rates of unemployment (Okpych & Courtney, 2014). They are also severely underrepresented in HE systems across the world. For example, although global data on care-experienced students is sparse, or not collated at all, Jackson and Cameron's (2012) research across five European countries[3] found that only 8% of those who had been in care progressed into HE, around five times less than young people overall. In Australia, although data on care-experienced students is not easily available, it seems that outcomes are also very poor, with just 1% progressing to HE, compared to over a quarter of all young people (Harvey et al., 2015).

In England, where data has been more routinely recorded, around 13% of care-experienced young people progress to HE by the age of 19, compared to 43% of the general population (Department for Education [DfE], 2020). For those who do access HE, they are 1.38 times more likely to withdraw from their studies (Harrison, 2017). A growing body of literature on students (see Stevenson et al., 2020) with a background of care has identified a number of reasons for low participation and retention; these include low levels of school attainment (Sebba et al., 2015), financial constraints (Jackson, Ajayi, & Quigley, 2003), disability and mental-health issues (Ellis & Johnston, 2019), low

expectations from social workers and carers (Ellis & Johnston, 2020; Jackson, Ajayi, & Quigley, 2005) and stigma (Stein, 2012). While there is evidence that the number of care-experienced students is growing (DfE, 2020), in part due to outreach work by universities and charities (Styrnol et al., 2021), they remain a marginalised group – albeit one with many high achievers (Harrison, Baker, & Stevenson, 2020).

For care-experienced individuals who do progress to HE and complete their undergraduate studies, little is known about their rates and patterns of progression to postgraduate education. This is important to understand, as postgraduate qualifications have been shown to result in increased earnings (Walker & Zhu, 2013), less exposure to unemployment (Conlon & Patrignani, 2011) and higher job satisfaction (Rosenbaum & Rosenbaum, 2016). There is, however, a growing literature on inequalities in participation in postgraduate education; this is particularly salient since care-experienced people are overrepresented in groups that are known to be disadvantaged (Harrison et al., 2020).

Perhaps unsurprisingly, students who attain a first or upper-second-class undergraduate degree (the top two highest grades awarded) are more likely to transition to postgraduate degrees (HEFCE, 2013; Wakeling & Hampden-Thompson, 2013). This has been identified as transcending socioeconomic inequalities, to an extent, with negligible differences in postgraduate progression rates observed between students from different socioeconomic groups when a first- or upper-second-class degree is obtained (HEFCE, 2013).

In addition to attainment, undergraduate degree subject is also influential in postgraduate transition rates; those studying modern languages, or science, technology, engineering and medicine (STEM) subjects have a considerably higher rate of transition to postgraduate study (Wakeling & Laurison, 2017; Walker & Zhu, 2013), whereas those studying the creative arts or social sciences have some of the lowest (Wakeling & Hampden-Thompson, 2013). Additionally, students studying vocational rather than 'academic' degrees are less likely to transition to the postgraduate level (Mateos-González & Wakeling, 2020).

Students' undergraduate degree institution type acts as another predicting factor, with those attending more selective 'high tariff' institutions being much more likely to transition to postgraduate study (HEFCE, 2013; Wakeling & Hampden-Thompson, 2013). This can lead to social inequalities at the postgraduate level, since students from socioeconomically disadvantaged and minority ethnic groups are more likely to attend post-1992 institutions[4] for their first degree (Boliver, 2013), as are those with vocational qualifications (Hoelscher, Hayward, Ertl, & Dunbar-Goddet, 2008).

Finally, there are several demographic patterns in postgraduate participation. Overall, full-time students from minority ethnic backgrounds are more likely than white British graduates to transition to taught postgraduate programmes (but not postgraduate research) from their undergraduate course (Wakeling, 2009); however, this is not consistently the case across different minority ethnic groups (Wakeling & Hampden-Thompson, 2013; Wakeling & Laurison, 2017). Similarly, full-time students who declare a disability are more likely to progress to taught postgraduate degree programmes directly following completion of an undergraduate course, but less likely to transition to research degrees (HEFCE, 2013). Additionally, older full-time students (aged 21 and over on entry to their undergraduate studies) are less likely to progress to postgraduate study than those under the age of 21 (HEFCE, 2013); yet, when they do, they are more

likely to enter taught postgraduate programmes directly following their undergraduate degree (Wakeling & Laurison, 2017). Finally, women are notably underrepresented at postgraduate level, relative to the first degree level (HEFCE, 2013; Mateos-González & Wakeling, 2020).

Based on what else is known about care-experienced students, there are some further clues as to what their patterns of postgraduate participation might be. Care-experienced people tend to have significantly lower attainment in compulsory schooling. The reasons for this are complex, but include educational and social disruption, the legacy of trauma and low expectations from adults (Sebba et al., 2015). Consequently, they are more likely to take vocational post-compulsory qualifications (Jackson & Ajayi, 2007) which could limit subject and institutional choices when applying to HE, with some degree programmes having less flexible entry requirements (see Harrison et al., 2020), or result in academic challenges once in HE (Jackson & Ajayi, 2007). The net result is that care-experienced students tend to predominantly access post-1992 institutions, which are sometimes regarded as a 'lower status' form of HE (Harrison, 2020). They are also less likely to achieve a first or upper-second degree classification than other students (Stevenson et al., 2020). Although this is mainly the result of differences in entry qualifications (Harrison, 2017), it is likely to limit their future study options. Based on the patterns in the general population outlined earlier, these factors would all tend to indicate low participation in postgraduate study.

The demographic picture is more mixed. On the one hand, the preponderance of women among care-experienced students (Harrison, 2020) could indicate lower participation in postgraduate study. Conversely, care-experienced students are more likely to be from minority ethnic backgrounds and to identify as disabled, potentially suggesting a greater likelihood to enter taught postgraduate study, but lower likelihood with respect to research programmes.

Care-experienced graduates are also likely to face additional challenges with postgraduate study. For instance, care-experienced students looking to enter postgraduate education after their local authority support entitlement – including support with accommodation and bursaries for living costs during the summer – has ended (at the age of 25 in England) may encounter financial difficulties (Ayre, Capron, Egan, French, & Gregg, 2016). In turn, low levels of financial resources can make it difficult to afford relocation (Thomas & Jones, 2007), yet this may be required for some individuals to pursue a postgraduate qualification. Against this complex picture, this study set out to determine what the actual postgraduate progression rates of care-experienced students are, and whether these are consistent with the general literature on postgraduate progression.

Methodology

At the heart of our dataset is the DLHE survey undertaken by UK HE institutions around six months after undergraduate students graduate, using a mixture of online and telephone questionnaires. This has now been replaced by the Graduate Outcomes survey which uses a similar methodology, but with a 15-month period; our dataset, for those graduating in 2016/17, was the last collected under the old approach and the most recent data available at the time of the research. The DLHE survey asks graduates about their current activity (e.g. work, study or unemployment) and, for those studying, details about

which institution they are attending and the level of course that they are pursuing. The DLHE survey receives a high response rate (over 75%) and is generally considered representative and robust.

The DLHE data is held by the Higher Education Statistics Agency (HESA) and is made available to researchers. It is also possible to link the data from the DLHE survey with other data held by HESA at the individual level, providing a rich anonymised dataset with opportunities for multivariate analysis. Importantly for this study, this includes a variable capturing whether a graduate is known to be care-experienced, based on declarations made by the individual on application to (or registration at) their HEI or data subsequently collected by HEIs (e.g. through bursary applications).

Following several exclusions, the dataset used in this study comprises 'home' (i.e. not international) graduates who completed a full-time undergraduate degree, who completed the DLHE survey and whose care status was known. Part-time and international graduates were excluded as very little data about care is available for them. There was also a heterogeneous exclusion group of those for whom care status information was missing (totalling 27.3%), as this had not been collected during the admissions process; these were mainly students who had entered HE through some direct entry or work-based learning routes (see Harrison, 2020 for more details), but also some who declined to provide information. Sub-degree graduates were excluded, as the focus in this study is on progression to postgraduate study, for which they were not qualified.

Our initial dataset comprises 171,680 graduates meeting the inclusion criteria, of whom 1010 (0.6%) were identified as care-experienced.[5] Within this, 36,695 graduates had progressed to a postgraduate programme[6] by the time of the DLHE survey, including 255 (0.7%) who were care-experienced; this subgroup forms the principal focus for this paper. Table 1 outlines the variables used in this study. We elected not to include a variable for socio-economic status in the analysis as the data available are of questionable utility (e.g. Harrison & Hatt, 2010), especially for mature and care-experienced students.

In this study, we take a three-stage approach to analysis and a 5% significance level is used throughout:

(1) Firstly, we undertake a binary logistic regression on the whole dataset to explore whether care-experienced graduates are significantly more or less likely than other graduates to progress to postgraduate study. Binary logistic regression allows the influence of a variable of interest to be isolated by simultaneously controlling for a range of other factors, effectively comparing care-experienced graduates with otherwise similar graduates who are not care-experienced (Field, 2017).
(2) Secondly, we look at educational (e.g. degree classification) and demographic (e.g. ethnicity) subgroups of graduates and their relative propensities for progression to postgraduate study. In this stage, we also compare care-experienced and other graduates to identify whether they have different patterns of propensity. We use chi-squared tests to explore significant relationships, with post hoc use of the Bonferroni correction to better understand specific differences.

Table 1. List of variables used in this study.

Variable	Definition	Notes
Sex	Male/Female	Predates the use of 'non-binary' category.
Age on entry	20 or under/21 to 24/25 to 29/30 and over	
Disability	Not disabled/Disabled and receiving the Disabled Students' Allowance/ Disabled, but not receiving the Disabled Students' Allowance	The Disabled Students' Allowance (DSA) covers study-specific (i.e. not living) costs associated with a disability. Those not receiving the DSA tend to include those with mental-health issues and chronic illness, although assessments are undertaken individually.
Ethnicity	White/Black (inc. African and Caribbean)/Indian, Pakistani or Bangladeshi/ Other Asian (inc. Chinese)/Mixed Heritage/Other or not known	Because of low numbers, it was necessary to combine ethnic groups. Various configurations were explored, but they did not materially impact on the analysis.
Nationality	UK/Other nationality	The 'other' group is made up of those who hold a nationality other than British, but who have the right to study in the UK as a 'home' student rather than an 'international' student. This will include, but not be limited to, those with settled status, those from recent migrant families, asylum-seekers and refugees.
Care status	Care-experienced/Not care-experienced	
HEI type (for undergraduate study)	Russell Group university/Other pre-1992 university/Post-1992 HEI	In 1992, HEIs that were formerly polytechnics were granted university status. Having university status prior to this date is therefore seen as a marker of higher status, although the distinction is increasingly eroded. The Russell Group is a self-identifying group of research-intensive universities that constitutes those with the highest status.
Undergraduate subject of study	Natural sciences/Healthcare/Mathematics, engineering and construction/ Computer science and technology/Social sciences/Law, business and communications/Languages, history and philosophy/Creative arts/Education	Derived from the 'JACS' codes used to categorise courses in the UK.
Degree class	First/Upper Second/Lower Second/Third or Pass/Unclassified	'Unclassified' relates to courses that do not award classifications – e.g. medicine.
Sandwich year	Yes/No	An academic year spent studying in another country or working in industry.

(*Continued*)

Table 1. (Continued).

Variable	Definition	Notes
Principal activity	Full-time work/Part-time work/Work mainly, plus study/Study mainly, plus work/Full-time study/Part-time study/Due to start work shortly/ Unemployed/Other	Derived from the DLHE survey. 'Other' includes travelling, caring responsibilities, long-term sickness and similar.
Type and level of study after graduation	Research postgraduate/Taught postgraduate masters/Postgraduate certificate or diploma/Undergraduate/Professional qualification/Other or informal qualification	Derived from the DLHE survey.
HEI type (for postgraduate study)	Russell Group university/Other pre-1992 university/Post-1992 HEI/Other	As per HEI types for undergraduate study (above), but with the addition of an 'other' category, including, *inter alia*, postgraduate study overseas, study with private providers (e.g. University of Law) and schools-based teacher training.

(3) Thirdly, we focus in detail on the subset of the dataset who had progressed to postgraduate study, exploring the patterns in their study choices with respect to the institution attended. Once again, we use chi-squared tests.

Findings

Propensity to progress to postgraduate study

Within the dataset, the propensity of care-experienced graduates to move into postgraduate study is significantly higher than for their peers (25.3%, compared to 21.4% – $\chi^2_1 = 9.425$, $p = .002$). Table 2 explores whether this holds true while controlling for a range of educational and demographic variables using binary logistic regression. Model 1, containing just the care marker, confirms the bivariate relationship. Models 2 and 3, adding first the educational and then the demographic variables, also conclude that care-experienced graduates are more likely than the general population to seek postgraduate study, as represented by odds ratios of greater than one. To better understand the odds ratio, we draw on Zhang and Yu's (1998) method for estimating relative likelihood - a more readily interpretable measure of effect size. The odds ratio of 1.377 in Model 3 for care-experienced graduates' progression to postgraduate study translates to a relative likelihood of 1.274. In other words, once a range of control variables are taken into account, care-experienced graduates are just over one-quarter more likely to progress than other graduates with a similar demographic and educational profile.

Propensity to progress: subgroup comparisons

We now turn to explore where there were differences in propensity to continue into postgraduate study between care-experienced and other graduates with respect to key educational and demographic subgroups. Table 3 shows that the likelihood of progressing to postgraduate study was higher for care-experienced graduates in all three categories – and significantly higher for those who attended post-1992 institutions ($\chi^2_1 = 15.767$, $p < .001$). Similarly, care-experienced graduates had a higher propensity to progress across all degree classifications, varying from 7.1% for unclassified degrees to 28.3% for first-class degrees (see Table 4). This difference relative to other graduates was particularly marked for lower-second-class degrees ($\chi^2_1 = 15.920$, $p < .001$), where care-experienced students were nearly twice as likely to progress.

Table 5 shows that the propensity among care-experienced graduates to move into postgraduate study was higher for nearly all minority ethnic groups and that care-experienced members of nearly every ethnic group were more likely than other graduates to go on to postgraduate study; the exception in both instances was the 'Other Asian' group. In Table 6, however, we find that progression by age has a somewhat different pattern for care-experienced graduates compared to the general population, with the two eldest groups having the highest likelihood, and a significantly higher propensity among care-experienced graduates in the 21 to 24 ($\chi^2_1 = 7.810$, $p = .005$) age group.

Finally, in this section, Table 7 shows that care-experienced graduates had a higher propensity to progress regardless of disability status, but that those who identified as not disabled were significantly more likely to do so ($\chi^2_1 = 5.225$,

Table 2. Binary logistic regression models for transition into postgraduate study.

	Model 1		Model 2		Model 3	
	B(SE)	OR(p)	B(SE)	OR(p)	B(SE)	OR(p)
Care-experienced (ref = no)						
– Yes	.223(.073)	1.249(.002)	.370(.075)	1.448(<.001)	.320(.075)	1.377(<.001)
Degree class (ref = first class)						
– Upper second class			-.300(.014)	.741(<.001)	-.316(.014)	.729(<.001)
– Lower second class			-.627(.020)	.534(<.001)	-.667(.020)	.513(<.001)
– Third class or pass			-1.701(.070)	.183(<.001)	-1.758(.070)	.172(<.001)
– Unclassified			-1.833(.078)	.160(<.001)	-1.872(.078)	.154(<.001)
HEI type (ref = other)						
– Russell Group university			.077(.015)	1.080(<.001)	.111(.015)	1.118(<.001)
– Other pre-1992 university			.221(.016)	1.247(<.001)	.222(.016)	1.249(<.001)
Subject (ref = education/combined)						
– Natural sciences			.745(.028)	2.106(<.001)	.757(.029)	2.132(<.001)
– Healthcare			-.169(.039)	.844(<.001)	-.207(.039)	.813(<.001)
– Maths, engineering and construction			.090(.034)	1.094(.008)	.089(.035)	1.093(.012)
– Computer science and technology			-.335(.042)	.715(<.001)	-.345(.043)	.708(<.001)
– Social sciences			.198(.031)	1.219(<.001)	.160(.032)	1.173(<.001)
– Law, business and communications			-.106(.030)	.899(.001)	-.121(.030)	.886(<.001)
– Languages, history and philosophy			.612(.031)	1.844(<.001)	.620(.031)	1.859(<.001)
– Creative arts			-.457(.033)	.633(<.001)	-.421(.033)	.656(<.001)
Sandwich year (ref = no)						
– Yes			-.826(.028)	.438(<.001)	-.699(.029)	.497(<.001)
Sex (ref = female)						
– Male					.010(.013)	1.010(.459)
Ethnicity (ref = white)						
– Black (inc. African and Caribbean)					.206(.028)	1.229(<.001)
– Indian, Pakistani or Bangladeshi					.148(.023)	1.160(<.001)
– Other Asian (inc. Chinese)					.216(.038)	1.241(<.001)
– Mixed heritage					-.012(.033)	.988(.702)
– Other or not known					.267(.044)	1.306(<.001)
Age on entry (ref = 20 or under)						
– 21 to 24					-.236(.013)	.789(<.001)
– 25 to 29					-.083(.033)	.920(.007)
– 30 or over					.286(.028)	1.331(<.001)
Disabled (ref = not disabled)						
– Disabled and receiving DSA					.110(.023)	1.116(<.001)

(*Continued*)

Table 2. (Continued).

	Model 1		Model 2		Model 3	
	B(SE)	OR(p)	B(SE)	OR(p)	B(SE)	OR(p)
– Disabled, but not receiving DSA					.147(.024)	1.159(<.001)
Nationality (ref = UK)						
– Other					.142(.023)	1.152(<.001)
Constant	-1.304(.006)	.271(<.001)	-1.212(.027)	.298(<.001)	-1.183(.029)	.306(<.001)
Nagelkerke R2	<.001		.079		.086	

Table 3. Propensity to progress into postgraduate study, by status of undergraduate HEI.

	Care-experienced	Other graduates	p-value
Russell Group	29.2%	25.5%	.376
Other pre-1992 university	27.7%	24.4%	.334
Post-1992 HEI	24.3%	18.6%	<.001[a]

Note: [a]significant at the 5% level following Bonferroni correction.

Table 4. Propensity to progress into postgraduate study, by degree classification.

	Care-experienced	Other graduates	p-value
First class	28.3%	25.7%	.389
Upper second class	25.8%	21.8%	.030
Lower second class	26.0%	16.3%	<.001[a]
Third class/pass	11.1%	6.0%	.117
Unclassified	7.1%	5.6%	.802

Note: [a]significant at the 5% level following Bonferroni correction

Table 5. Propensity to progress into postgraduate study, by ethnicity.

	Care-experienced	Other graduates	p-value
White	24.1%	21.3%	.080
Black	25.8%	21.9%	.242
Indian/Pakistani/Bangladeshi	32.8%	21.0%	.029
Other Asian (inc. Chinese)	20.0%	22.9%	.613
Mixed heritage	25.0%	20.6%	.347
Other/Unknown	43.8%	24.4%	.011

Note: [a]significant at the 5% level following Bonferroni correction.

Table 6. Propensity to progress into postgraduate study, by age on entry.

	Care-experienced	Other graduates	p-value
20 or under	25.9%	24.8%	.667
21 to 24	23.0%	18.2%	.005[a]
25 to 29	28.1%	19.2%	.027
30 or over	30.8%	25.8%	.186

Note: [a]significant at the 5% level following Bonferroni correction.

Table 7. Propensity to progress into postgraduate study, by disability status.

	Care-experienced	Other graduates	p-value
Not disabled	24.8%	21.2%	.014[a]
Disabled and receiving DSA	22.9%	21.6%	.712
Disabled, but not receiving DSA	33.0%	23.1%	.022

Note: [a]significant at the 5% level following Bonferroni correction

p = .014). The group identifying as disabled but not receiving the DSA had the highest progression rate, with one-third of care-experienced graduates in this group continuing to postgraduate study; this narrowly missed significance following the Bonferroni correction.

In summary, nearly every subgroup of care-experienced graduates had a greater propensity to proceed into postgraduate study than their peers. Overall, care-experienced graduates who received a high degree classification and/or attended a high-status HEI were the most likely to progress, as were older care-experienced graduates,

those from most minority ethnic groups, and those with certain impairments. However, there were some instances where their propensities were significantly higher than other graduates: those obtaining lower second-class degrees, those in post-1992 HEIs, and those who were not disabled.

Profile of postgraduate study

We now turn to focus in more detail on the 36,700 individuals who were pursuing postgraduate study, including 255 care-experienced graduates. This includes the course pursued, the balance of study and work, the institution attended and the interdependence between undergraduate and postgraduate pathways.

Table 8 shows that care-experienced postgraduates were significantly more likely to be pursuing a taught masters' programme and correspondingly less likely to be undertaking a research degree or a diploma/certificate ($\chi^2_2 = 12.023$, $p = .002$). The reasons for this pattern are unclear. The lower propensity to move into a research degree could be partly explained by the under-representation of care-experienced students in the natural sciences (Harrison, 2020), where direct progression from an undergraduate degree to postgraduate research is more common. As shown in Table 9, care-experienced postgraduates were slightly more likely than other postgraduates to combine work with study, although this was not statistically significant ($\chi^2_3 = 2.405$, $p = .493$). In general, working alongside study was most associated with those taking taught masters' courses.

There was a clear relationship in the data among care status, undergraduate degree classification, and where the individual was undertaking their postgraduate study (see Table 10). Firstly, care-experienced graduates had a lower propensity to be undertaking postgraduate study in Russell Group universities (18.8%, compared to 32.3% for other graduates), being correspondingly more likely to be found in post-1992 institutions (53.7%, compared to 37.9%). One possible explanation for this is that care-experienced graduates are less likely to achieve a high degree classification (Harrison, 2020). However, as can be seen, care-experienced graduates with first or upper-second-class degrees were still significantly less likely to attend Russell Group universities and more likely to be studying in a post-1992 institution ($\chi^2_3 = 20.523$, $p < .001$) than their peers in the general population; a similar pattern was found among those with lower degree classifications, but this was not statistically significant

Table 8. Postgraduate study type, by care status.

	Research degree	Taught Masters	Diploma/Certificate
Care-experienced	5.1%	79.7%	15.2%
Other graduates	9.0%	69.9%	21.1%

Table 9. Mixture of work and study, by care status.

	Mainly work, some study	Mainly study, some work	Full-time study only	Part-time study only
Care-experienced	5.9%	18.0%	73.4%	2.7%
Other graduates	4.4%	15.9%	76.8%	3.0%

Table 10. Postgraduate study location, by undergraduate degree result and care status.

		Russell Group	Other pre-1992 HEI	Post-1992 HEI	Other[7]	p-value
First or upper second	Care-experienced	22.3%	20.2%	49.5%	8.0%	<.001[a]
	Other graduates	34.8%	18.7%	35.5%	11.0%	
Lower second, third or pass	Care-experienced	9.0%	19.4%	65.7%	6.0%	.147
	Other graduates	14.9%	18.3%	54.4%	12.4%	
All	Care-experienced	18.8%	20.0%	53.7%	7.5%	<.001[a]
	Other graduates	32.3%	18.6%	37.9%	11.2%	

Note: [a]significant at the 5% level following Bonferroni correction

(χ^2_3 = 5.364, p = .147). In other words, care-experienced graduates had a markedly lower propensity to access elite forms of postgraduate study than similarly qualified graduates who were not care-experienced. Indeed, nearly half (49.5%) of care-experienced graduates with first or upper-second-class degrees were studying in post-1992 HEIs, compared to just over one-third (35.5%) of other graduates.

Table 11 goes on to interrogate this relationship between undergraduate and postgraduate study by looking at the institutional types attended for each phase. Overall, there was significant continuity, with around two-thirds of postgraduates remaining within an institution of the same status as that in which they undertook their undergraduate study. When looking at mobility between institutional types, care-experienced students were somewhat more likely to choose a lower-status institution for their postgraduate study and less likely to choose a higher-status one than their peers. For example, among those postgraduates who previously studied in an 'other pre-1992 institution', one-in-six care-experienced graduates progressed into a Russell Group university compared to nearly one-in-four graduates who were not care-experienced.

Drilling down further to the individual institution, care-experienced students were somewhat more likely to remain in specifically the same institution for their postgraduate study, with 55.7% doing so compared to 51.0% of other graduates; this did not, however, achieve statistical significance (χ^2_1 = 2.124, p = .145). Finally, possible relationships between the type and location for postgraduate study for care-experienced student and sex, ethnicity, disability status and age were explored, but none were found.

Table 11. Postgraduate study location, by undergraduate study location and care status.

		Postgraduate location			
Undergraduate location		Russell Group	Other pre-1992 HEI	Post-1992 HEI	Other
Russell Group	Care-experienced	71.0%	12.9%	16.1%	0.0%
	Other graduates	70.4%	9.0%	7.9%	12.7%
Other pre-1992 HEI	Care-experienced	15.9%	63.6%	13.6%	6.8%
	Other graduates	22.6%	56.0%	10.6%	10.8%
Post-1992 HEIs	Care-experienced	10.5%	11.0%	69.6%	8.8%
	Other graduates	14.0%	8.3%	67.2%	10.4%

Discussion

While those with care experience are substantially less likely to enter HE, the findings show that those who complete an undergraduate programme are 1.274 times more likely to progress to postgraduate study than their non-care-experienced peers. Considering that care-experienced students are overrepresented in groups that are considered 'under-represented' in HE, and are therefore likely to experience multiple forms of disadvantage, this is somewhat surprising. It raises the question as to why care-experienced graduates are more likely to progress to postgraduate study. Some predicting factors for transition to postgraduate study are shared between care-experienced graduates and the general graduate population, such as having a disability and being from a minority ethnic group (HEFCE, 2013; Wakeling & Laurison, 2017). However, there are factors that, when considered against the existing literature on postgraduate progression, would indicate that care-experienced graduates should be less likely to access this level of study such as: attainment, institution type and age. Considering the data alongside the literature on postgraduate progression and that which explores transitions for those with care experience allows us to propose possible explanations for these findings.

One potential explanation for care-experienced graduates' propensity to progress to postgraduate study may be to reduce the risk of being unemployed in a highly competitive graduate labour market (Brown, 2003). This, along with the introduction of master's degree loans in England in 2016/17[8] (the same year that the cohort in our dataset graduated), may mean that postgraduate study is therefore viewed as a low-risk means of increasing employability. This may particularly be the case since financial support from HEIs and local authorities for care-experienced students largely ends upon completion of undergraduate programmes (Stevenson et al., 2020). Although the motivation to reduce the risk of unemployment following graduation is not unique to care-experienced graduates (see Bathmaker, Ingram, & Waller, 2013), there are a set of different challenges associated with a background of care, such as a higher likelihood of experiencing homelessness (Häggman-Laitila, Salokekkilä, & Karki, 2018) and unemployment (Okpych & Courtney, 2014) that can increase the need for financial 'pay off' after graduating.

What may also indicate heightened concerns over obtaining employment, and thus future financial stability amongst care-experienced graduates is the attainment outcomes of those who progress to postgraduate study. Care-experienced graduates obtaining a lower-second-class degree were only slightly less likely to progress than those with a first-class degree. This pattern is at odds with the general population, where postgraduate progression rates decrease markedly in line with degree classification (HEFCE, 2013; Wakeling & Hampden-Thompson, 2013). Graduating with a lower degree outcome may heighten concerns over competing in the graduate labour market, which could lead care-experienced graduates to experience more apprehension over their future financial stability. Pursuing a postgraduate qualification then may provide a means of preventing a lower degree outcome from impacting their chances of obtaining employment.

Care-experienced graduates with the highest identified propensity to progress to postgraduate study were those who identified as disabled, but who did not receive the DSA; one third of this group progressed. The DSA is designed to help students meet additional study-specific costs (e.g. specialist equipment). For this reason, it tends not to

be accessed by students with mental-health issues, who generally do not have additional costs of this nature (Johnson, Rossiter, Cartmell, Domingos, & Svanaes, 2019); stigma and lack of information may also contribute (Quinn, Wilson, Macintyre, & Tinklin, 2009). Given the strong connection between childhood trauma and adult mental-health issues in the care-experienced population, it may be that postgraduate study is seen as a means of conveying to employers that they are valuable and capable prospective employees (Nolan & Gleeson, 2017).

Care-experienced graduates may, importantly, also be propelled to enter a postgraduate programme to extend a sense of stability while they formulate their next steps for post-university life. Unlike most other young graduates, those with care experience are unlikely to have safety nets in the form of 'yo-yo transitions' (Bengtsson, Sjöblom, & Öberg, 2018), where graduates return to live in the family home following the completion of their studies. For many, HE will have provided a much-needed safety net and period of relative security in terms of housing, finance and the scope to develop emotionally supportive relationships with students and staff (Ellis & Johnston, 2019; Stevenson et al., 2020). The end of undergraduate study thus risks disrupting this security and so postgraduate study may offer an opportunity for continuity, or indeed an alternative form of yo-yo transition for younger care-experienced graduates.

Extending a period of stability can also provide an explanation as to why those with care experience are slightly more likely to remain within the same institution for their postgraduate studies, with 55.7% doing so compared with 51.0% of those without. Considering that care-experienced students are likely to have already formed relationships with students and staff in their undergraduate institutions, apprehensions may exist around losing social connections; this has been reported to be a fear amongst care-experienced people generally (Barratt, Appleton, & Pearson, 2020). Care-experienced students have also raised that highly bureaucratic processes to access support in HE often involves repeating details of their care histories to numerous members of staff, which can have a detrimental impact on their well-being (Stevenson et al., 2020). Therefore, remaining in their undergraduate institution, where there is familiarity and established relationships with support services, may be viewed as less risky.

Our analysis shows that care-experienced graduates are less likely to undertake their postgraduate studies in institutions belonging to the Russell Group than their non-care-experienced peers with similar degree outcomes. This was even the case when care-experienced graduates moved away from their undergraduate institution for postgraduate study. One explanation for this is career motivations: a number of professions require a postgraduate qualification for entry (Wakeling, 2005), particularly those that involve helping and supporting others (Keane, 2017). In Stevenson et al.'s (2020) work, for instance, care-experienced students expressed how their history of care resulted in a strong altruistic component when choosing a career; this led to the desire to work in professions where they could help others, such as social work and healthcare. To gain entry to such professions, a postgraduate qualification is essential. This not only provides an additional explanation for care-experienced graduates' higher progression rates to postgraduate degrees in general, but the vocational nature of relevant courses can explain why post-1992 institutions may be regarded as more suitable. Such courses are also likely

to be overrepresented in post-1992 institutions, which are traditionally more vocationally focused (D'Aguiar & Harrison, 2016); note that data on the subject studied at postgraduate level is not available in the DLHE dataset.

Conclusion

Despite care-experienced individuals being one of the most marginalised groups in society (Barn, 2010) and underrepresented groups in UK HE (Harrison, 2020), their rates of progression to postgraduate taught study (amongst the small percentage of care-experienced people who complete an undergraduate degree) are higher than graduates in the general population. These patterns of progression echo some of those evident in the general graduate population. For instance, most minority ethnic and disabled care-experienced graduates are more likely to progress to postgraduate study (HEFCE, 2013; Wakeling & Hampden-Thompson, 2013). It is also important to reiterate the potential influence of the introduction of master's degree loans in England on these progression rates; this has opened up opportunities for those in the graduate population who would have previously not had the financial resources to cover tuition fees and/or living expenses to progress to taught postgraduate degrees (Mateos-González & Wakeling, 2020). Hence, the cohort represented in our dataset who graduated during the same year that master's degree loans were introduced (2016/17) would have also benefitted from this source of financial support.

The points of consistency presented in the progression rates between care-experienced graduates and the general graduate population need to be considered within the wider constellation of unique challenges that care-experienced graduates face due to their care history. These challenges include an absence of a family safety net, increased risks of homelessness and unemployment, and fears around instability. These potentially explain the marked departure observed from predicting factors amongst the general graduate population, such as attainment, institution type and age.

Although overall progression rates for care-experienced graduates are promising, some inequalities are evident. Fewer care-experienced graduates undertake their postgraduate degrees in higher status institutions, even when they do not remain at their first-degree institution. Explanations for this may intersect with those provided in the literature for other groups that are particularly underrepresented in high-status institutions, such as those from socioeconomically underrepresented backgrounds (Reay, Crozier, & Clayton, 2009) and vocational qualification holders (Hoelscher et al., 2008). Yet, it is also important to consider broader challenges that arise from being care-experienced that may influence this, such as experiencing concerns over losing established stability and support from others (Barratt et al., 2020), as well as attainment at the first-degree level; these independently or collectively may restrict where care-experienced graduates can study their postgraduate qualifications.

While inequalities remain, our headline finding – that care-experienced graduates are, all else being equal, 1.274 times more likely to transition into postgraduate study than other graduates – is contrary to what we would expect to find based both on existing research about this group, and on the general patterns of the connection between disadvantage and educational transition. It suggests that, at the aggregate level, UK HE is not compounding care-experienced students' disadvantage, and instead provides

opportunities. Understanding whether this pattern applies in other countries is an important avenue for future research. The principal access challenge in the UK, then, remains securing a greater rate of entry to first degrees for care-experienced people.

Although this paper has provided a range of potential explanations for patterns of progression to postgraduate degrees amongst care-experienced graduates, with any secondary data analysis, there are inevitably limitations. The most significant is that the DLHE survey took place six months after graduation and we therefore only have data on initial graduate outcomes. We have no data for postgraduate pathways a year or more after graduation and it is quite possible that care-experienced graduates had very different outcomes over a longer time period; the new Graduate Outcomes survey, with its 15-month lag, should help to fill this gap in due course. Additionally, we have been reliant on students' self-declaration of care status and this is of unknown reliability due to missing data (on students on some non-traditional pathways), over-reporting (in error) and under-reporting (due to fears about stigma); Harrison (2020) discusses this in more detail. Nevertheless, these are the best data currently available. Finally, we have analysed a single graduation year. This was a consequence of the resources available, but it is possible that this year was atypical in some way. With the relatively small cohort of care-experienced postgraduates, it may be that there are important relationships that we have not been able to identify within a single year; again, future analysis of the Graduate Outcomes survey will help.

Despite these limitations, some tentative recommendations can be made to redress the inequalities observed in institution type. Firstly, flexibility in entry requirements at the undergraduate level, such as accepting vocational qualification holders, can allow care-experienced individuals to have more options in terms of subject choice and institution attended (see Harrison et al., 2020). This broadening of options may then subsequently extend to the postgraduate level, opening up opportunities for a wider range of institutions to be considered for postgraduate study, as opposed to being largely confined to post-1992 institutions (Hoelscher et al., 2008), not least because those care-experienced graduates who do manage to access Russell Group universities at first-degree level tend to transition to postgraduate study at comparable rates.

For those care-experienced graduates wishing to move to a different institution for their postgraduate studies (which may include moving to a 'high-status' institution), but are apprehensive over losing existing relationships with support staff, measures to reduce this risk can be implemented. One recommendation proposed by Stevenson et al. (2020) is for institutions to maintain contact with care-experienced graduates via alumni networks, and the provision of lifetime careers guidance. This would be highly valuable for care-experienced graduates, particularly as there is more risk associated with a university degree not 'paying off' in the employment market due to the threats of homelessness (Häggman-Laitila et al., 2018). Moreover, as care-experienced graduates who are disabled (though not claiming the DSA) have a higher propensity to progress to postgraduate study, this may indicate apprehensions concerning how employers might perceive their ability to productively engage in employment which a postgraduate degree may be felt to offset (Nolan & Gleeson, 2017). Offering lifetime careers support to care-experienced alumni may help to alleviate these concerns.

Finally, although the patterns evident in our analysis provide a basis on which to propose such recommendations, qualitative insights of what influences care-experienced graduates' plans and decisions for further study and employment are needed to provide

more specific insights into why these quantitative patterns are present. In turn, this can provide more in-depth understandings of what changes to policy and practice would be valuable for care-experienced graduates when transitioning out of HE.

Notes

1. Higher education and children's social care are devolved to the constituent nations of the United Kingdom, with somewhat different terminology and legal frameworks. For simplicity for the reader, the English versions are used throughout.
2. With the exception of Harrison et al. (2020).
3. Denmark, England, Hungary, Spain (Catalonia) and Sweden.
4. 'Post-1992' institutions are those that gained their degree awarding powers after 1992 following the Further and Higher Education Act, including former polytechnics and colleges. They have been traditionally afforded a lower status within the sector.
5. Under HESA's anonymity and disclosure requirements, all counts are rounded to the nearest five.
6. Those marked as studying but not at postgraduate level (e.g. those undertaking a second undergraduate degree, professional courses or informal learning) were excluded.
7. Includes private providers, further education colleges, school-based teacher training and study outside the UK.
8. Master's loans of up to £10,000 were introduced in the 2016/17 academic year for English-domiciled postgraduate students undertaking their studies at UK HE institutions. They are non-means tested and can be used to cover tuition fees and/or maintenance costs.

Disclosure statement

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

Funding

This work was supported by the Unite Foundation.

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