Appendix B: Codebook of Variable Specifications

I. Analytic Groups

The following groups are mutually exclusive, such that group membership is based on eligibility for the first applicable category in the list, even where subsequent categories also apply.

Group 1: Care Leavers

Those meeting the statutory definition of a care leaver and therefore eligible for ongoing support from their local authority.

Variables used:

Ep_start [CLA]
Ep_end [CLA]

Transformations:

Start date from age 14 to count days in care:

```
compute CLA14b = 0
if (Ep_start < date.dmy(01,09,2012)) and (Ep_end > date.dmy(01,09,2012)) CLA14b = 1

compute Ep_start14 = Ep_start
if CLA14b = 1 Ep_start14-date.dmy(01,09,2012)
```

In care at 14:

```
compute CLA14 = 0

if (range(Ep_start, date, dmy(01,09,2012), date.dmy(31,08,2013))) or
(Ep_start < date.dmy(01,09,2012)) and (Ep_end > date.dmy(30,11,2012)) CLA14 = 1
```

Care length of each episode:

```
compute CLA_LOC14 = datediff(Ep_end, Ep_start14, 'Days')
```

Episodes longer than 17 days for those in care age 14:

```
compute CLA14_17days = CLA14
if CLA_LOC14 < 17 CLA14_17days = 0
```

In care at 16+:

compute CLA16 = 0

if (Ep_start >= date.dmy(01,09,2014)) or
(Ep_start < date.dmy(01,09,2014)) and (Ep_end > date.dmy(01,09,2014)) CLA16 = 1

Eligible length of care episode:

compute CLA_eligibleLOC = 0

if CLA14_17days = 1 or CLA16 = 1 CLA_eligibleLOC = CLA_LOC14

In care at some point age 14 and 16 for at least 13 weeks:

compute CLA_Eligibility = 0

if CLA14_17days = 1 and CLA16 = 1 and CLA_eligibleLOC > 91 CLA_Eligibility = 1

recode CLA_Eligibilty (SYSMIS = 0) (else = copy) into CLA_CL

Analytic variable:

CLA_CL
1 = Yes, care leaver
0 = No, not care leaver

Group 2: Ever in Care

Those previously in care at any point after the age of 5 (as data are only available from 2003/04 onwards), but not meeting the statutory definition of a care leaver.

Variables used:

DATE EPI COMM (Date care episode commenced) [CLA]
CLA_CL Care leaver [TASO (Group 1) from CLA]

Transformations:

if (DATE EPI COMM = > 01/09/2003), CLA_Ever = 1
if CLA_CL = 1, CLA_Ever = 0

recode CLA_Ever (SYSMIS = 0) (else = copy) into CLA_Ever

Analytic variable:

CLA_Ever
1 = Yes, ever in care
0 = No, not ever in care

Group 3: Ever Subject of a Child Protection Plan

Those on a child protection plan at any point after the age of 11 (Ever CPP).

Variables used:

CPPstart (Date Date of child protection plan) [CIN]
CIN_Age (Age at each return)

Transformations:

if CIN_Age = > 11 and not(miss(CPPstartDate)) CPP = 1

recode CPP (SYSMIS = 0) (else = copy) into CPP

if CLA_CL = 1 or CLA_Ever = 1, CPP = 0

Analytic variable:

CPP
1 = Yes, had CPP
0 = No, never had CPP

Group 4: Classed as a Child in Need (more than 6 months)

Those designated as being in need at any point after the age of 11 and where episodes of need totalled six months or longer (CIN > 6 months).

Variables used:

CIN_ReferralDate (Date child referred to social services) [CIN]
CIN_ClosureDate (Date case was closed) [CIN]
CIN_ReferralNFA (Referred but no action taken) [CIN]
CIN_AgeStart (Age at referral) [CIN]
CIN_Age (Age at each return)

Transformations:

compute Referral_Start = CINReferralDate
compute Referral_End = CINClosureDate
if CIN_NFA = 1 Referral_End = Referral_Start
compute CIN_days = datediff(Referral_End, Referral_Start, 'Days')
if (CIN_age >= 11) CIN_days11 = datediff (D_Referral_End, D_Referral_Start, 'Days')

compute CIN6m = 0
if (CIN_days11 > 180) CIN6m = 1
if CLA_CL = 1 or CLA_Ever = 1 or CPP = 1, CIN6m = 0

Analytic variable:

CIN6m
1 = Yes, classed as CiN > 6m
0 = No, never classed as CiN > 6m

Group 5: Classed as a Child in Need (less than 6 months)

Those designated as being in need at any point after the age of 11 and and where episodes of need totalled less than six months (CIN < 6 months).

Variables used:

CIN_days 'Days classed as in need' [CIN]

Transformations:

compute CIN = 0
if (CIN_days11, 1, 180) CIN = 1

if CLA_CL = 1 or CLA_Ever = 1 or CPP = 1 or CIN6m = 1 CIN=0.

Analytic variable:

CIN
1 = Yes, classed as CiN < 6m
0 = No, never classed as CiN < 6m

Group 6: The FSM Population

All other children born between 1 September 1998 and 31 August 1999 and also *eligible* for Free School Meals in the last 6 years, as of KS4 (i.e., covering KS2 and KS4) (FSM pop).

Variables used:

CLA_CL (from Group 1: care leavers)
CLA_Ever (from Group 2: cver in care)
CPP (from Group 3: ever subject of a Child Protection Plan)
CIN (from Group 4: ever classed as a Child in Need > 6m)
CIN6m (from Group 5: Child in Need ever < 6m)
KS4_Ever6 'Eligible for FSM at some point in the last six years' [NPD]

Transformations:

if KS4_FSM6 = 1 FSM6_Pop = 1

if (CLA_CL = 1 or CLA_Ever = 1 or CPP = 1 or CIN = 1 or CIN6m = 1) FSM6_Pop = 0

Analytic variable:

FSM6_Pop
1 = Yes, FSM eligible
0 = No, not FSM eligible

Group 7: The General Population

All other children born between 1st September 1998 and 31st August 1999 who met the additional selection criteria of being in both KS2 and KS4 datasets (General pop).

Variables used:

CLA_CL (from Group 1: care leavers)
CLA_Ever (from Group 2: ever in care)
CPP (from Group 3: ever subject of a Child Protection Plan)
CIN6m (from Group 4: ever classed as a Child in Need > 6m)
CIN (from Group 5: ever classed as a Child in Need < 6m)
KS4_Ever6 'Eligible for FSM at some point in the last six years' [NPD]
KSall (case as valid data for both KS2 and KS4)

Transformations:

if KSall = 1, Total_Pop = 1,
if (CLA_CL = 1 OR CLA_Ever = 1 OR CPP = 1 OR CIN = 1 OR CIN6m = 1 OR KS4_FSM6 = 1,
Total_Pop = 0

Analytic variable:

Total_Pop
1 = Yes, in Total_Pop
0 = No, not in Total_Pop

Analytic variable: Outcome_gp

if CLA_CL = 1 Outcome_gp = 1 (Care Leavers)
if CLA_Ever = 1 Outcome_gp = 2 (Ever in Care)
if CPP = 1 Outcome_gp = 3 (Ever CPP)
if CIN6m = 1 Outcome_gp = 4 (CIN > 6 months)
if CIN = 1 Outcome_gp = 5 (CIN < 6 months)
if FSM6_Pop = 1 Outcome_gp = 6 (FSM pop)
if Total_Pop = 1 Outcome_gp = 7 (General pop)

II. Outcome Variables

Initial Entry to Higher Education (OV1)

A binary variable of initial entry to higher education, where initial is defined as the first enrolment for a Level 4 qualification (HE Entry).

Variables used:

HE_COMDATE (HESA; Date of commencement of programme)

ILA_D_NOTIONLEV (ILR; NVQ level)

-1 = Missing (not applicable/not known)
0 = Entry Level
1 = Level 1
2 = Level 2
3 = Level 3
4 = Level 4
5 = Level 5
6 = Level 6
7 = Level 7 or higher
-9 = Other

ILA_LEARNSTARTDATE [this study's numeric version = ILA_Start] (ILR; Learning start date)

HE_ACADYR [this study's numeric version = HE_Year] (HESA; Academic year)

ILA_Academic_Year [this study's numeric version = ILA_Year] (ILR; Academic year)

Transformations:

if not(missing(HE_COMDATE)) HESA_flag = 1
(else = 0)

if D_NOTIONLEV >= 4 ILA_HE = 1
(else = 0)

HE = sum(ILA_HE, HESA_flag)
if ILA_HE = 1 ILA_HE_Start = ILA_Start
if HE = 2 and ILA_HE_Start < HE_COMD PriorEntry = 1
if ILA_HE = 1, ILA_HE_Entry = ILA_Year

compute HE_EntryYear = ILA_HE_Entry
if HESA_flag = 1 HE_EntryYear = HE_Year
if PriorEntry = 1 HE_EntryYear = ILA_HE_Entry

compute HE_Entry=0.
if not(missing(HE_EntryYear)) HE_Entry= 1.

compute OV1= HE_Entry.

compute OV1b=0.
if HE_Year < 20 OV1b= 1.

Analytic variables:

OV1 (HE Entry)
1 = Yes, entered HE
0 = No, did not enter HE

HE_EntryYear (Year entered HE)
17 = 2015/16
18 = 2016/17
19 = 2017/18
20 = 2018/19
21 = 2019/20
22 = 2020/21

PriorEntry (Entered HE prior to university; aka, Entered HE pathway prior to entering university)
1 = Yes
0 = No

OV1b (Age 18/19 entry to HE)
1 = Yes, entered by age18/19
0 = No, did not enter by age18/19

Type of Institution Initially Attended (OV2)

A categorical variable capturing the type of HE institution initially attended (where initial is defined as the first enrolment for a Level 4 qualification), including elements of selectivity (i.e., Boliver groups) and whether a further or higher education provider (Boliver Status of HE Institution Initially Attended).

Variables used:

HE_UKPRN (HESA; institution code)

See University Tables.xlsx, sheet1

Transformations:

recode HE_UKPRN … into HE_Boliver

(10007786, 10007774 = 1)
(10007814, 10002718, 10007764, 10003270, 10003645, 10004063,10004113, 10007799, 10007775, 10005343, 10005553,1000778010007798, 10007784, 10007783, 10007850, 10006840, 10007786, 10007852,10007143, 10007789, 10007790, 10007792,

10007794,10007150, 10007768, 10007795, 10007796, 10005842, 10007154, 10007802, 10007157, 10007158, 10007808, 10007805,10007160, 10007806, 10007163, 10007167 = 2)

(10000385, 10007759, 10007857, 10000571,10007140,10000824,10000961, 10001143, 10007854, 10001726, 10001883,10007772, 10008640, 10007762, 10040812, 10003678, 10003861,10003957, 10004078, 10004180, 10004351, 10007832, 10001282, 10004797,10004950, 10007801, 10007856,10005357, 10007775, 10005790, 10005299, 10007855, 10007161,10001478, 10005500, 10007137, 10007165,10006427, 10007845, 10007152, 10007785, 10000885, 10007141,10007848, 10007851, 10007791,10007145, 10007146, 10007147, 10007148,10007149 10007767 = 3)

(10007151, 10007138, 10007155, 10007156, 10007793,10007804, 10007159,10007162, 10007114, 10007164, 10007800,10007807,10006566, 10003614,100071393, 10000291, 10007811, 10000975, 10007823, 10007833, 10003863, 10003956, 10004048, 10006022, 10007842, 10014001,10000712, 10006841,10007144, 10037449, 10007858, 10007166, 10007713 = 4)

(10007760, 10007761, 10007822, 10002681, 10007825, 10007765, 10003324 10007766, 10003654,10084449, 10007769,10007771, 10008816, 10004775, 30007773, 10005389, 10005523, 10007835, 10005545, 10007777,10007778, 10005561, 10007837, 10007838,10007781,10005700, 10008026, 10007843, 10007782, 10008010, 10007846, 10001653, 10003945 10007816, 10007779, 10007787, 10008017,10007797,10008574, 10007557, 10083811, 10000163, 10000936,10003958, 10004511, 10005127, 10007820, 10009614, 10003758, 10009292,10003758 = 5)

compute Boliver = HE_Boliver
if PriorEntry = 1 Boliver = 6
if mis(HE_Boliver) and HE_Entry = 1 Boliver = 6

recode Boliver (1,2=1) (2 thru 6=0) into OV2b.

Analytic variables:

Boliver (Prestige/status of institution initially attended) (OV2)
1 = Oxbridge
2 = Russell group/old universities
3 = New/old universities
4 = New universities
5 = Non-grouped
6 = FE colleges

OV2b (Top-tier Higher Education Institution; aka, Top-tier Boliver)
1 = Yes, Top-tier
2 = No, Not top-tier

Qualification Initially Pursued (OV3)

A categorical variable indicating the HE qualification, or type of programme, initially pursued (where initial is defined as the first enrolment for a Level 4 qualification); that

is, whether the individual was enrolled in studying for a first (e.g., bachelor's) degree, a subdegree or no degree.

Variables used:

ILA_LEARNAIMREF (relevant codes for qulafications can be found at the Learning aim reference service (LARS), where the Learn Aim Ref Type is used to provide the required code description). See ILR_LearnAim.xlsx, learningdelivery (renamed ILA_AimRef)

HE_CourseAim (derived from UNISTATS_COURSEAIM_1.7.3; HESA)

Transformations:

recode HE_CourseAim
('D00' = 1) ('E00' = 1)
('L00' = 2) ('M00' = 2) ('M01' = 2) ('M02' = 2) ('M10' = 2) ('M11' = 2) ('M16' = 2)
('L80' = 3) ('M41' = 3) ('M42' = 3) ('M44' = 3) ('M50' = 3) ('M70' = 3) ('M71' = 3) ('M72' = 3) ('M73'-3)
('M73' = 3) ('M76' = 3) ('M79'-3) ('M80'-3) ('M86' = 3) ('M88' = 3) ('L91' = 3) ('M90' = 3) ('M91' = 3)
('H71' = 3)
('M22' = 4) ('M26' = 4) ('M28' = 4)
('HOO' = 5) ('H11' = 5) ('H12' = 5) ('H16' 116' = 5) ('H18' = 5) ('H22'-5) ('H23' = 5) ('H50' = 5) ('I00' = 5) ('I11' = 5) ('I16' = 5)
('J10' = 6) ('J16' = 6)
('J20' = 7) ('J26 = 7) ('J30' = 7)
('C20' = 8) ('C30' = 8) ('C41' = 8) ('C42' = 8) ('C80' = 8) ('H41' = 8) ('H42' = 8) ('H60' = 8) ('H61' = 8)
('H70' = 8) ('H72' = 8) ('H81' = 8) ('H88' = 8) ('I60' = 8)
('I61' = 8) ('I70' = 8) ('I71' = 8) ('I73' = 8) ('I76' = 8) ('I78' = 8) ('I79' = 8) ('I80' = 8) ('J41' = 8) ('J42' = 8)
('J76' = 8) ('J80' = 8)
('C90' = 9) ('H90' = 9) ('H91' = 9) ('I90' = 9) ('I91' = 9) ('I90' = 9)
('P41' = 10) ('P42' = 10) ('P43' = 10) ('P70' = 10) ('P80' = 10) ('P85'-10) ('P90' = 10) ('Q41' = 10)
('Q42' = 10) ('Q43' = 10) ('Q50' = 10)
('Q80' = 10) ('Q90' = 10) ('R42' = 10) ('R43' = 10) ('R45' = 10) ('R80' = 10) ('S80' = 10) ('X01 = 10)
('X41' = 10) ('C99' = 11) ('H99' = 11) ('J99 = 11) ('M99' = 11) ('X99' = 11) into HE_CourseAim2

HE_CourseAim2
1 = Doctorate
2 = Master's degree
3 = PGCE and other postgraduate
4 = Integrated master's degree
5 = Degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate
9 = Undergraduate credits
10 = FE
11 = No formal qualification

recode HE_CourseAim2
(1 thru 3 = 1) (4,5 = 2) (6 thru 9 = 3) (10 = 4) (11 = -9) into HE_Prog

recode ILA_AimRef
(2001, 1410, 1464, 9101, 9109, 9114 = 2)
(125, 6004, 9103, 9115 = 3)
(394,1407, 1409, 6003, 9000, 9002, 9107 = 5)
(6001, 9110 = 6)
(24, 32, 84, 117, 1454, 1458, 9112 = 7)
(6, 9, 16, 31, 1448,1452,1457, 1465, 1467, 9111, 4342 = 8)
into ILA_CourseaimHE

2 = Master's degree
3 = PGCE and other postgraduate
5 = First degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate

recode ILA_CourseaimHE (2 thru 3 = 1) (5=2) (6 thru 8 = 3) into ILA_Prog

compute CourseAim = HE_CourseAim2
if PriorEntry = 1 CourseAim = ILA_CourseaimHE
if missing(HE_CourseAim2) and HE_Entry = 1 CourseAim = ILA_CourseAimHE

recode CourseAim (1 thru 5 = 1) (6 thru 9 = 2) (10,11 = 3) into OV3.

recode CourseAim (1 thru 3 = 1) (4 thru 5 = 2) (6 thru 9 = 3) (10 thru 11 = 4) into OV3a

recode CourseAim (1 thru 4= 1) (5 = 2) (6 thru 9 = 3) (10 thru 11 = 4) into OV3b

<u>Analytic variables:</u>

OV3 (qualification initially pursued; aka, Type of Higher Education Programme Initially Pursued)
1 = Degree+
2 = Subdegree
3 = No degree

Auxiliary OV3a (qualification initially pursued)
1 = Post-graduate
2 = Degree
3 = Subdegree
4 = No degree

Auxiliary OV3b (qualification initially pursued, integrated Master's degree as higher degree)
1 = Post-graduate
2 = Degree
3 = Subdegree
4 = No degree

University Continuity (OV4)

A binary variable indicating the continuity of a young person's pathway through university, defined as remaining on the same course in the same institution with the same attendance mode vs. changes in course, institution, mode or pauses in study (Continuity through University).

Variables used:

UKPRN (HESA; Institution code, to assess change in institution)

NOTACT (HESA; Suspension of active studies)
1 = Student has suspended studies
2 = DH/NHS student temporarily stepping off Continuity Register

XQMODE01 (HESA; Qualification obtained mode of study)
1 = Full time
2 = Part time

HE_XJACS01_1 (HESA; Subject of study 1) – pre-2019/2020
1 = Medicine and dentistry ('1' = 1)
2 = Subjects allied to medicine ('2' = 2)
3 = Biological sciences ('3' = 3)
4 = Veterinary science ('4' = 4)
5 = Agriculture and related subjects ('5' = 5)
6 = Physical sciences ('6' = 6)
7 = Mathematical sciences ('7' = 7)
8 = Computer science ('8' = 8)
9 = Engineering and technology ('9' = 9)
10 = Architecture, building and planning ('A' = 10)
11 = Social studies ('B' = 11)
12 = Law ('C' = 12)
13 = Business and administrative studies ('D' = 13)
14 = Mass communications and documentation ('E' = 14)
15 = Languages ('F' = 15)
16 = Historical and philosophical studies ('G' = 16)
17 = Creative arts and design ('H' = 17)
18 = Education ('I' = 18)
19 = Combined ('J' = 19)

XCAH01_1 (HESA; Subject of study 1 – subject) – 2019/2020+
1 = Medicine and dentistry
2 = Subjects allied to medicine
3 = Biological and sport sciences
3 = Psychology
4 = Veterinary sciences
5 = Agriculture, food and related studies
6 = Physical sciences
6 = Geography, earth and environmental studies
6 = Geographical and environmental studies

7 = Mathematical sciences
8 = Engineering and technology
8 = Computing
10 = Architecture, building and planning
11 = Social sciences
12 = Law
13 = Business and management
14 = Media, journalism and communications
14 = Communications and media
15 = Language and area studies
16 = Historical, philosophical and religious studies
17 = Design, and creative and performing arts
17 = Creative arts and design
18 = Education and teaching
19 = Combined and general studies
19 = General and others in sciences
19 = Humanities and liberal arts (non-specific)

ILA_SECSUBJAREATIER1
1 = Health, Public Services and Care
2 = Science and Mathematics
3 = Agriculture, Horticulture and Animal Care
4 = Engineering and Manufacturing Technologies
5 = Construction, Planning and the Built Environment
6 = Information and Communication Technology
7 = Retail and Commercial Enterprise
8 = Leisure, Travel and Tourism
9 = Arts, Media and Publishing
10 = History, Philosophy and Theology
11 = Social Sciences
12 = Languages, Literature and Culture
13 = Education and Training
14 = Business, Administration and Law
15 = Preparation for Life and Work

Transformations:

recode HE_XJACS01_1 … into HE_XJACS (OV4.a – Course/subject change)
('1' = 1) ('2' = 2) ('3' = 3) ('4' = 4) ('5' = 5) ('6' = 6) ('7' = 7) ('8' = 8) ('9' = 9) ('A' = 10) ('B' = 11) ('C' = 12) ('D' = 13) ('E' = 14) ('F' = 15) ('G' = 16) ('H' = 17) ('I' = 18) ('J' = 19)

recode HE_XCAH01_1 … into HE_XCAH (OV4.a – Course/subject change)
('CAH01' = 1) ('CAH02' = 2) ('CAH03' = 3) ('CAH04' = 3) ('CAH05' = 4) ('CAH06' = 5) ('CAH07' = 6) ('CAH09' = 7) ('CAH10' = 8) ('CAH11' = 8) ('CAH13' = 10) ('CAH15' = 11) ('CAH16' = 12) ('CAH17' = 13) ('CAH19' = 15) ('CAH20' = 16) ('CAH22' = 18) ('CAH23' = 19) ('CAH24' = 14) ('CAH25' = 17) ('CAH26' = 6) (CAH08 = 19) (CAH12 = 6) (CAH14 = 19) (CAH18 = 14) (CAH21 = 17)

compute HE_SBJ=sum(HE_XJACS, HE_XCAH).

numeric HE_SBJ17 to HE_SBJ21.

if HE year = 2017, HE_SBJ17 = HE_XJACS
if HE year = 2018, HE_SBJ18 = HE_XJACS
if HE year = 2019, HE_SBJ19 = HE_XJACS
if HE year = 2020, HE_SBJ20 = HE_XCAH
if HE year = 2021, HE_SBJ21= HE_XCAH

compute SubjCh (OV4.a – Course/subject change)
if (HE_SBJ17 ne HE_SBJ18 or HE_SBJ18 ne HE_SBJ19 or HE_SBJ19 ne HE_SBJ20 or HE_SBJ20 ne HE SBJ21 or HE_SBJ17 ne HE_SBJ19 or HE_SBJ17 ne HE_SBJ20 or HE_SBJ17 ne HE_SBJ21 or HE_SBJ18 ne HE_SBJ20 or HE_SBJ18 ne HE_SBJ21 or HE_SBJ19 ne HE_SBJ21) SubjCh = 1

numeric HE_UKPRN17 to HE_UKPRN21
if HE_Year = 2017, HE_UKPRN17 = HE_UKPRN
if HE_Year = 2018, HE_UKPRN18 = HE_UKPRN
if HE_Year = 2019, HE_UKPRN19 = HE_UKPRN
if HE_Year = 2020, HE_UKPRN20 = HE_UKPRN
if HE_Year = 2021, HE_UKPRN21 = HE_UKPRN

compute InstChge (OV4.b – Institution Change)
if (HE_UKPRN17 ne HE_UKPRN18 or HE_UKPRN18 ne HE_UKPRN19 or HE_UKPRN19 ne HE_UKPRN20 or HE_UKPRN20 ne HE_UKPRN21 or HE_UKPRN17 ne HE_UKPRN19 or HE_UKPRN17 ne HE_UKPRN20 or HE_UKPRN17 ne HE_UKPRN21 or HE_UKPRN18 ne HE_UKPRN20 or HE_UKPRN18 ne HE_UKPRN21 or HE_UKPRN19 ne HE_UKPRN21) InstCh = 1

compute ModeT (OV4c (Change in mode of study full or part time))

recode HE_XQMODE01 … into HE_QMode
(4 = -9)
(else = copy)

compute HE_QModef = 'First recorded mode of study' from XQMODE01

compute HE_QModel = 'Last recorded mode of study' from XQMODE01

if HE_QModef = 1 & HE_QModel = 1, ModeFT = 1 'Maintained full-time study', else = 0
if HE_QModef = 2 & HE_QModel = 2, ModePT = 1 'Maintained part-time study', else = 0
compute ModeT = 1
if ModeFT = 1 or ModePT = 1, ModeT = 0
if (HE_QModef = -9) or (HE_QModel = -9) ModeT = -9

compute HE_SuspT (OV4d – Paused studies at any point …)
recode HE_NOTACT … into HE_Susp 'paused studies'
(1,2 = 1)
(else = 0)
if HE_year = 2017, HE_Susp17 = HE_Susp
if HE_year = 2018, HE_Susp18 = HE_Susp
if HE_year = 2019, HE_Susp19 = HE_Susp
if HE_year = 2020, HE_Susp20 = HE_Susp
if HE_year = 2021, HE_Susp21 = HE_Susp

compute HE_Suspd = 0

if (HE_Susp17 = 1 or HE_Susp18 = 1 or HE_Susp19 = 1
or HE_Susp20 = 1 or HE_Susp21 = 1) HE_Suspd = 1

compute OV4 = 0 (Continuous pathway through university)

if SubjCh1 = 0 & InstChge = 0 & HE_Suspd = 0 & ModeT = 0 OV4 = 1

(HE subject intially pursued)
recode ILA_SECSUBJAREATIER1 (1=2) (2=8) (3=5) (4=9) (5=10) (6=8) (7=13)
(8=13) (9=14) (10=16) (11=11) (12=15) (13=18) (14=13) into ILA_Subject

numeric Subject
if HE_ILA=1 Subject=HE_SBJ
if HE_ILA=2 Subject=ILA_Subject

Analytic variables:

OV4 (University continuity)
1 = Yes, university continuity
0 = No, university discontinuity

SubjCh1 (Auxiliary OV4a – Course/subject change; aka, Changed university subject)
1 = Yes, course/subject change
0 = No, no course/subject change

InstChge (Auxiliary OV4b – Institution change; aka, Changed university)
1 = Yes, institution change
0 = No, no institution change

ModeT (Auxiliary OV4c – Changed mode of study: full or part time)
1 = Yes, change of full- or part-time study
0 = No, no change of full- or part-time study

ModeFT (Auxiliary OV4c2 – Maintained full-time study)
1 = Yes, maintained full time
0 = No, did not maintain full time

ModePT (Auxiliary OV4c3 – Maintained part-time study)
1 = Yes, maintained part time
0 = No, did not maintain part time

HE_Suspd (Auxiliary OV4d – Paused studies at any point; aka, Suspended studies)
1 = Yes, paused studies
0 = No, did not pause studies

Subject (Auxiliary OV4e – Subject intially pursued)
1 = Medicine and dentistry
2 = Subjects allied to medicine
3 = Biological sciences
4 = Veterinary science

5 = Agriculture and related subjects
6 = Physical sciences
7 = Mathematical sciences
8 = Computer science
9 = Engineering and technology
10 = Architecture, building and planning
11 = Social studies
12 = Law
13 = Business and administrative studies
14 = Mass communications and documentation
15 = Languages
16 = Historical and philosophical studies
17 = Creative arts and design
18 = Education
19 = Combined

Higher Education Qualification Achieved (by Age 22) (OV5)

'A categorical variable capturing higher education outcomes within the specified timeframe – i.e. completion of degree, completion of planned sub-degree qualification, withdrawn with unplanned "interim" qualification, still studying or withdrawn without qualification' (Tah & Feinstein, 2023, p. 3).

Variables used:

HE_Entry (Enterd HE)

HE XQOBTN01
1 = Doctorate
2 = Other higher degree
3 = PGCE
4 = Other postgraduate
5 = First degree
6 = Professional graduate certificate
7 = Foundation degree
8 = HND/DipHE
9 = Other undergraduate
10 = FE
11 = No qualification

HE_RSNEND (HESA; Reason for ending instance)
1 = Successful completion of course
2 = Academic failure/left in bad standing/not permitted to progress
3 = Transferred to another provider
4 = Health reasons
5 = Death
6 = Financial reasons
7 = Other personal reasons and dropped out

8 = Written off after lapse of time
9 = Exclusion
10 = Gone into employment
11 = Other
98 = Completion of course – result unknown
99 = Unknown

HE_XPSR01 (Standard registration population marker)
0 = Not recorded
1 = Record HE
2 = Record FE

HE_END (End date of HE instance)

ILA_HE (ILR, HE entry)
1 = Yes
0 = No

ILA_CourseaimHE
2 = Master's degree
3 = PGCE and other postgraduate
5 = First degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate

ILA_COMPSTATUS renamed ILA_Compl (Completion status)
1 = Continuing
2 = Completed
3 = Withdrawn
4 = Transferred
5 = Temporarily withdrawn

CourseAim
1 = Doctorate
2 = Master's degree
3 = PGCE and other postgraduate
4 = Integrated master's degree
5 = Degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate
9 = Undergraduate credits
10 = FE
11 = No formal qualification

<u>Transformations:</u>

recode HE XQOBTN01
('D00' = 1)

('LOO' = 2) ('M00' = 2) ('M01' = 2) ('M11' = 2)
('M71' = 3) ('M41' = 3) ('M42' = 3) ('M44' = 3) ('M70' = 3) ('M72' = 3) ('M73' = 3) ('M79' = 3)
('M80' = 3) ('M88' = 3) ('M90' = 3) ('H71' = 3)
('M22' = 4) ('M2 M26' = 4)
('H00' = 5) ('H11' = 5) ('H12' = 5) ('H16' = 5) ('H18' = 5) ('H22' = 5) ('H23' = 5) ('I00' = 5) ('I11' = 5)
('I16' = 5)
('J10' = 6) ('J16' = 6)
('J20' = 7) ('J26' = 7) ('J30' = J30' = 7)
('C20' = 8) ('C30' = 8) ('C41' = 8) ('C42' = 8) ('C80' = 8) ('H41' = 8) ('H42' = 8) ('H60' = 8) ('H61' = 8)
('H72' = 8) ('H76' = 8) ('H80' = 8) ('I61' = 8) ('I70' = 8) ('I71' = 8) ('I73' = 8) ('I76' = 8) ('I78' = 8) ('I79' = 8) ('I80' = 8) ('J41' = 8) ('J42' = 8) ('J76' = 8) ('J80' = 8)
('P41' = 9) ('P42' = 9) ('P43' = 9) ('P80' = 9) ('P85' = 9) ('P90' = 9) ('Q41' = 9) ('Q42' = 9)
('Q43' = 9) ('Q50' = 9) ('Q80' = 9) ('Q90' = 9) ('R42' = 9) ('R43' = 9) ('R50' = 9) ('R80' = 9) ('R90' = 9)
('S80' = 9) ('S90' = 9) ('X00' = 9) ('X01' = 9) ('X41' = 9)
('C90' = 10) ('H90' = 10) ('H91' = 10) ('I90' = 10) ('J90' = 10)
(else = 11) into HE_Qual

1 = Doctorate
2 = Master's degree
3 = PGCE and other postgraduate
4 = Integrated master's degree
5 = First degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate
9 = Undergraduate credits
10 = FE
11 = No formal qualification

Aggregate /break PMR/ HE_Qual2=min(HE_Qual) (highest qualification obtained)

recode HE_Qual2
(1 thru 3 = 1) (4,5 = 2) (6 thru 9 = 3) (10 = 4) (11 =5) into HE_Qualgp

HE_Qualgp
1 = Postgraduate
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

numeric ILA_HQualComp.
If ILA_Compl=2 ILA_HQualComp= ILA_CourseaimHE
If ~ILA_Compl=2 ILA_HQualComp=11

recode ILA_HQualComp (1 thru 3=1) (4 thru 5=2) (6 thru 9=3) (11=5) into ILA_HQualgp

ILA_HQualgp
1 = Postgraduate
2 = Degree
3 = Subdegree

5 = No qualification

compute HE_ILA=HE_Entry.
if ILA_HE=1 ILA_HE=2.
if HE=2 & ILA_HE=1 ILA_HE=1.
1 = HESA
2 = ILR

numeric HQual.
If HE_ILA=1 HQual= HE_Qual2.
If HE_ILA=2 HQual= ILA_HQualComp.

recode HQual (1 thru 3=1) (4 thru 5=2) (6 thru 9=3) (10=4) (11=5) into HQualgp

HQualgp
1 = Postgraduate
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

recode HQual (1 thru 4=1) (5=2) (6 thru 9=3) (10=4) (11=5) into HQualgpM

HQualgpM
1 = Postgraduate
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

recode HE_RSNEND (1 = 1) (98 = 1) (2 = 3) (3 = 2) (4 thru 11 = 4) (99 = 4) into HE_Withdgp
1 = Completed
2 = Transferred provider
3 = Academic failure
4 = Withdrawn other

numeric HE_QualCompl.
If HE_Qual2 <11 HE_QualCompl=1.
if HE_Qual2=11 HE_QualCompl=2.
if HE_Withdgp>2 HE_QualCompl=3.
if HE_Withdgp=2 HE_QualCompl=4.
If HE_Susp=1 HE_QualCompl=5.

1 = Completed
2 = Continuing
3 = Withdrawn
4 = Transferred
5 = Paused

numeric ILA_ComplHE.

```
If ILA_HE=2 ILA_ComplHE=ILA_Compl.

recode ILA_ComplHE
(1-2) (2=1) (else=copy) into ILA_ComplHEa.

numeric ComplHE.
if HE_ILA=1 ComplHE=HE_QualCompl.
if HE_ILA=2 ComplHE=ILA_ComplHEa.

ComplHE
1 = Completed
2 = Continuing
3 = Withdrawn
4 = Transferred
5 = Paused

compute Q5a=0.
if range (HQualgp,1,2) Q5a=1
(degree plus)

compute Q5b=0.
if HQualgp=3 Q5b=1.
if CourseAim<6 and range(HQualgp,3,4) and HE_Withdgp>2 Q5b=0
(subdegree minus withdrawn unplanned)

compute Q5d=0.
if ComplHE=2 or ComplHE=4 or ComplHE=5 Q5d=1
if range(HQualgp,1,3) Q5d=0.
(continuing studies minus achieved qualification)

compute Q5c=0.
if CourseAim<6 and range(HQualgp,3,4) Q5c=1
if Q5b=1 Q5c=0.
(unplanned qualification minus completed subdegree)

compute Q5e=0.
if ComplHE=3 Q5e=1.
if range(HQualgp,1,3) Q5e=0
if Q5c=1 Q5e=0.
(withdrawn minus completed qualification or unplanned qualification)

numeric OV5.
if Q5a=1 OV5=1.
if Q5b=1 OV5=2.
if Q5d=1 OV5=3.
if Q5c1=1 OV5=4.
if Q5e=1 OV5=5.

compute OV5a= HQual
recode OV5 (1=1) (2 thru 5=0) into OV5b.
compute OV5c= HQualgp
```

Analytic variables:

OV5 (HE qualification)
1 = Completion of degree (Completed: Degree)
2 = Completion of subdegree (Completed: Subdegree)
3 = Continuing studies
4 = Withdrawn with unplanned qualification (Withdrew: Unplanned qualification)
5 = Withdrawn without qualification (Withdrew: No qualification)

HQual (OV5a – HE qualification)
1 = Doctorate
2 = Master's degree
3 = PGCE and other postgraduate
4 = Integrated Master's degree
5 = First degree
6 = Foundation degree
7 = HND/DipHE
8 = Other undergraduate
9 = Undergraduate credits
10 = FE
11 = No formal qualification

Degree (OV5b – Obtained HE degree qualification)
1 = Yes
0 = No

HQualgp (OV5c – HE qualification achieved)
1 = Postgraduate
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

HQualgpM (OV5d – HE qualification achieved, integrated Master's degree as higher degree)
1 = Postgraduate
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

DegClall (OV5e – Classification awarded)
1 = First-class honours
2 = Upper second-class honours
3 = Lower second-class/third class honours
4 = Other

III. Explanatory Variables (EV1 – EV32)

Sex/Gender (EV1)

Variables used:

KS4_FEMALE (NPD)
0 = No
1 = Yes

Transformations:

if KS4_FEMALE = 1, Gender = 1
if KS4_FEMALE = 0, Gender = 2
(else = 9)

Analytic variables:

Gender
1 = Female
2 = Male
9 = Missing

Race/Ethnicity (EV2)

Variables used:

KS4_ETHNIC (NPD)
AAFR = African Asian
ABAN = Bangladeshi
AIND = Indian
AKAO = Kashmiri other
AKPA = Kashmiri Pakistani
AMPK = Mirpuri Pakistani
ANEP = Nepali
AOPK = Other Pakistani
AOTA = Other Asian
AOTH = Any other Asian background
APKN = Pakistani
ASLT = Sri Lankan Tamil
ASNL = Sri Lankan Sinhalese
ASRO = Sri Lankan other
BAFR = Black African
BANN = Black Angolan
BAOF = Other Black African
BCON = Black Congolese
BCRB = Black Caribbean
BEUR = Black European

BGHA = Black Ghanaian
BNAM = Black North American
BNGN = Black Nigerian
BOTB = Other Black
BOTH = Any other Black background
BSLN = Black Sierra Leonian
BSOM = Black Somali
BSUD = Black Sudanese
CHKC = Hong Kong Chinese
CHNE = Chinese
CMAL = Malaysian Chinese
COCH = Other Chinese
CSNG = Singaporean Chinese
CTWN = Taiwanese
MABL = Asian and Black
MACH = Asian and Chinese
MAOE = Asian and any other ethnic group
MBCH = Black and Chinese
MBOE = Black and any other ethnic group
MCOE = Chinese and any other ethnic group
MOTH = Any other mixed background
MOTM = Other mixed background
MWAI = White and Indian
MWAO = White and any other Asian background
MWAP = White and Pakistani
MWAS = White and Asian
MWBA = White and Black African
MWBC = White and Black Caribbean
MWCH = White and Chinese
MWOE = White and any other ethnic group
NOBT = Information not yet obtained
OAFG = Afghan
OARA = Arab other
OEGY = Egyptian
OFIL = Filipino
OIRN = Iranian
OIRQ = Iraqi
OJPN = Japanese
OKOR = Korean
OKRD = Kurdish
OLAM = Latin/South/Central American
OLEB = Lebanese
OLIB = Libyan
OMAL = Malay
OMRC = Moroccan
OOEG = Other ethnic group
OOTH = Any other ethnic group
OPOL = Polynesian
OTHA = Thai
OVIE = Vietnamese
OYEM = Yemeni

REFU = Refused
WALB = Albanian
WBOS = Bosnian-Herzegovinian
WBRI = White British
WCOR = White Cornish
WCRO = Croatian
WEEU = White Eastern European
WENG = White English
WEUR = White European
WGRC = Greek Cypriot
WGRE = Greek/Greek Cypriot
WGRK = Greek
WIRI = White Irish
WIRT = Traveller of Irish heritage
WITA = Italian
WKOS = Kosovan
WOTH = Any other White background
WOTW = White other
WOWB = Other White British
WPOR = Portuguese
WROM = Gypsy/Roma
WSCO = White Scottish
WSER = Serbian
WTUC = Turkish Cypriot
WTUK = Turkish
WTUR = Turkish/Turkish Cypriot
WWEL = White Welsh
WWEU = White Western European

Transformations:

recode KS4_ETHNIC … into KS4_Ethnic_gp

('AMPK' = 1) ('CMAL' = 1) ('MWAI' = 3) ('ANEP' = 1) ('WOTW' = 4)
('AOPK' = 1) ('COCH' = 1) ('MWAP' = 3) 'MWAO' = 3) ('WOWB' = 4)
('AOTA' = 1) ('CSNG' = 1) ('MWAS' = 3) ('OMRC' = 5) ('WPOR' = 4)
('AOTH' = 1) ('CTWN' = 1) ('MWBA' = 3) ('OOEG' = 5) ('WROM' = 4)
('APKN' = 1) ('MABL' = 3) ('MWBC' = 3) ('OOTH' = 5) ('WSCO' = 4)
('ASLT' = 1) ('MACH' = 3) ('MWCH' = 3) ('OPOL' = 5) ('WSER' = 4)
('ASNL' = 1) ('MAOE' = 3) ('MWOE' = 3) ('OTHA' = 5) ('WTUC' = 4)
('ASRO' = 1) ('MBCH' = 3) ('NOBT' = 5) ('OVIE' = 5) ('WTUK' = 4)
('BAFR' = 2) ('MBOE' = 3) ('OAFG' = 5) ('REFU' = 5) ('WTUR' = 4)
('BANN' = 2) ('MCOE' = 3) ('OARA' = 5) ('WALB' = 4) ('WWEL' = 4)
('BAOF' = 2) ('MOTH' = 3) ('OEGY' = 5) ('WBRI' = 4) ('WWEU' = 4)
('BCON' = 2) ('MOTM' = 3) ('OFIL' = 5) ('WCOR' = 4) ('OYEM' = 5)
('BCRB' = 2) ('MWAI' = 3) ('OIRN' = 5) ('WCRO' = 4) 'MWAO' = 3)
('BEUR' = 2) ('MWAP' = 3) ('OIRQ' = 5) ('WEEU' = 4)
('BGHA' = 2) ('MWAS' = 3) ('OJPN' = 5) ('WENG' = 4)
('BNAM' = 2) ('MWBA' = 3) ('OKOR' = 5) ('WEUR' = 4)
('BNGN' = 2) ('MWBC' = 3) ('OKRD' = 5) ('WGRC' = 4)
('BOTB' = 2) ('MWCH' = 3) ('OLAM' = 5) ('WGRE' = 4)

('BOTH' = 2) ('MWOE' = 3) ('OLEB' = 5) ('WGRK' = 4)
('BSLN' = 2) ('NOBT' = 5) ('OLIB' = 5) ('WIRI' = 4)
('BSOM' = 2) ('OAFG' = 5) ('OMAL' = 5) ('WIRT' = 4)
(else = 9)

Analytic variables:

KS4_Ethnic_gp
1 = Asian
2 = Black
3 = Mixed
4 = White
5 = Other
9 = Missing

English is an additional language' (EV3)

Variables used:

KS4_FLANG (NPD)

Transformations:

None

Analytic variables:

KS4_FLANG (English is an additional language)
0 = No
1 = Yes

...alternatively labeled and coded as: English is first language
0 = No
1 = Yes

Ever Eligible for Free School Meals last 6 years at KS4 (EV4)

Variables used:

KS4_FSM6

Transformations:

None

Analytic variables:

KS4_FSM6 (Ever eligible for free school meals in the last six years, as of KS4 census day; aka, 'FSM eligibility', 'FSM eligibility at KS4', and 'FSM eligibility in last 6 years at KS4')

0 = No
1 = Yes

Income Deprivation Affecting Children Index (IDACI) for their Home Address (EV6)

Variables used:

KS4_IDACI

Transformations:

None

Analytic variables:

KS4_IDACI (Income deprivation affecting children index score)

IDACI Groups (EV7)

Variables used:

KS4_IDACI

Transformations:

Quintiles
Rank Variables= KS4_IDACI (A)
/Ntiles(5)
Rename NKS4_ID= IDACI_Q5

recode IDACI_Q5 (1=1) (2 thru 4=2) (5=3) into IDACIgp

Analytic variables:

KS4_IDACI (continuous; aka, IDACI KS4)

IDACI_Q5 (Quintiles of IDACI KS4; aka, 'IDACI Quintiles')

IDACIgp (Income deprivation affecting children index score, grouped)
1 = Bottom 20%
2 = Middle 60%

3 = Top 20%

Type of Placement—Last Care Placement (EV8)

Variables used:

Placement (CLA)
Q1 = Foster placement with relative or friend (up to 2014)
Q2 = Placement with other foster carer (up to 2014)
A3 = Placed for adoption with parental/guardian consent with current foster carer(s) or with a freeing order where parental/guardian consent has been given
A4 = Placed for adoption with parental/guardian consent not with current foster carer(s) or with a freeing order where parental/guardian consent has been given
A5 = Placed for adoption with placement order with current foster carer(s) or with a freeing order where parental/guardian consent was dispensed with
A6 = Placed for adoption with placement order not with current foster carer(s) or with a freeing order where parental/guardian consent was dispensed with
P1 = Placed with own parents or other person with parental responsibility
P2 = Independent living
P3 = Residential employment
K1 = Placed in secure unit or secure children's home
K2 = Placed in homes and hostels subject to Children's Homes Regulations or children's homes subject to Children's Homes Regulations
H5 = Placed in residential accommodation or semi-independent living accommodation not subject to children's homes regulations
R1 = Residential care home
R2 = NHS/health trust or other establishment providing medical or nursing care
R3 = Family centre or mother-and-baby unit
R5 = Young offender institution or prison
S1 = All residential schools, except where dual-registered as a school and children's home
T0 = All types of temporary move
T1 = Temporary period in hospital
T2 = Temporary absence of the child on holiday
T3 = Temporary accommodation while normal foster carer(s) is/are on holiday
T4 = Temporary accommodation of seven days or less, for any reason, not covered by codes T1 to T3

Transformations:

recode PLACEMENT … into PlaceT
('A1' = 1) ('A2' = 1) ('A3' = 1) ('A4' = 1) ('A5' = 1) ('A6' = 1) ('F1' = 2) ('F2' = 2) ('F3' = 2) ('F4' = 2) ('F5' = 2) ('F6' = 2) ('Q2' = 2) ('H3' = 3) ('H4' = 3) ('H5' = 3) ('K1' = 4) ('K2' = 4)
('M1' = 5) ('M2' = 5) ('M3' = 5) ('P1' = 6) ('P2' = 6) ('P3' = 6) ('R1' = 7) ('R2' = 7) ('R3' = 7) ('R4' = 7) ('R5' = 7) ('U1' = 8) ('U2' = 8) ('U3' = 8) ('U4' = 8) ('U5' = 8) ('06' = 8) ('Q1' = 8) ('S1' = 9) ('Z1' = 10)

compute PlaceTl = (Last placement type when aggregated across years 2004 to 2017)

Analytic variables:

PlaceTl (Last care placement type)

1 = Adoption
2 = Foster with foster carer
3 = Semi-independent
4 = Childrens home
5 = Refuge
6 = Independent
7 = Residential
8 = Foster with friends or relatives
9 = Residential school
10 = Other

Placement type (Foster and Residential) (EV9)

Variables used:

PlaceT

Transformations:

recode PlaceT (2,8=1) (4,7=2) (else=3) into PlaceTgp.

1 = Foster care
2 = Residential care
3 = Other placement

casestovars /id=PMR.

compute CLA_Foster= any(1, PlaceT.n to PlaceT.n).

compute CLA_Residential= any(2, PlaceT.n to PlaceT.n).

compute CLA_Other= any(3, PlaceT.n to PlaceT.n).

compute CLA_Placegp=3

if CLA_Foster=1 and CLA_Residential=0 and CLA_Other=0 CLA_Placegp=1.

if Residential1=1 and Foster=0 and CLA_Other=0 CLA_Placegp=2.

1 = Foster care (any)
2 = Residential care (any)
3 = Mixed

compute CLA_PlaceTgp=3.

if CLA_Foster=1 and CLA_Residential=0 and CLA_Other=0 CLA_PlaceTgp=1.

if CLA_Residential=1 and CLA_Foster=0 and CLA_Other=0 CLA_PlaceTgp=2.

1 = Foster care (only)

2 = Residential care (only)
3 = Mixed

Analytic variables:

CLA_Placegp (Any Foster or Residential care placement; aka, Placement type (any))
1 = Foster care (any)
2 = Residential care (any)
3 = Mixed

CLA_PlaceTgp (Only Foster or Residential care placement; aka, Placement type (only))
1 = Foster care (only)
2 = Residential care (only)
3 = Mixed

Number of Placement Type Changes (EV10)

Variables used:

REASON_FOR_PLACEMENT_CHANGE

Transformations:

```
Create lag id = LAG(ID, 1).
Create lag pl = LAG(Placement, 1).
compute NOP=1.
if (ID=lag_id & lag pl=Placement) NOP=0.
```

Analytic variable:

NOP (number of placement type changes)
1
2
3+

Duration in Care (EV11)

Variables used:

POC_LENGTH

Transformations:

recode POC_LENGTH (Length of period of care – i.e. first to last placement) into CLA_CareL

recode CLA_CareL (1 thru 180-1) (181 thru 730=2) (731 thru 1825=3) (1826 thru hi=4) into CLA_CareLgp.

Analytic variables:

CLA_CareL (Total length of care - days)

CLA_Carelgp (Total length of care – group; aka, Total length of care)

1 = 6 months
2 = 6 months-2 years
3 = 2-5 years
4 = 5 years+

Continuous Care (EV12)

Variables used:

CLA_12_MONTHS

Transformations:

Aggregate /break PMR /CLA_12mCont=sum(CLA_12_MONTHS)
recode CLA_12mCont (0=0) (1=1) (2 thru 4=2) (5 thru 9=3) (10 thru 12=4) into CLA_Cont_gp

Analytic variables:

CLA_Cont_gp (Continuous care length)
0 = Less than a year
1 = 1 Year
2 = 2 to 4 years
3 = 5 to 9 years
4 = 10 years+

Primary Need CLA (EV13)

Variables used:

CLA_PrimaryNeedCode (The main need for care episode)
N1 = Abuse or neglect
N2 = Child's disability or illness
N3 = Parental disability or illness
N4 = Family in acute stress
N5 = Family dysfunction
N6 = Socially unacceptable

N7 = Low income
N8 = Absent parenting
N9 = Cases other than Children in Need
N0 = Not stated

Transformations:

recode CLA_PrimaryNeedCode ('N1' = 1) ('N2' = 2) ('N3' = 3) ('N4' = 4) ('N5' = 5) ('N6' = 6) ('N7' = 7) ('N8' = 8) ('N9' = 9) ('N0' = -9) into CiN_Need (First recorded at entry)

recode (1 = 1) (4,5 = 2) (2,3=3) (6 thur 9=3) into PNeed_CLA (Primary need grouped)

Analytic variables:

CLA_Need (Primary Need at first episode; Category of need)
1 = Abuse or neglect
2 = Child's disability or illness
3 = Parental disability or illness
4 = Family in acute stress
5 = Family dysfunction
6 = Socially unacceptable
7 = Low income
8 = Absent parenting
9 = Cases other than Children in Need
-9 = N/A

PNeed_CLA (Primary need abuse or neglect)
1 = Abuse or neglect
2 = Family stress or dysfunction
3 = Other need

Distance from Home (EV14)

Variables used:

Home_Place_Dist

Transformations:

recode CLA_Home_Place_Dist (0 thru 2=1) (2.1 thru 5=2) (5.1 thru 10=3) (10.1 thru 25=4) (25.1 thru hi=5) into CLA Placedist gp.

value labels CLA_Placedist_gp-9 'Missing' 1 '0-2 miles' 2 '2-5' 3 '5-10' 4 '10-25' 5 '25 miles+'.

Analytic variables:

Home_Place_Dist (Placement distance from home)

CLA_Placedist_gp (Placement distance from home grouped)

-9 = missing
1 = 0-2 miles
2 = 2-5 miles
3 = 5-10 miles
4 = 10-25 miles
5 = 25 miles+

Local Authority Placement (EV15)

Variables used:

LA_PLACEMENT_EPI (Local authority where placement is located)

Transformations:

recode LA_PLACEMENT_EPI (SYSMIS = -9) (else = copy) into LA_Place
compute LA_IN = 0
if LA_IN = LA_Place
compute LA_IN = 1
if LA_Place = (-9) LA_IN = (-9)

Analytic variable:

LA_IN (Care placement is in local authority; aka, Placement in local authority)
1 = Yes
0 = No
-9 = Missing

Care Entry Age (EV16)

Variables used:

CLA_POC_START (renamed CLA_P_start, Date of first care episode)

Transformations:

compute CLA_fe_secondary = 0.
if (CLA_P_start GE date.dmy(01, 09, 2010)) CLA_fe_secondary = 1.
if (CLA_P_start GT date.dmy(31, 08, 2015)) CLA_fe_secondary = 0.

numeric CLA_Agegp

if range(CLA_P_start GE date.dmy(01, 09, 1998), date.dmy((11, 08, 2003)))
CLA_Agegp=1

if range(CLA_P_start GE date.dmy(01, 09, 2003), date.dmy((11, 08, 2008))) CLA_Agegp=2

if range(CLA_P_start GE date.dmy(01, 09, 2009), date.dmy((11, 08, 2011))) CLA_Agegp=3

if range(CLA_P_start GE date.dmy(01, 09, 2011), date.dmy((11, 08, 2014))) CLA_Agegp=4

if (CLA_P_start GT date.dmy(01, 09, 2014)) CLA_Agegp=5

Analytic variables:

CLA_fe_secondary (Entered care during secondary school)
1 = Yes
0 = No

CLA_Agegp (Age at care entry - 'CLA age at entry')
1 = 0-4
2= 5-9
3 = 10-12
4 = 13-15
5 = 16+

CIN Age at Referral (EV17)

Variables used:

CIN_AgeStart (Date first referral)

Transformations:

recode CIN_AgeStart (0 thru 10=1) (11 thru 13=2) (14 thru hi=3) (else=-9) into CIN_Agegp

Analytic variable:

CIN_Agegp (CIN Age at Entry)
1 = Under 11
2 = 11 to 13 years
3 = 14+

Primary Need CIN (EV18)

Variables used:

CIN_PrimaryNeedCode (The main need for CIN referral)
N1 = Abuse or neglect
N2 = Child's disability or illness
N3 = Parental disability or illness
N4 = Family in acute stress
N5 = Family dysfunction
N6 = Socially unacceptable
N7 = Low income
N8 = Absent parenting
N9 = Cases other than Children in Need
N0 = Not stated

Transformations:

recode CIN_PrimaryNeedCode ('N1' = 1) ('N2' = 2) ('N3' = 3) ('N4' = 4) ('N5' = 5) ('N6' = 6) ('N7' = 7) ('N8' = 8) ('N9' = 9) ('N0' = -9) into CiN_Need (First recorded at entry)

recode (1 = 1) (4,5 = 2) (2,3=3) (6 thur 10=3) into PNeed_CIN (Primary need grouped)

Analytic variables:

CIN_Need (Primary Need at Entry)
1 = Abuse or neglect
2 = Child's disability or illness
3 = Parental disability or illness
4 = Family in acute stress
5 = Family dysfunction
6 = Socially unacceptable
7 = Low income
8 = Absent parenting
9 = Cases other than Children in Need (aka, Other)
10 = Not stated

PNeed_CIN (Primary need abuse or neglect)
1 = Abuse or neglect
2 = Family stress or dysfunction
3 = Other need

Assessment Factors (EV19)

Variables used:

CIN_AssessmentFactors (Factots identified at the end of assessment)
4A 'Mental health: concerns about the mental health of the child'

Transformations:

compute CIN_CMH=0.

if CIN_AssessmentFactors='4A' CIN_CMH=1.

Analytic variable:

CIN_CMH (Child mental health concerns)
1 = Yes
0 = No

Special Educational Needs at KS4 - Stage (EV20)

Variables used:

KS4_SENF (NPD)

N = 1 No special educational need
A = 2 School Action or Early Years Action
P = 3 School Action Plus or Early Years Action Plus
S = 4 Statement
K = 5 SEN support

Transformations:

recode KS4_SENF ... into KS4_SENstage
(i.e. convert string to numeric)

Analytic variables:

KS4_SENstage (SEN stage)

1 = No Special Educational Need
2 = School Action or Early Years Action
3 = School Action Plus or Early Years Action Plus
4 = Statement
5 = SEN support (since 2014/15)
6 = Education, Health and Care Plan
99 = Missing

Special Educational Needs at KS4 - Type (EV21)

Variables used:

KS4_SENTYPE (NPD)

SPLD = 1 Speech, language and communication needs

ASD = 2 Autistic spectrum disorder
SLD = 3 Specific learning difficulty
MLD = 4 Moderate learning difficulty
SLD = 5 Severe learning difficulty
PMLD = 6 Profound and multiple learning difficulty
SEMH = 7 Social, emotional and mental health difficulties
HI = 8 Hearing impairment
VI = 9 Visual impairment
MSI = 10 Multisensory impairment
PD = 11 Physical disability
NSA = 12 No specialist assessment
OTH = 13 Other need

Transformations:

recode KS4_SENTYPE … into SEN_Type (i.e. convert string to numeric)

recode SEN_Type (1,2=1) (3 thru 6=2) (7=3) (8 thru 11=4) (12,13=5) into SEN_Type_gp.

Analytic variables:

SEN_Type (SEN type)

1 = Speech, Language and Communication Needs
2 = Autistic Spectrum Disorder
3 = Specific Learning Difficulty
4 = Moderate Learning Difficulty
5 = Severe Learning Difficulty
6 = Profound and Multiple Learning Difficulty
7 = Social, Emotional and Mental Health Difficulty
8 = Hearing Impairment
9 = Visual Impairment
10 = Multisensory Impairment
11 = Physical Disability
12 = No specialist assessment
13 = Other need

SEN_Type_gp (SEN type grouped; aka, SEN Primary Need)

1 = Communication and Interaction
2 = Cognition and Learning
3 = Social, Emotional and Mental Health
4 = Sensory and/or Physical Needs
5 = Other need / no assessment

Special Educational Needs at KS4 - Statement (EV22)

Variables used:

KS4_SENK (Does pupil have SEN support)
0 = No
1 = Yes

KS4_SENE (Does pupil have EHC plan)
0 = No
1 = Yes

KS4_SENSE (SEN with statement or EHC plan)
0 = No
1 = Yes

KS4_SENAPK (SEN without statement or EHC plan)
0 = No
1 = Yes

KS4_SENPS (Does pupil have SEN - Action Plus or Statement?)
0 = No
1 = Yes

KS4_SENA (Does pupil have SEN - school action?)
0 = No
1 = Yes

Transformations:

```
compute SEN=0
if KS4_SENSE=1 SEN=1.
If KS4_SENAPK=1 SEN=2.

compute SEN_SAP=0.
if KS4_SENA=1 SEN_SAP=1.
if KS4_SENK=1 SEN_SAP=1.
if KS4_SENPS=1 SEN_SAP=2.
if KS4_SENE=1 SEN_SAP=2.
if KS4_SENSE=1 SEN_SAP=2.
```

Analytic variables:

SEN (SEN Status at KS4)

0 = No identified SEN (No SEN)
1 = SEN with Statement or EHC Plan (Statement / EHC plan)
2 = SEN No Statement or EHC Plan (SEN Support (no Statement))

SEN (SEN Status at KS4 – binary, aka SEN Status - binary)

0 = No identified SEN (No SEN)
1 = SEN with or without Statement or EHC Plan (Statement / EHC plan)

SEN_SAP (SEN-School Action, School Action Plus)
0 = No identified SEN
1 = School Action
2 = School Action Plus or Statement

Attainment at KS2 (EV23)

Variables used:

KS2_TOTPTS

Transformations:

None

Analytic variables:

KS2_TOTPTS (Total KS2 points used in the valued-added calculations; aka, Total KS2 points score)

Attainment at KS4 - Total GCSE (EV24)

Variables used:

KS4_PTSTNEWE

Transformations:

None

Analytic variables:

KS4_PTSTNEWE (Total GCSE and equivalents new style point score; aka, Total KS4 points score and Total KS4 points score GCSE and equivalent)

Attainment at KS4 – five or more A*–C or 4–9 grades including English and Maths (EV25)

Variables used:

KS4_GLEVEL2EM_PTQ_EE (Five or more A*–C or 4–9 grades including English and Maths)

0 = No
1 = Yes

KS4_EXAMCAT (Highest examination category achieved at GCSE and equivalent)

Transformations:

None

Analytic variables:

KS4_GLEVEL2EM_PTQ_EE (Five or more A*–C or 4–9 grades including English and Maths; aka, Five A*–C/9–4 (or equiv.) and Five A*–C including English and Maths)
0 = No
1 = Yes

KS4_EXAMCAT (Highest examination category achieved at GCSE and equivalent)
1. 5+A*-C inc English & Maths
2. 5+A*-C
3. 5+A*-G
4. 1+A*-G
5. Achieved any pass
6. No passes
7. No result

History of School Exclusion (EV26)

Variables used:

Sessions_ex[yy] (Number of KS4 sessions excluded from [yy])

Category_ex[yy] = 'Type of exclusion'

FIXD = Fixed Period
PERM = Permanent
LNCH = Lunchtime

Transformations:

recode Category_ex[yy] (FIXD = 1) (PERM = 2) (LNCH = 3) into Cate_exc1[yy]
if Cate_exc1[yy] = 1 Fixed [yy] = 1

if Cate_exc1[yy] = 2 Perm [yy] = 1
if Cate exc1[yy] = 3 Lunch [yy] = 1

SessExclTotal = sum(Sessions_ex11, Sessions_ex12, Sessions_ex13, Sessions_ex14, Sessions_ex15)
FixedExclTotal = sum(Fixed_2011, Fixed_2012, Fixed 2013, Fixed_2014, Fixed_2015)
PermExclTotal = sum(Perm_2011, Perm_2012, Perm_2013, Perm 2014, Perm_2015)

recode FixedExclTotal (0=0) (1 thru hi=1) into FixedExcl

recode FixedExclTotal (0=0) (1=1) (2=2) (3 thru 5=3) (6 thru 9=4) (10 thru hi=5) into FixdExcl_gp
0 = No fixed exclusions
1 =1
2=2
3=3 to 5
4=6 to 9
5=10+ fixed exclusions

compute KS4_Pexcl=0.

if Perm 2014>0 or Perm_2015>0 KS4_Pexcl=1.

<u>Analytic variables:</u>

SessExclTotal (Total number of KS4 session exclusions)

FixedExclTotal (Total number of KS4 fixed-period exclusions)

PermExclTotal (Total number of KS4 permanent exclusions)

FixdExcl_gp (Fixed exclusions grouped (2011–15))
0 = No fixed exclusions
1 = 1
2 = 2
3 = 3 to 5
4 = 6 to 9
5 = 10+ fixed exclusions

FixedExcl (Any fixed exclusion)
0 = No
1 = Yes

KS4_Pexcl (Permanently excluded at KS4; aka, Permanent Exclusion (2011-2015))
0 = No
1 = Yes

History of Persistent Absence (EV27)

Variables used:

SessionsPossible_Spring_ab[yy] (NPD)
SessionsPossible_Autumn_ab[yy]
SessionsPossible_Summer_ab[yy]

AuthorisedAbsence_Spring_ab[yy]
AuthorisedAbsence_Autumn_ab[yy]
AuthorisedAbsence_Summer_ab[yy]

UnauthorisedAbsence_Spring_ab[yy]
UnauthorisedAbsence_Autumn_ab[yy]
UnauthorisedAbsence_Summer_ab[yy]

OverallAbsence_Spring_ab[yy]
OverallAbsence_Autumn_ab[yy]
OverallAbsence_Summer_ab[yy]

Transformations:

Ab_Poss3T_[yy] = sum (SessionsPossible_Spring_ab[yy], SessionsPossible_Autumn_ab[yy], SessionsPossible_Summer_ab[yy])
AuthAb3T_[yy] sum(AuthorisedAbsence_Spring_ab[yy], AuthorisedAbsence_Autumn_ab[yy], AuthorisedAbsence_Summer_ab[yy])
UnathAb3T_[yy] = sum(UnauthorisedAbsence_Spring_ab[yy], UnauthorisedAbsence_Autumn_ab[yy], UnauthorisedAbsence_Summer_ab[yy])
TotalAb3T_[yy] = sum(OverallAbsence_Spring_ab[yy], OverallAbsence_Autumn_ab[yy], OverallAbsence_Summer_ab[yy])

PossAbsTotal = sum(Ab_Poss3T_2011, Ab_Poss3T_2012, Ab_Poss3T_2013, Ab_Poss3T_2014, Ab_Poss3T_2015)

AuthAbTotal = sum(AuthAb3T_2011, AuthAb3T_2012, AuthAb3T_2013, AuthAb3T_2014, AuthAb3T_2015)

UnAuthTotal = sum(UnathAb3T_2011, UnathAb3T_2012, UnathAb3T_2013, UnathAb3T_2014, UnathAb3T_2015)

Total_Absence = sum (TotalAb3T_2011, TotalAb3T_2012, TotalAb3T_2013, TotalAb3T_2014, TotalAb3T_2015)

Auth_Rate (AuthAbTotal/PossAbsTotal) * 100

UnAuth_Rate (UnAuthTotal/PossAbsTotal) * 100

TotalAb_Rate (Total_Absence/PossAbsTotal) * 100

rank variables=TotalAb_Rate/ntiles(5)

compute AbRate_2014=(TotalAb3T_2014/Ah_Poss3T_2014)*100.

compute AbRate_2015=(TotalAb3T_2015/Ab_Poss3T 2015)*100.

if AbRate_2014 ge 10 PAbs2014=1.

compute PAbs2015=0.

if AbRate_2015 ge 10 PAbs2015=1.

compute KS4_PAbs=0.

if PAbs2014=1 or PAbs2015=1 KS4_PAbs=1.

Analytic variables:

Auth_Rate (Rate of authorised KS4 absences)

UnAuth_Rate (Rate of unauthorised KS4 absences)

TotalAb_Rate (Rate of total KS4 absences)

TotalAb_Rate_Q5 (Total Absence Rate Quintiles)

KS4_PAbs (Persistent Absentee at KS4; aka, Persistent Absentee)
0 = No
1 = Yes

History of Alternative Provision (EV28)

Variables used:

AP_APTypeDescription

HSP = Hospital school
IND = Independent school
NMS = Non-maintained school
NOT = Not a school

AP_Year

Transformations:

recode AP_APTypeDescription ('ACD' = 1) ('HSP' = 2) ('IND' = 3) ('NMS' = 4) ('NOT' = 5) into APtype

APtype

1 = Academy
2 = Hospital school
3 = Independent school
4 = Non-maintained school
5 = Not a school

if AP_Year [yy], APtype_[yy] = APtype

APtypel (Latest AP provided – when aggregated)

if any APtype, AP_ever = 1 else 0 (Received some form of alternative provision 2011–2015)

count AP_yr = APtype_2011 APtype_2012 APtype_2013 APtype_2014 to APtype_2015 (Total number of years spent in alternative provision)

Analytic variables:

AP_yr (Years in alternative provision)

AP_ever (Ever in alternative provision, 2011–2015)
1 = Yes
0 = No

School Changes at KS4 (EV29)

Variables used:

KS4_NEWMOBILE

Transformations:

None

Analytic variable:

KS4_NEWMOBILE (Joined the school in the last two academic years)
1 = Yes
0 = No

Attended Mainstream School at KS4 (EV30)

Variables used:

KS4_NEWER_TYPE (renamed KS4_SchType; School type alternative breakdown)

1=Comprehensive
2=Selective
3=Modern

4=Not ADMPOL
5=Maintained special
6=Hospitals and PRUs
7=Non-maintained/Independent special schools
8=Independent schools

Transformations:

recode KS4_SchType (1 thru 3=1) (4 thru 7=0) (8=1) into KS4_mainstream.

Analytic variable:

KS4_mainstream (Atteneded a mainstream school at KS4)
1 = Yes
0 = No

Ever permanently excluded or in PRU/AP at KS4 (EV31)

Variables used:

Perm_2014
Perm_2015

UnitContactTime SPR14 - renamed PRU_Cont_2014
UnitContactTime SPR15 - renamed PRU_Cont_2015

APtype_2014
APtype_2015

Transformations:

compute KS4_Pexcl=0.
if Perm_2014>0 or Perm_2015>0 KS4_Pexcl=1.

compute KS4_PRU=0.
if PRU_Cont_2014>0 or PRU_Cont_2015>0 KS4 PRU=1.

compute KS4_AP=0.
if APtype_2014>0 or APtype_2015>0 KS4_AP=1.

compute PexcIAP_PRU=0.
if KS4_AP=1 or KS4_PRU=1 or K54_Pexcd+1 PexcIAP_PRU-1.

Analytic variable:

PexcIAP_PRU (Ever permanently excluded or in PRU/AP at KS4)
1 = Yes
0 = No

Post-16 Qualifications (EV32)

Variables used:

KS4_LEVEL2_PTQ_EE
KS5_L3_flag
KS5_L2_flag
ILA_Compl_16 to ILA_Compl_21
NVQ2_2016 to NVQ2_2021
KS5_PL3_17

Transformations:

```
compute L1=0 .
if range(NVQ2_2016,0,1) L1=1
if range(NVQ2_2017,0,1) L1=1
if range(NVQ2_2018,0,1) L1=1
if range(NVQ2_2019,0,1) L1=1
if range(NVQ2_2020,0,1) L1=1
if range(NVQ2_2021,0,1) L1=1

compute ILR_L318 = 0
if NVQ2_2016=3 and ILA_Compl_16=2 ILR_L318 = 1
if NVQ2_2017=3 and ILA_Compl_17=2 ILR_L318 = 1

compute ILR_L322=0.
if NVQ2_2018=3 and ILA_Compl_18=2 ILR_L322= 1
if NVQ2_2019=3 and ILA_Compl_19=2 ILR_L322= 1
if NVQ2_2020=3 and ILA_Compl_20=2 ILR_L322= 1
if NVQ2_2021=3 and ILA_Compl_21=2 ILR_L322= 1

compute ILR_L2_22=0.
if NVQ2_2016=2 and ILA_Compl_16=2 ILR_L2_22=1
if NVQ2_2017=2 and ILA_Compl_17=2 ILR_L2_22= 1
if NVQ2_2018=2 and ILA_Compl_18=2 ILR_L2_22=1
if NVQ2_2019=2 and ILA_Compl_19=2 ILR L2_22=1
if NVQ2_2020=2 and ILA_Compl_20=2 ILR_L2_22=1
if NVQ2_2021=2 and ILA_Compl_21=2 ILR_L2_22=1

compute L2_Total=0.
if ILR_L222=1 or KS5_L2_FLAG=1 L2_Total=1.
if KS4_LEVEL2_PTQ_EE=1 L2_Total=1.

compute L3_Total=0.
if ILR_L322=1 or ILR_L318=1 or KS5_L3_flag=1 L3_Total=1.
```

compute L3_18t=0
if KS5_PL3=1 or ILR_L318=1 L3_18t=1

compute P16_1=0
if KS4_LEVEL2_PTQ_EE=1 and L3a_Total=1 P16_1=1

compute P16_2=1
if L2_Total=1 or L3_Total=1 P16_2=0

compute P16_3=0
if L2_Total=1 and L3_Total=1 P16_3=1
if KS4 LEVEL2_PTQ_EE=1 P16_3=0

compute P16_4=0
if L2_Total=1 and L3_Total=0 P16_4=1
if KS4 LEVEL2 PTQ EE=1 P16 4=0

compute P16_5=0
if KS4_LEVEL2_PTQ_EE=1 and L3_Total=0 P16_5=1
if L3 18t=1 P16 5=0

numeric Post16_qual
if P16_1 Post16_qual=1
if P16_2 Post16_qual=2
if P16_3 Post16_qual=3
if P16 4 Post16_qual=4
if P16_5 Post16_qual=5

<u>Analytic variables:</u>

Post16_qual
1 = L2 at 16, L3 at 18
2 = No L2 or L3
3 = L2 after 16, L3 before 22
4 = L2 after 16, no L3
5 = L2 at 16, no L3

L1 (FE Study at L1 or lower)
1 = Yes
0 = No

IV. Educational Pathway Status Variables: Qualifications and Registrations (Ages 16–22)

The following categorical variables are specific to each of the five 'waves' of educational data used to construct the educational pathway variables described in Section V. They denote the qualifications young people completed at secondary education, FE and HE and the registrations (e.g., enrolment for a Level 4 qualification) in place at the start of FE and HE. Together, they will be used to examine the 'pathways used by young people … as a unit of analysis … [to] explore the relationship between the groups of interest and their sequential pathways (a) through post-16 education, (b) into higher education and (c) through higher education' (from p. 3 of the protocol; Tah & Feinstein, 2023).

Following is a summary of the variables used to define 'pathways to and through HE', arranged as a series of five waves, from the end of KS4 to the end of HE:

- Wave 2: Qualification at the end of KS4 (around age 16)
- Wave 3: Registration at the start of FE (around age 17)
- Wave 4: Qualification at the end of FE (around age 18)
- Wave 5: Registration at the start of HE (around age 19)
- Wave 6: Qualification at the end of HE (around age 22)

Wave 2: Qualification at the End of KS4 (about age 16)

Variables used:

KS4_EXAMCAT_PTQ_EE
1 = Five or more A*–C or 9–4 GCSEs or equivalents, including English and Maths GCSEs
2 = Five or more A*–C or 9–4 GCSEs or equivalents
3 = One or more A*–G or 9–1 GCSEs or equivalents
4 = Gained one or more passes in KS4 performance tables qualifications
5 = No passes in KS4 performance tables qualifications
6 = Entries in KS4 non-performance tables qualifications only
7 = No results

Transformations:

recode KS4_EXAMCAT_PTQ_EE
(1 = 1) (2 = 2) (3 thru 4 = 3) (5 thru 7 = 4) into Wave2

Analytic variable:

Wave2 (Qualification at the End of KS4)

1 = GCSE-High (Five or more A*–C or 4–9 grades including English and Maths; aka, 5+ A*–C grades inc EM)

2 = GCSE-Med (Five or more A*–C or 4–9 grades; aka, 5+ A*–C grades)
3 = GCSE-Low (One or more A*–G grades or 9–1 grades for GCSEs or equivalents; aka, 1+ A-G)
4 = GCSE-None (No qualification; aka, None)

Wave2b (Qualification at the End of KS4; aka, KS4 grades)

1 = GCSE-High (Five or more A*–C or 4–9 grades including English and Maths; aka, 5 A–C inc EM)
2 = GCSE-Med (Five or more A*–C or 4–9 grades; aka, 5 GCSEs)
3 = GCSE-Low/None (One or more A*–G grades, 9–1 grades for GCSEs or equivalents, or No qualification; aka, Low/No grades)

Wave 3: Registration at the Start of Further Education (about age 17)

Variables used:

ILA_D_GCSE (GCSE, 2016-2021)
1 = Yes
2 = No

ILA_D_GCE (A-level, 2016-2021)
1 = Yes
2 = No

KS5_AGEN (Applied general, 2016–2018)
1 = Yes
2 = No

KS5_TLEV (Tech level, 2016–2018)
1 = Yes
2 = No

KS5_Alev (A-level, 2016–2018)
1 = Yes
2 = No

ILA_D_NOTIONLEV2 (NVQ2, 2016–2021)
-1 = Missing (not applicable/not known)
0 = Entry
1 = Level 1
2 = Level 2
3 = Level 3
4 = Level 4
5 = Level 5
6 = Level 6
7 = Level 7 or higher
9 = Other

ILA_PROGTYPE (2016–2021)

-1 = Missing (not applicable/not known)
2 = Advanced apprenticeship
3 = Apprenticeship
20 = Higher apprenticeship – Level 4
21 = Higher apprenticeship – Level 5
22 = Higher apprenticeship – Level 6
23 = Higher apprenticeship – Level 7+
24 = Traineeships
25 = Apprenticeship standard

Transformations:

recode ILA_D_GCSE into ILA_D_GCSE_[yy]
recode ILA_D_GCE into ILA_D_GCE_[yy]
recode KS5_AGEN into KS5_AGen_[yy]
recode KS5_TLEV into KS5_TLev_[yy]
recode KS5_Alev into KS5_Alevel[yy]
recode ILA_ D_NOTIONLEV2 into NVQ2_[yy]
recode ILA_PROGTYPE into ILA_Apprtshp[yy]
recode KS5_BOARDNO (110, 111 = 1) (else = 0) into KS5_Alev15

numeric KS5_Qual_16 to KS5_Qual_18.
if KS5_AGen_16=1 or KS5_TLev_16=1 KS5_Qual_16=2.
if KS5 Alevel15=1 KS5_Qual_16=1.
if KS5 AGen_17=1 or KS5_TLev_17=1 KS5_Qual_17=2.
if KS5_Alevel16=1 KS5_Qual_17=1.
if KS5 AGen 18=1 or KS5_TLev_18=1 KS5_Qual_18=2.
if KS5_Alevel17=1 KS5_Qual_18=1.

value labels KS5_Qual_16 to KS5_Qual_18.
1=A-levels
2=Vocational.

numeric ILR_Qual_16 to ILR_Qual_21.
if not(miss(NVQ2_2016)) ILR_Qual_16=2.
if ILA_D_GCE_16=1 ILR_Qual_16=2.
if ILA_D_GCSE_16=1 ILR_Qual_16=3.
if ILA_Apprtshp_16>0 ILR_Qual_16=4.
(repeat for all years 2016-21)

value labels ILR_Qual_16 to ILR_Qual_21
1=A-levels
2=Vocational
3=GCSE
4=Apprenticeship

numeric KS5ILR_Qual_16T to KS5ILR_Qual_18T.
if KS5_Qual 16=2 or ILR_Qual_16=2 KS5ILR_Qual_16T=2.
if KS5_Qual 16=1 or ILR_Qual_16 =1 KS5ILR_Qual_16T= 1.
if ILR_Qual_16=3 KS5ILR_Qual_16T=3.

```
if ILR_Qual_16=4 KS5ILR_Qual_16T=4.
```
(repeat for all years 2016-18)

```
compute KS5ILR_Qual_all=KS5ILR_Qual_16T.
do if KS5ILR_Qual_16T=- 9.
compute KS5ILR_Qual_all=KS5ILR_Qual_17T.
else if KS5ILR_Qual_16T=- 9 and KS5ILR_Qual_17T=- 9 .
compute KS5ILR_Qual_all=KS5ILR_Qual_18T.
else if KS5ILR_Qual_16T = - 9 and KS5ILR_Qual_17T = - 9 and KS5ILR_Qual_18T= - 9 .
compute KS5ILR_Qual_all=ILR_Qual_19.
else if KS5ILR_Qual_16T = - 9 and KS5ILR_Qual_17T = - 9 and KS5ILR_Qual_18T = - 9 and
ILR_Qual_19=-9.
compute KS5ILR_Qual_all=ILR_Qual_20.
else if KS5ILR_Qual_16T=- 9 and KS5ILR_Qual_17T= - 9 and KS5ILR_Qual_18T=- 9 and
ILR_Qual_19=-9 and ILR_Qual_20=-9.
compute KS5ILR_Qual_all=ILR_Qual_21.
end if.

value labels KS5ILR_Qual_all
1=A-levels
2=Vocational
3=GCSE
4=Apprenticeship

numeric Wave3M.
if miss(KS5_Examflag) and miss(KS5_ALEV) and miss(ILA_Compl) Wave3M=1.
exe.

compute Wave3=KS5ILR_Qual_all.
recode Wave3 (-9=5) (else=copy).
if Wave3M=1 Wave3=-9.
```

Analytic variable:

Wave3 (Registration at the Start of FE; aka, Registered qualification at the start of FE)

1 = A-levels
2 = Vocational
3 = GCSE
4 = Apprenticeship
5 = Other
-9 = Missing

Wave 4: Qualification at the End of Further Education (about age 18)

Variables used:

ILA_AimRef (course aim code)

ILA_COMPSTATUS (Completion status, 2016-21)
-1=Missing (Not Applicable/Not Known)
1=The learner is continuing or intending to continue the learning aim
2=The learner has completed the learning activities leading to the learning aim
3=The learner has withdrawn from the learning activities leading to the learning aim
4=The learner has transferred to a new learning aim.
5=Changes in learning within the same programme type and sector subject area
6=Learner has temporarily withdrawn from the aim due to an agreed break in learning

ILA_D_NOTIONLEV2 (Notional NVQ level of learner version 2)

KS5_PASS2LV3ALEV (Achieved 2+ A-levels)
1 = Yes
2 = No

KS5_LEV3THRESH_ALEV (Student achievement against Level 3 threshold in A-levels)
0 to 350 (score)

ILA_D_GCE (A-levels)

ILA_Apprtshp (Apprenticeship 2016-21)

Transformations:

```
rename ILA_COMPSTATUS ILA_Compl
numeric NVQ_compl.
if ILA_Compl =2 NVQ_compl=ILA_NOTIONLEV2.

compute NVQlv2=0.
if range(NVQ_compl, 0,2) NVQlv2=1.

compute NVQlv3=0.
if NVQ_compl=3 NVQlv3=1.

numeric Alevel2p  (A-level 2+)
if KS5_ PASS2LV3ALEV=1 Alevl2p=1.

numeric ILA_AlevelC.
if ILA_Compl=2, ILA_AlevelC=1.
if ILA_AlevelC=1 Alevel2p=1.

numeric Alevel2m  (A-level 1)
if KS5_PASS2LV3_ALEV=0 and KS5_LEV3THRESH_ALEV<100 Alevel2m=1.

recode ILA_Apprtshp (1 THRU 5=1) (else=0) into ILA_ApprtY.

numeric Apprlv2_C  (Apprenticeship Intermediate)
if range(ILA_NOTIONLEV2, 0, 2) and ILA_ApprtY=1 and ILA_Compl=2 Apprlv2_C=1.
```

```
numeric Apprlv3_C (Apprenticeship Advanced)
if ILA_ApprtY=1 and ILA_Compl=2 and ILA_NOTIONLEV2=3 Apprlv3_C=1.

numeric ILA_Access.
ILA_LEARNAIMREF=4 ILA_Access=1.

numeric ILA_AccessC (Access course)
if ILA_Compl=2 and ILA_Access=1 ILA_AccessC=1.

compute Wave4b=10.
if NVQlv2=1 Wave4b=4.
if NVQlv3=1 Wave4b=3.
if Alevel2p=1 Wave4b=1.
if Alevel2m=1 Wave4b=2.
if Apprlv2_C=1 Wave4b=6.
if Apprlv3_C=1 Wave4b=5.
if ILA_AccessC=1 Wave4b=7.

numeric W4comp.
if miss(Wave4b) and HE_Entry=0 and ILA_Compl=3 W4comp=2.
if miss(Wave4b) and ILA_Compl=1 and HE Entry=0 W4comp=1.
if miss(Wave4b) and ILA_Compl>3 and HE Entry=0 W4comp=1.

compute Wave4=Wave4b.
if W4comp=1 Wave4=8.
if W4comp=2 Wave4=9.

numeric Wave4M.
if miss(KS5_ALEV) and miss(ILA_Compl) Wave4M=1.
If Wave4M=1 Wave4=-9.
```

Analytic variable:

Wave4 (Qualification at the End of FE)

1 = A-levels (2+)
2 = A-levels (<2)
3 = NVQ Level 3 (aka, NVQ lv3; Vocational (Level 3))
4 = NVQ Level 2 or lower (aka, NVQ lv2-; Vocational (Level 2)))
5 = Apprenticeship (Advanced) (aka, App (Adv))
6 = Apprenticeship (Intermediate) (aka, App (Int))
7= Access course (aka, Access)
8 = Continuing studies
9 = Withdrawn
10 = Other
-9 = Missing

Wave 5: Registration at the Start of Higher Education (about age 19)

Variables used:

ILA_NOTIONLEV2 (Notional NVQ level)

ILA_ApprtY (Apprenticeship)

CourseAim2 (HE course aim)

Transformations:

compute Alev2ndY_18 = KS5_InScope_ALEV_2ndYr

numeric ILA_ApprDegSub.
if ILA_ApprtY=1 and ILA_NOTIONLEV2=4 ILA_ApprDegSub=2.
if ILA_ApprtY=1 and ILA_NOTIONLEV2=5 ILA_ApprDegSub=2.
if ILA_ApprtY=1 and ILA_NOTIONLEV2>5 ILA_ApprDegSub=1.

value labels ILA_ApprDegSub
1=Degree level Apprenticeship
2=Subdegree level Apprenticeship

compute Wave5=5.
if CourseAim2<6 Wave5=1.
if range(CourseAim2, 6, 9) Wave5=3.
if ILA ApprDegSub=1 Wave5=2.
if ILA ApprDegSub=2 Wave5=4.
if HE_Entry=0 Wave5=-8.

Analytic variable:

Wave5 (Registration at the Start of HE; aka, Registered qualification at the start of HE)

1 = Degree
2 = Degree Apprenticeship (aka, Degree Appr)
3 = Subdegree
4 = Subdegree Apprenticehip (aka, Subdeg Appr)
5 = Other
-8 = Non HE Entry (aka, Missing)

Wave 6: Qualification at the End of Higher Education (about age 22)

Variables used:

HE_XCLASS01 (Classification of qualification)
1 = First-class honours

2 = Upper second-class honours
3 = Lower second-class honours
4 = Third-class honours/pass
5 = Unclassified
6 = FE-level qualification
7 = Other HE-level qualification

ILA_OUTGRADE (Learning outcome grade)
PA=Pass
ME=Merit
CR=Credit
DS=Distinction
FL=Fail
01 - 99 Numeric value
FI=First class honours
SU=Upper second class honours
SL=Lower second class honours
SE=Undivided second class honours
TH=Third class honours
FO=Fourth class honours
UH=Unclassified honours

ILA_HE_Entry (ILR, HE entry)

HQualgp
1 = Postgraduate degree
2 = Degree
3 = Subdegree
4 = FE
5 = No qualification

ComplHE
1 = Completed
2 = Continue
3 = Withdrawn
4 = Transferred
5 = Paused

Transformations:

recode HE_XCLASS01 (1 = 1) (2 = 2) (3,4 = 3) (5,7= 4) into HE_DegClgp

numeric HE_DegCl_gp1.
if HE_HQualgp=2 HE_DegCl_gp1=HE_DegClgp

HE_DegCl_gp1
1 = First-class honours
2 = Upper second-class honours
3 = Lower second-class/third class honours
4 = Other

recode ILA_OUTGRADE ('1' = 1) ('FI' = 1) ('2' = 2) ('SU' = 2) ('22' = 3) ('SL' = 3) ('SE' = 3) ('3' = 3) ('TH = 3) ('CR = 4) ('DS' = 4) ('ME' = 4) ('OR' = 4) ('PA' = 4) ('UH' = 4) into ILA_Grade

ILA_Grade
1 = First-class honours
2 = Upper second-class honours
3 = Lower second-class/third class honours
4 = Other

numeric ILA_DegClass
if ILA_HQualgp=2 ILA_DegClass = ILA_Grade

numeric DegClall.
HE_ILA=1 DegClall= HE_DegCl_gp1
HE_ILA=2 DegClall=ILA_DegClass

DegClall
1 = First-class honours
2 = Upper second-class honours
3 = Lower second-class/third class honours
4 = Other

compute Wave6 =-9.
if Compl_HE=3 Wave6=8.
if Compl_HE=2 Wave6=7.
if Compl_HE=4 Wave6=7.
if Compl_HE=5 Wave6=7.
if HQualgp=3 Wave6=6.
if DegClall=1 Wave6=2.
if DegClall=2 Wave6=2.
if DegClall=3 Wave6=3.
if DegClall=4 Wave6=5.
if HQualgp=1 Wave6=1.

recode Wave6 (1 thru 5=2) (else=copy) into Wave6a.

<u>Analytic variables:</u>

Wave6 (Qualification at the End of HE)

1 = Postgraduate degree (aka, Postgrad)
2 = Degree with first-class honours (aka, Degree I)
3 = Degree with upper-second-class honours (aka, Degree II:i)
4 = Degree with lower-second-class or third-class honours (aka, Degree II: ii/III)
5 = Degree (other) (aka, Degree Other)
6 = Subdegree
7 = Continuing studies
8 = Withdrawn
-9 = Missing

Wave6a (Qualification at the End of HE)

2 = Degree+
6 = Subdegree
7 = Continuing studies
8 = Withdrawn
-9 = Missing

V. Pathway Variable Descriptions and Coding Patterns

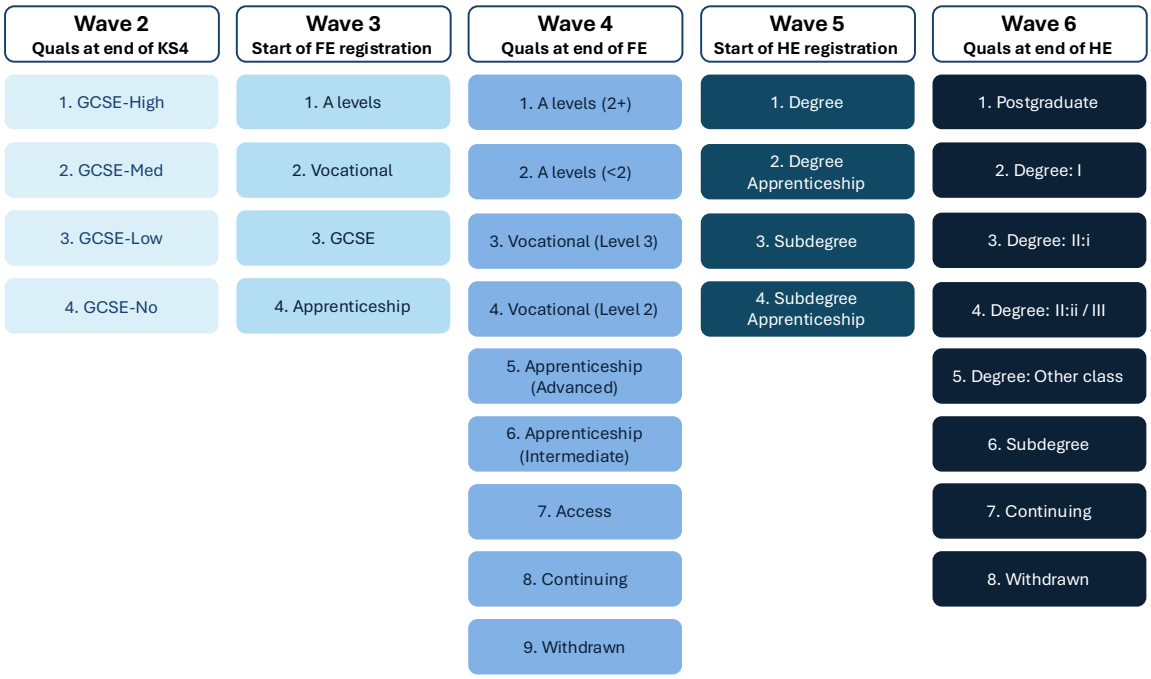
1. Introduction to the Construction of Pathway Variables Denoting Young People's Pathways Into and Through Higher Education

Initially, the educational pathway status variables (described above, in Section IV, and shown in Figure B1) were used to construct several sets of educational pathway variables. Most of the educational pathway variables are focused on a particular educational outcome (e.g., HE entry) and constructed to test a set of related research questions about that outcome. For example, the first set of pathway analyses address questions about the traditional and alternative educational pathways young people follow from the end of KS4 (W2 qualification), to the beginning of FE (W3 registration), through to the end of FE (W4 qualifications) and then either into HE or not. In addition to (a) HE entry, below are presented sets of educational pathways focused on (b) age 18/19 entry into HE, (c) entry into a top-tier university and (d) the highest degree earned by the age of 22.

The numerical codes for each pathway status variable are provided in Figure B1 to clarify the construction and definition of the educational pathway variables described below. For example, rather than describing a particular educational pathway by reference to the complete verbal description of each registration or qualification at each wave (e.g., 'GCSE-High' at W2, 'A-levels' at W3 and 'A-levels (2+)' at W4), a simplified numerical coding pattern, such as '1, 1, 1' (or W2.1, W3.1, W4.1), is often used to describe the educational pathway followed by a particular young person or group of young people. In other words, the numbers used where describing the simplified numerical coding patterns that denote each pathway refer to the numbers next to the verbal descriptions shown in Figure B1.

After describing the construction of the different educational pathway variables, each focused on a particular set of pathways and outcomes (e.g., 'academic' vs 'vocational' pathways to HE entry), the resulting educational pathway variables are then summarised, along with the corresponding pathway variable values (representing the different pathways that were coded into each pathway variable), in Tables B1–B19.

Figure B1. The Enumerated W2–W6 Pathway Status Variables.



2. Pathways to Higher Education Entry

Academic Pathways. The first set of educational pathways was constructed and saved to a single pathway variable (i.e., HEpath1: 'Traditional Pathway to HE Entry') by combining information about young people from the W2, W3 and W4 pathway status variables (see Figure B1) together with OV1 (i.e., 'Initial Entry into HE', where 1 = Yes, 2 = No). Specifically, if a young person (e.g., 'Rebecca') had (a) attained five or more A*–C or 9–4 grades for GCSEs or equivalents, including English and Maths, by the end of KS4 (i.e., W2 = 1, also called 'GCSE-High'); (b) registered for A-levels at the start of FE (i.e., W3 = 1); (c) attained two or more A-levels by the end of FE (i.e., W4 = 1); and (d) entered HE (i.e., OV1 = 1), then Rebecca was assigned a '1' (i.e., the traditional academic pathway for young people from the general population) on the HEpath1 variable. If the pattern of variable values across W2, W3, W4 and OV1 was anything other than '1, 1, 1, 1', then the young person was assigned a '0' (i.e., not the traditional pathway) on the HEpath1 variable. The dichotomous Traditional Pathway to HE Entry variable is summarized in the top panel of Table B1.

In addition, because there is often interest in knowing how HE entry rates vary across different groups of young people with experience of social care *for only those who entered HE*, this conditional information about HE entry rates is represented by the next pathway variable, which includes both the traditional academic pathway category together with several different alternative academic pathways from the end of KS4 to HE entry. In this case, the focus was on alternative pathways characterised by different

academic attainments (i.e., as opposed to vocational or apprenticeship information, which is addressed separately). These traditional and alternative academic pathways to HE entry were constructed and saved to a single pathway variable (i.e., HEpath2: 'Traditional and Alternative Academic Pathways to HE Entry'), again by combining information about young people from the W2, W3 and W4 pathway status variables but, in this case, using only the OV1 category: 1 = Yes, entry into HE.

Specifically, if a young person followed the previously described traditional pathway to HE—such that their coding pattern across waves was '1, 1, 1, 1'—then they were assigned a variable value of '1' on HEpath2 (where '1' means they followed the traditional academic pathway into HE). However, if a young person (e.g., 'John') had (a) attained five or more A*–C or 9–4 grades for GCSEs or equivalents that did *not* include English and Maths by the end of KS4 (i.e., W2 = 2, also called 'GCSE-Med'); (b) registered for A-levels at the start of FE (i.e., W3 = 1); (c) attained two or more A-levels by the end of FE (i.e., W4 = 1); and (d) entered HE (i.e., OV1 = 1), then John's '2, 1, 1, 1' coding pattern was assigned a '2' on the HEpath2 variable. Similarly, if a young person (e.g., 'Sasha') ended KS4 with 'GCSE-Low' attainment (e.g., one or more A*–G grades or 9–1 grades for GCSEs or equivalents) and then followed the traditional pathway to entering HE, then Sasha's '3, 1, 1, 1' coding pattern was assigned a '3' on the HEpath2 variable.

If a young person (e.g., 'Tarik') ended KS4 with no qualifications (i.e., W2 = 4; e.g., no passes in KS4 performance tables qualifications), registered for GCSEs at the start of FE (i.e., W3 = 3), attained two or more A-levels by the end of FE (i.e., W4 = 1) and then entered HE (i.e., OV1 = 1), then Tarik's '4, 3, 1, 1' coding pattern was assigned a '4' on the HEpath2 variable.

To this core set of alternative academic pathways, we also added to HEpath2 some additional alternative academic pathways, mainly focused on young people who registered for GCSEs at the start of FE, presumably with the intention of increasing their GCSE qualifications before working on their A-levels. Specifically, young people who attained less than two A-levels by the end of FE (i.e., W4 = 2, also called 'A-levels (<2)') but who otherwise followed the traditional academic pathway to HE entry (i.e., coding pattern '1, 1, 2, 1') were assigned a '5' on the HEpath2 variable. Young people who ended KS4 with 'GCSE-Med' attainment (i.e., W2 = 2), registered for GCSEs at the start of FE (i.e., W3 = 3), ended FE with two or more A-levels (i.e., W3 = 1) and then entered HE (i.e., coding pattern '2, 3, 1, 1') were assigned a '6' on the HEpath2 variable. Young people who followed a similar pathway but attained less than two A-levels by the end of FE (i.e., coding pattern '2, 3, 2, 1') were assigned a '7' on the HEpath2 variable. Similarly, young people who ended KS4 with 'GCSE-Low' attainment (i.e., W2 = 3), registered for GCSEs at the start of FE (i.e., W3 = 3), ended FE with two or more A-levels (i.e., W4 = 1) and then entered HE (i.e., coding pattern '3, 3, 1, 1') were assigned a '8' on the HEpath2 variable. Young people who followed a similar pathway but attained less than two A-

levels by the end of FE (i.e., coding pattern '3, 3, 2, 1') were assigned a '9' on the HEpath2 variable. All other pathway coding patterns (i.e., pathways that involved a mix across waves of academic, vocational, and apprenticeship registrations and qualifications, as defined in this study), were assigned a '0' (i.e., 'All other pathways' or 'Other') on HEpath2.

Vocational Pathways. To examine the potentially viable routes to HE entry through vocational options during FE, a third educational pathway variable was created (i.e., HEpath3: 'Vocational Pathways to HE Entry'), again focused only on young people who entered HE. Specifically, if a young person attained a 'GCSE-High' qualification at the end of KS4 (i.e., W2 = 1), registered for vocational or GCSE studies at the start of FE (i.e., W3 = 2 or 3),[1] attained an NVQ Level 3 qualification at the end of FE (i.e., W4 = 3) and then entered HE, their '1, 2/3, 3, 1' coding pattern was assigned a '1' on the HEpath3 variable. If a young person followed a pathway like the previous one but attained an NVQ Level 1 as their highest FE qualification (i.e., W4 = 4), their '1, 2/3, 4, 1' coding pattern was assigned a '2' on HEpath3.

If a young person attained a 'GCSE-Med' qualification at the end of KS4 (i.e., W2 = 2), registered for vocational or GCSE studies at the start of FE (i.e., W3 = 2 or 3), attained an NVQ Level 3 qualification at the end of FE (i.e., W4 = 3) and then entered HE, their '2, 2/3, 3, 1' coding pattern was assigned a '3' on HEpath3. If a young person followed a pathway like the previous one but attained an NVQ Level 1 as their highest FE qualification (i.e., W4 = 4), their '2, 2/3, 4, 1' coding pattern was assigned a '4' on HEpath3.

If a young person attained a 'GCSE-Low' qualification at the end of KS4 (i.e., W2 = 3), registered for vocational or GCSE studies at the start of FE (i.e., W3 = 2 or 3), attained an NVQ Level 3 qualification at the end of FE (i.e., W4 = 3) and then entered HE, their '3, 2/3, 3, 1' coding pattern was assigned a '5' on HEpath3. If a young person followed a pathway like the previous one but attained an NVQ Level 1 as their highest FE qualification (i.e., W4 = 4), their '3, 2/3, 4, 1' coding pattern was assigned a '6' on HEpath3. For completeness, the two corresponding pathways for young people who ended KS4 with 'no qualifications' were included (i.e., W2 = 4, also called 'GCSE-None'); that is, young people whose coding pattern was '4, 2, 3, 1' were assigned a '7' on HEpath3, and young people whose coding pattern was '4, 2, 4, 1' were assigned an '8' on HEpath3. All other pathway coding patterns were assigned a '0' (i.e., 'All other pathways' or 'Other') on HEpath3.

[1] The W2 GCSE and Vocational categories were combined here (and elsewhere) to ensure that young people whose intention was to upskill their GCSEs (or who had registered for GCSEs) before working on their vocational qualifications were included in this and similar pathways.

Apprenticeship Pathways. To examine the potentially viable routes to HE entry that go through apprenticeship options during FE, a fourth educational pathway variable was created (i.e., HEpath4: 'Apprenticeship Pathways to HE Entry'), again focused only on young people who entered HE. Specifically, if a young person attained a 'GCSE-High' qualification at the end of KS4 (i.e., W2 = 1), registered for an apprenticeship or GCSEs at the start of FE (i.e., W3 = 3 or 4), attained an advanced (i.e., Level 3) apprenticeship qualification at the end of FE (i.e., W4 = 5, also called 'App (Adv)') and then entered HE, their '1, 3/4, 5, 1' coding pattern was assigned a '1' on the HEpath4 variable. If a young person followed a pathway like the previous one but attained an intermediate (Level 2) apprenticeship qualification at the end of FE (i.e., W4 = 6, also called 'App (Int)'), their '1, 3/4, 6, 1' coding pattern was assigned a '2' on HEpath4.

If a young person attained a 'GCSE-Med' qualification at the end of KS4 (i.e., W2 = 2), registered for an apprenticeship or GCSEs at the start of FE (i.e., W3 = 4), attained an advanced apprenticeship qualification at the end of FE (i.e., W4 = 5) and then entered HE, their '2, 3/4, 5, 1' coding pattern was assigned a '3' on HEpath4. If a young person followed a pathway like the previous one but attained an intermediate apprenticeship qualification at the end of FE (i.e., W4 = 6), their '2, 3/4, 6, 1' coding pattern was assigned a '4' on HEpath4.

If a young person attained a 'GCSE-Low' qualification at the end of KS4 (i.e., W2 = 3), registered for an apprenticeship or GCSEs at the start of FE (i.e., W3 = 3 or 4), attained an advanced apprenticeship qualification at the end of FE (i.e., W4 = 5) and then entered HE, their '3, 3/4, 5, 1' coding pattern was assigned a '5' on HEpath4. If a young person followed a pathway like the previous one but attained an advanced apprenticeship qualification at the end of FE (i.e., W4 = 6), their '3, 3/4, 6, 1' coding pattern was assigned a '6' on HEpath4. For completeness, the two corresponding pathways for young people who ended KS4 with 'no qualifications' were included (i.e., W2 = 4); that is, young people whose coding pattern was '4, 4, 5, 1' were assigned a '7' on HEpath4, and young people whose coding pattern was '4, 4, 6, 1' were assigned an '8' on HEpath4. All other pathway coding patterns were assigned a '0' (i.e., 'All other pathways' or 'Other') on HEpath4.

Table B1. Summary of the HE Entry Educational Pathway Variables.

Name	Value	Label	Coding Pattern
HEpath1		Traditional Pathway to HE Entry	
	1	Yes, entered HE	W2.1, W3.1, W4.1, OV1.1
	0	No, did not enter HE	Other
HEpath2		Traditional and Alternative Academic Pathways to HE Entry	
	1	Traditional pathway	W2.1, W3.1, W4.1, OV1.1

	2	GCSE-Med pathway	W2.2, W3.1, W4.1, OV1.1
	3	GCSE-Low pathway	W2.3, W3.1, W4.1, OV1.1
	4	GCSE-None pathway	W2.4, W3.3, W4.1, OV1.1
	5	A-levels (<2) pathway	W2.1, W3.1, W4.2, OV1.1
	6	GCSE-Med, GCSE, A-levels (2+)	W2.2, W3.3, W4.1, OV1.1
	7	GCSE-Med, GCSE, A-levels (<2)	W2.2, W3.3, W4.2, OV1.1
	8	GCSE-Low, GCSE, A-levels (2+)	W2.3, W3.3, W4.1, OV1.1
	9	GCSE-Low, GCSE, A-levels (<2)	W2.3, W3.3, W4.2, OV1.1
	0	All other pathways	Other
HEpath3		Vocational Pathways to HE Entry	
	1	GCSE-High, Vocational, NVQ-L3	W2.1, W3.2/3, W4.3, OV1.1
	2	GCSE-High, Vocational, NVQ-L2-	W2.1, W3.2/3, W4.4, OV1.1
	3	GCSE-Med, Vocational, NVQ-L3	W2.2, W3.2/3, W4.3, OV1.1
	4	GCSE-Med, Vocational, NVQ-L2-	W2.2, W3.2/3, W4.4, OV1.1
	5	GCSE-Low, Vocational, NVQ-L3	W2.3, W3.2/3, W4.3, OV1.1
	6	GCSE-Low, Vocational, NVQ-L2-	W2.3, W3.2/3, W4.4, OV1.1
	7	GCSE-None, Vocational, NVQ-L3	W2.4, W3.2/3, W4.3, OV1.1
	8	GCSE-None, Vocational, NVQ-L2-	W2.4, W3.2/3, W4.4, OV1.1
	0	All other pathways	Other
HEpath4		Apprenticeship Pathways to HE Entry	
	1	GCSE-High, Apprenticeship, App (Adv)	W2.1, W3.3/4, W4.5, OV1.1
	2	GCSE-High, Apprenticeship, App (Int)	W2.1, W3.3/4, W4.6, OV1.1
	3	GCSE-Med, Apprenticeship, App (Adv)	W2.2, W3.3/4, W4.5, OV1.1
	4	GCSE-Med, Apprenticeship, App (Int)	W2.2, W3.3/4, W4.6, OV1.1
	5	GCSE-Low, Apprenticeship, App (Adv)	W2.3, W3.3/4, W4.5, OV1.1
	6	GCSE-Low, Apprenticeship, App (Int)	W2.3, W3.3/4, W4.6, OV1.1
	7	GCSE-None, Apprenticeship, App (Adv)	W2.4, W3.3/4, W4.5, OV1.1
	8	GCSE-None, Apprenticeship, App (Int)	W2.4, W3.3/4, W4.6, OV1.1
	0	All other pathways	Other

3. Pathways to Age 18/19 Higher Education Entry

The construction of the educational pathway variables representing the academic, vocational and apprenticeship pathways from the end of KS4 to age 18/19 HE entry followed the same procedure used to construct the previously described HE entry pathway variables, with one exception: 'Initial Entry to HE' (OV1) was replaced with 'Age 18/19 HE Entry' (OV1b). In other words, the same set of pathway status variable codes was used from W2 (i.e., 'Qualification at the end of KS4') to W3 (i.e., 'Registered qualification at the start of FE') to W4 (i.e., 'Qualification at the end of FE') but the OV1b auxiliary outcome variable 'Age 18/19 HE Entry' (where 1 = age 18/19 HE entry, 0 = not age 18/19 HE entry) was used in place of the OV1 (i.e., 'Initial entry to HE Entry') primary

outcome variable. The resulting academic, vocational and apprenticeship pathway variables (i.e., HEpath5, HEpath6, HEpath7 and HEpath8), with their pathway-specific coding patterns, are shown in Table B2.

Table B2. Summary of the Age 18/19 HE Entry Educational Pathway Variables.

Name	Value	Label	Coding Pattern
HEpath5		Traditional Pathway to Age 18/19 HE Entry	
	1	Yes, entered HE at age 18/19	W2.1, W3.1, W4.1, OV1b.1
	0	No, did not enter HE at age 18/19	Other
HEpath6		Traditional and Alternative Academic Pathways to Age 18/19 HE Entry	
	1	Traditional pathway	W2.1, W3.1, W4.1, OV1b.1
	2	GCSE-Med pathway	W2.2, W3.1, W4.1, OV1b.1
	3	GCSE-Low pathway	W2.3, W3.1, W4.1, OV1b.1
	4	GCSE-None pathway	W2.4, W3.3, W4.1, OV1b.1
	5	A-levels (<2) pathway	W2.1, W3.1, W4.2, OV1b.1
	6	GCSE-Med, GCSE, A-levels (2+)	W2.2, W3.3, W4.1, OV1b.1
	7	GCSE-Med, GCSE, A-levels (<2)	W2.2, W3.3, W4.2, OV1b.1
	8	GCSE-Low, GCSE, A-levels (2+)	W2.3, W3.3, W4.1, OV1b.1
	9	GCSE-Low, GCSE, A-levels (<2)	W2.3, W3.3, W4.2, OV1b.1
	0	All other pathways	Other
HEpath7		Vocational Pathways to Age 18/19 HE Entry	
	1	GCSE-High, Vocational, NVQ-L3	W2.1, W3.2/3, W4.3, OV1b.1
	2	GCSE-High, Vocational, NVQ-L2-	W2.1, W3.2/3, W4.4, OV1b.1
	3	GCSE-Med, Vocational, NVQ-L3	W2.2, W3.2/3, W4.3, OV1b.1
	4	GCSE-Med, Vocational, NVQ-L2-	W2.2, W3.2/3, W4.4, OV1b.1
	5	GCSE-Low, Vocational, NVQ-L3	W2.3, W3.2/3, W4.3, OV1b.1
	6	GCSE-Low, Vocational, NVQ-L2-	W2.3, W3.2/3, W4.4, OV1b.1
	7	GCSE-None, Vocational, NVQ-L3	W2.4, W3.2/3, W4.3, OV1b.1
	8	GCSE-None, Vocational, NVQ-L2-	W2.4, W3.2/3, W4.4, OV1b.1
	0	All other pathways	Other
HEpath8		Apprenticeship Pathways to Age 18/19 HE Entry	
	1	GCSE-High, Apprenticeship, App (Adv)	W2.1, W3.3/4, W4.5, OV1b.1
	2	GCSE-High, Apprenticeship, App (Int)	W2.1, W3.3/4, W4.6, OV1b.1
	3	GCSE-Med, Apprenticeship, App (Adv)	W2.2, W3.3/4, W4.5, OV1b.1
	4	GCSE-Med, Apprenticeship, App (Int)	W2.2, W3.3/4, W4.6, OV1b.1
	5	GCSE-Low, Apprenticeship, App (Adv)	W2.3, W3.3/4, W4.5, OV1b.1
	6	GCSE-Low, Apprenticeship, App (Int)	W2.3, W3.3/4, W4.6, OV1b.1
	7	GCSE-None, Apprenticeship, App (Adv)	W2.4, W3.3/4, W4.5, OV1b.1
	8	GCSE-None, Apprenticeship, App (Int)	W2.4, W3.3/4, W4.6, OV1b.1
	0	All other pathways	Other

4. Pathways to Entry into a Top-tier (Boliver) Higher Education Institution

The construction of the educational pathway variables representing the academic, vocational and apprenticeship pathways from the end of KS4 to a top-tier HE institution at HE entry followed the same procedure used to construct the previously described HE entry and age 18/19 HE entry pathway variables, with the same exception: the OV1b outcome variable (i.e., 'Age 18/19 HE Entry') was replaced with the OV2 outcome variable (i.e., 'Type of Institution Initially Attended'). Specifically, the same set of pathway status variable codes was used from W2 (i.e., 'Qualification at the end of KS4') to W3 (i.e., 'Registered qualification at the start of FE') to W4 (i.e., 'Qualification at the end of FE'), but the OV2b auxiliary outcome variable (i.e., 'Entry into a Top-tier HE Institution', where 1 = Yes, 0 = No) was used in place of OV1b. The resulting academic, vocational and apprenticeship pathway variables (i.e., HEpath9, HEpath10, HEpath11 and HEpath12), with the pathway-specific coding patterns, are shown in Table B3.

Table B3. Summary of the Top-tier HE Institution Educational Pathway Variables.

Name	Value	Label	Coding Pattern
HEpath9		Traditional Pathway to a Top-tier HE Institution	
	1	Yes, entered HE	W2.1, W3.1, W4.1, OV2b.1
	0	No, did not enter HE	Other
HEpath10		Traditional and Alternative Academic Pathways to Top-tier HE Institution	
	1	Traditional pathway	W2.1, W3.1, W4.1, OV2b.1
	2	GCSE-Med pathway	W2.2, W3.1, W4.1, OV2b.1
	3	GCSE-Low pathway	W2.3, W3.1, W4.1, OV2b.1
	4	GCSE-None pathway	W2.4, W3.3, W4.1, OV2b.1
	5	A-levels (<2) pathway	W2.1, W3.1, W4.2, OV2b.1
	6	GCSE-Med, GCSE, A-levels (2+)	W2.2, W3.3, W4.1, OV2b.1
	7	GCSE-Med, GCSE, A-levels (<2)	W2.2, W3.3, W4.2, OV2b.1
	8	GCSE-Low, GCSE, A-levels (2+)	W2.3, W3.3, W4.1, OV2b.1
	9	GCSE-Low, GCSE, A-levels (<2)	W2.3, W3.3, W4.2, OV2b.1
	0	All other pathways	Other
HEpath11		Vocational Pathways to Top-tier HE Institution	
	1	GCSE-High, Vocational, NVQ-L3	W2.1, W3.2/3, W4.3, OV2b.1
	2	GCSE-High, Vocational, NVQ-L2-	W2.1, W3.2/3, W4.4, OV2b.1
	3	GCSE-Med, Vocational, NVQ-L3	W2.2, W3.2/3, W4.3, OV2b.1
	4	GCSE-Med, Vocational, NVQ-L2-	W2.2, W3.2/3, W4.4, OV2b.1
	5	GCSE-Low, Vocational, NVQ-L3	W2.3, W3.2/3, W4.3, OV2b.1
	6	GCSE-Low, Vocational, NVQ-L2-	W2.3, W3.2/3, W4.4, OV2b.1
	7	GCSE-None, Vocational, NVQ-L3	W2.4, W3.2/3, W4.3, OV2b.1
	8	GCSE-None, Vocational, NVQ-L2-	W2.4, W3.2/3, W4.4, OV2b.1
	0	All other pathways	Other

HEpath12		Apprenticeship Pathways to Top-tier HE Institution	
	1	GCSE-High, Apprenticeship, App (Adv)	W2.1, W3.3/4, W4.5, OV2b.1
	2	GCSE-High, Apprenticeship, App (Int)	W2.1, W3.3/4, W4.6, OV2b.1
	3	GCSE-Med, Apprenticeship, App (Adv)	W2.2, W3.3/4, W4.5, OV2b.1
	4	GCSE-Med, Apprenticeship, App (Int)	W2.2, W3.3/4, W4.6, OV2b.1
	5	GCSE-Low, Apprenticeship, App (Adv)	W2.3, W3.3/4, W4.5, OV2b.1
	6	GCSE-Low, Apprenticeship, App (Int)	W2.3, W3.3/4, W4.6, OV2b.1
	7	GCSE-None, Apprenticeship, App (Adv)	W2.4, W3.3/4, W4.5, OV2b.1
	8	GCSE-None, Apprenticeship, App (Int)	W2.4, W3.3/4, W4.6, OV2b.1
	0	All other pathways	Other

5. Pathways to the End of Higher Education (or age 22)

The educational pathway variables representing the academic, vocational and apprenticeship pathways from the end of KS4 to the end of HE (or age 22, whichever came first) were constructed by combining (a) the previously specified academic, vocational and apprenticeship pathways from W2 (i.e., 'Qualification at the end of KS4') through W3 (i.e., 'Registered qualification at the start of FE') to W4 (i.e., 'Qualification at the end of FE') with (b) the pathways (described below) from W5 (i.e., 'Registered qualification at the start of HE') to W6 (i.e., 'Qualification at the end of HE' or by age 22).

The educational pathways from W5 to W6 represent the relationship between a young person's degree registration at HE entry and the HE degree they attained by age 22. To simplify this analysis, the first five categories of the W6 pathway status variable (e.g. 'Postgraduate degree', 'Degree with first-class honours', 'Degree (class other)') are referred to, collectively, as 'Degree'. Consequently, for each of the four W5 degree registration categories (i.e., 'Degree', 'Degree Apprenticeship', 'Subdegree' and 'Subdegree 'Apprenticeship'), we coded whether the young person followed a pathway to one of four possible W6 degree attainment categories: 'Degree', 'Subdegree', 'Continuing' or 'Withdrawn'. For example, a young person who registered for a first (Level 6) degree at the start of HE may have (a) attained a degree by the end of HE (or by age 22), (b) attained a subdegree, (c) been continuing their studies or (d) withdrawn from HE studies. The 16 W5 to W6 pathways through HE implied by the four W5 degree registration and the four W6 degree attainments were organised into four sets of four pathways, with each set being anchored to one of the four W5 degree registrations; that is, the four sets of W5 to W6 pathways are referred to, respectively, as 'Degree registration pathways', 'Subdegree registration pathways', 'Apprenticeship degree registration pathways' and 'Apprenticeship subdegree registration pathways'.

After constructing the 16 possible pathways from the four W5 degree registrations to the four W6 degree attainments, the complete set of educational pathways was constructed from the end of KS4 (i.e., W2) to the end of HE (i.e., W6) by connecting the previously described academic, vocational and apprenticeship pathways from W2 to

W4 with the 16 possible pathways through HE (i.e., from W5 to W6). Specifically, the W2 to W4 parts of the nine 'Traditional and Alternative Academic Pathways to HE Entry' (i.e., HEpath2) were connected to the four 'Degree registration pathways' from W5 to W6 to yield the 36 'Traditional and Alternative Academic Pathways from KS4 to HE Degree Registration and HE Attainment by Age 22' (i.e., HEpath13) shown in Table B4.

Table B4. Traditional and Alternative Academic Pathways from KS4 to HE Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath13		Traditional and Alternative Academic Pathways from KS4 to HE Degree Registration and HE Attainment by Age 22	W2, W3, W4, W5, W6
	1	Traditional pathway to Degree	1, 1, 1, 1, 1–5
	2	Traditional pathway to Subdegree	1, 1, 1, 1, 6
	3	Traditional pathway to Continuing	1, 1, 1, 1, 7
	4	Traditional pathway to Withdrawal	1, 1, 1, 1, 8
	5	GCSE-Med … to Degree	2, 1, 1, 1, 1–5
	6	GCSE-Med … to Subdegree	2, 1, 1, 1, 6
	7	GCSE-Med … to Continuing	2, 1, 1, 1, 7
	8	GCSE-Med … to Withdrawal	2, 1, 1, 1, 8
	9	GCSE-Low … to Degree	3, 1, 1, 1, 1–5
	10	GCSE-Low … to Subdegree	3, 1, 1, 1, 6
	11	GCSE-Low … to Continuing	3, 1, 1, 1, 7
	12	GCSE-Low … to Withdrawal	3 1, 1, 1, 8
	13	GCSE-None … to Degree	4, 3, 1, 1, 1–5
	14	GCSE-None … to Subdegree	4, 3, 1, 1, 6
	15	GCSE-None … to Continuing	4, 3, 1, 1, 7
	16	GCSE-None … to Withdrawal	4, 3, 1, 1, 8
	17	A-levels (<2) … to Degree	1, 1, 2, 1, 1–5
	18	A-levels (<2) … to Subdegree	1, 1, 2, 1, 6
	19	A-levels (<2) … to Continuing	1, 1, 2, 1, 7
	20	A-levels (<2) … to Withdrawal	1, 1, 2, 1, 8
	21	GCSE-Med … A-levels (2+) … to Degree	2, 3, 1, 1, 1–5
	22	GCSE-Med … A-levels (2+) … to Subdegree	2, 3, 1, 1, 6
	23	GCSE-Med … A-levels (2+) … to Continuing	2, 3, 1, 1, 7
	24	GCSE-Med … A-levels (2+) … to Withdrawal	2, 3, 1, 1, 8
	25	GCSE-Med … A-levels (<2) … to Degree	2, 3, 2, 1, 1–5
	26	GCSE-Med … A-levels (<2) … to Subdegree	2, 3, 2, 1, 6
	27	GCSE-Med … A-levels (<2) … to Continuing	2, 3, 2, 1, 7
	28	GCSE-Med … A-levels (<2) … to Withdrawal	2, 3, 2, 1, 8
	29	GCSE-Low … A-levels (2+) … to Degree	3, 3, 1, 1, 1–5
	30	GCSE-Low … A-levels (2+) … to Subdegree	3, 3, 1, 1, 6
	31	GCSE-Low … A-levels (2+) … to Continuing	3, 3, 1, 1, 7
	32	GCSE-Low … A-levels (2+) … to Withdrawal	3, 3, 1, 1, 8
	33	GCSE-Low … A-levels (<2) … to Degree	3, 3, 2, 1, 1–5
	34	GCSE-Low … A-levels (<2) … to Subdegree	3, 3, 2, 1, 6
	35	GCSE-Low … A-levels (<2) … to Continuing	3, 3, 2, 1, 7
	36	GCSE-Low … A-levels (<2) … to Withdrawal	3, 3, 2, 1, 8

	0	All other pathways	Other

Similarly, the W2 to W4 parts of the nine 'Traditional and Alternative Academic Pathways to HE Entry' (i.e., HEpath2) were connected to the four 'Subdegree registration pathways' from W5 to W6 to yield the 36 'Traditional and Alternative Academic Pathways from KS4 to HE Subdegree Registration and HE Attainment by Age 22' (i.e., HEpath14) shown in Table B5.

Table B5. Traditional and Alternative Academic Pathways from KS4 to HE Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath14		Traditional and Alternative Academic Pathways from KS4 to HE Subdegree Registration and HE Attainment by Age 22	W2, W3, W4, W5, W6
	1	Traditional pathway to Degree	1, 1, 1, 3, 1–5
	2	Traditional pathway to Subdegree	1, 1, 1, 3, 6
	3	Traditional pathway to Continuing	1, 1, 1, 3, 7
	4	Traditional pathway to Withdrawal	1, 1, 1, 3, 8
	5	GCSE-Med … to Degree	2, 1, 1, 3, 1–5
	6	GCSE-Med … to Subdegree	2, 1, 1, 3, 6
	7	GCSE-Med … to Continuing	2, 1, 1, 3, 7
	8	GCSE-Med … to Withdrawal	2, 1, 1, 3, 8
	9	GCSE-Low … to Degree	3, 1, 1, 3, 1–5
	10	GCSE-Low … to Subdegree	3, 1, 1, 3, 6
	11	GCSE-Low … to Continuing	3, 1, 1, 3, 7
	12	GCSE-Low … to Withdrawal	3 1, 1, 3, 8
	13	GCSE-None … to Degree	4, 3, 1, 3, 1–5
	14	GCSE-None … to Subdegree	4, 3, 1, 3, 6
	15	GCSE-None … to Continuing	4, 3, 1, 3, 7
	16	GCSE-None … to Withdrawal	4, 3, 1, 3, 8
	17	A-levels (<2) … to Degree	1, 1, 2, 3, 1–5
	18	A-levels (<2) … to Subdegree	1, 1, 2, 3, 6
	19	A-levels (<2) … to Continuing	1, 1, 2, 3, 7
	20	A-levels (<2) … to Withdrawal	1, 1, 2, 3, 8
	21	GCSE-Med … A-levels (2+) … to Degree	2, 3, 1, 3, 1–5
	22	GCSE-Med … A-levels (2+) … to Subdegree	2, 3, 1, 3, 6
	23	GCSE-Med … A-levels (2+) … to Continuing	2, 3, 1, 3, 7
	24	GCSE-Med … A-levels (2+) … to Withdrawal	2, 3, 1, 3, 8
	25	GCSE-Med … A-levels (<2) … to Degree	2, 3, 2, 3, 1–5
	26	GCSE-Med … A-levels (<2) … to Subdegree	2, 3, 2, 3, 6
	27	GCSE-Med … A-levels (<2) … to Continuing	2, 3, 2, 3, 7
	28	GCSE-Med … A-levels (<2) … to Withdrawal	2, 3, 2, 3, 8
	29	GCSE-Low … A-levels (2+) … to Degree	3, 3, 1, 3, 1–5
	30	GCSE-Low … A-levels (2+) … to Subdegree	3, 3, 1, 3, 6
	31	GCSE-Low … A-levels (2+) … to Continuing	3, 3, 1, 3, 7
	32	GCSE-Low … A-levels (2+) … to Withdrawal	3, 3, 1, 3, 8
	33	GCSE-Low … A-levels (<2) … to Degree	3, 3, 2, 3, 1–5

	34	GCSE-Low … A-levels (<2) … to Subdegree	3, 3, 2, 3, 6
	35	GCSE-Low … A-levels (<2) … to Continuing	3, 3, 2, 3, 7
	36	GCSE-Low … A-levels (<2) … to Withdrawal	3, 3, 2, 3, 8
	0	All other pathways	Other

The same W2 to W4 parts of the nine 'Traditional and Alternative Academic Pathways to HE Entry' (i.e., HEpath2) were then separately connected to (a) the four 'Apprenticeship degree registration pathways' from W5 to W6 and (b) the four 'Apprenticeship subdegree registration pathways' from W5 to W6. This procedure yielded both the 36 'Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Degree Registration and HE Attainment by Age 22' (i.e., HEpath15) and the 36 'Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Subdegree Registration and HE Attainment by Age 22' (i.e., HEpath16) shown in Tables B6 and B7, respectively.

Table B6. Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath15		Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Degree Registration and HE Attainment by Age 22	W2, W3, W4, W5, W6
	1	Traditional pathway to Degree	1, 1, 1, 2, 1–5
	2	Traditional pathway to Subdegree	1, 1, 1, 2, 6
	3	Traditional pathway to Continuing	1, 1, 1, 2, 7
	4	Traditional pathway to Withdrawal	1, 1, 1, 2, 8
	5	GCSE-Med … to Degree	2, 1, 1, 2, 1–5
	6	GCSE-Med … to Subdegree	2, 1, 1, 2, 6
	7	GCSE-Med … to Continuing	2, 1, 1, 2, 7
	8	GCSE-Med … to Withdrawal	2, 1, 1, 2, 8
	9	GCSE-Low … to Degree	3, 1, 1, 2, 1–5
	10	GCSE-Low … to Subdegree	3, 1, 1, 2, 6
	11	GCSE-Low … to Continuing	3, 1, 1, 2, 7
	12	GCSE-Low … to Withdrawal	3 1, 1, 2, 8
	13	GCSE-None … to Degree	4, 3, 1, 2, 1–5
	14	GCSE-None … to Subdegree	4, 3, 1, 2, 6
	15	GCSE-None … to Continuing	4, 3, 1, 2, 7
	16	GCSE-None … to Withdrawal	4, 3, 1, 2, 8
	17	A-levels (<2) … to Degree	1, 1, 2, 2, 1–5
	18	A-levels (<2) … to Subdegree	1, 1, 2, 2, 6
	19	A-levels (<2) … to Continuing	1, 1, 2, 2, 7
	20	A-levels (<2) … to Withdrawal	1, 1, 2, 2, 8
	21	GCSE-Med … A-levels (2+) … to Degree	2, 3, 1, 2, 1–5
	22	GCSE-Med … A-levels (2+) … to Subdegree	2, 3, 1, 2, 6
	23	GCSE-Med … A-levels (2+) … to Continuing	2, 3, 1, 2, 7
	24	GCSE-Med … A-levels (2+) … to Withdrawal	2, 3, 1, 2, 8
	25	GCSE-Med … A-levels (<2) … to Degree	2, 3, 2, 2, 1–5
	26	GCSE-Med … A-levels (<2) … to Subdegree	2, 3, 2, 2, 6
	27	GCSE-Med … A-levels (<2) … to Continuing	2, 3, 2, 2, 7

	28	GCSE-Med … A-levels (<2) … to Withdrawal	2, 3, 2, 2, 8
	29	GCSE-Low … A-levels (2+) … to Degree	3, 3, 1, 2, 1–5
	30	GCSE-Low … A-levels (2+) … to Subdegree	3, 3, 1, 2, 6
	31	GCSE-Low … A-levels (2+) … to Continuing	3, 3, 1, 2, 7
	32	GCSE-Low … A-levels (2+) … to Withdrawal	3, 3, 1, 2, 8
	33	GCSE-Low … A-levels (<2) … to Degree	3, 3, 2, 2, 1–5
	34	GCSE-Low … A-levels (<2) … to Subdegree	3, 3, 2, 2, 6
	35	GCSE-Low … A-levels (<2) … to Continuing	3, 3, 2, 2, 7
	36	GCSE-Low … A-levels (<2) … to Withdrawal	3, 3, 2, 2, 8
	0	All other pathways	Other

Table B7. Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath16		Traditional and Alternative Academic Pathways from KS4 to HE Apprenticeship Subdegree Registration and HE Attainment by Age 22	W2, W3, W4, W5, W6
	1	Traditional pathway to Degree	1, 1, 1, 4, 1–5
	2	Traditional pathway to Subdegree	1, 1, 1, 4, 6
	3	Traditional pathway to Continuing	1, 1, 1, 4, 7
	4	Traditional pathway to Withdrawal	1, 1, 1, 4, 8
	5	GCSE-Med … to Degree	2, 1, 1, 4, 1–5
	6	GCSE-Med … to Subdegree	2, 1, 1, 4, 6
	7	GCSE-Med … to Continuing	2, 1, 1, 4, 7
	8	GCSE-Med … to Withdrawal	2, 1, 1, 4, 8
	9	GCSE-Low … to Degree	3, 1, 1, 4, 1–5
	10	GCSE-Low … to Subdegree	3, 1, 1, 4, 6
	11	GCSE-Low … to Continuing	3, 1, 1, 4, 7
	12	GCSE-Low … to Withdrawal	3 1, 1, 4, 8
	13	GCSE-None … to Degree	4, 3, 1, 4, 1–5
	14	GCSE-None … to Subdegree	4, 3, 1, 4, 6
	15	GCSE-None … to Continuing	4, 3, 1, 4, 7
	16	GCSE-None … to Withdrawal	4, 3, 1, 4, 8
	17	A-levels (<2) … to Degree	1, 1, 2, 4, 1–5
	18	A-levels (<2) … to Subdegree	1, 1, 2, 4, 6
	19	A-levels (<2) … to Continuing	1, 1, 2, 4, 7
	20	A-levels (<2) … to Withdrawal	1, 1, 2, 4, 8
	21	GCSE-Med … A-levels (2+) … to Degree	2, 3, 1, 4, 1–5
	22	GCSE-Med … A-levels (2+) … to Subdegree	2, 3, 1, 4, 6
	23	GCSE-Med … A-levels (2+) … to Continuing	2, 3, 1, 4, 7
	24	GCSE-Med … A-levels (2+) … to Withdrawal	2, 3, 1, 4, 8
	25	GCSE-Med … A-levels (<2) … to Degree	2, 3, 2, 4, 1–5
	26	GCSE-Med … A-levels (<2) … to Subdegree	2, 3, 2, 4, 6
	27	GCSE-Med … A-levels (<2) … to Continuing	2, 3, 2, 4, 7
	28	GCSE-Med … A-levels (<2) … to Withdrawal	2, 3, 2, 4, 8
	29	GCSE-Low … A-levels (2+) … to Degree	3, 3, 1, 4, 1–5
	30	GCSE-Low … A-levels (2+) … to Subdegree	3, 3, 1, 4, 6
	31	GCSE-Low … A-levels (2+) … to Continuing	3, 3, 1, 4, 7

	32	GCSE-Low … A-levels (2+) … to Withdrawal	3, 3, 1, 4, 8
	33	GCSE-Low … A-levels (<2) … to Degree	3, 3, 2, 4, 1–5
	34	GCSE-Low … A-levels (<2) … to Subdegree	3, 3, 2, 4, 6
	35	GCSE-Low … A-levels (<2) … to Continuing	3, 3, 2, 4, 7
	36	GCSE-Low … A-levels (<2) … to Withdrawal	3, 3, 2, 4, 8
	0	All other pathways	Other

Following the same logic used to construct the full set of academic pathways from W2 to W6 described above, we next constructed the analogous 'vocational' and 'apprenticeship' pathways from W2 to W6 by connecting (a) the W2 to W4 parts of the eight 'Vocational Pathways to HE Entry' (i.e., HEpath3) to the four sets of W5 to W6 'Degree registration', 'Subdegree registration', 'Apprenticeship degree registration' and 'Apprenticeship subdegree registration' pathways and (b) the W2 to W4 parts of the eight 'Apprenticeship Pathways to HE Entry' (i.e., HEpath4) to the four sets of W5 to W6 'Degree registration', 'Subdegree registration', 'Apprenticeship degree registration' and 'Apprenticeship subdegree registration' pathways. The resulting four sets of W2 to W6 vocational pathways to HE outcomes are shown in Tables B8 to B11, and the resulting four sets of W2 to W6 apprenticeship pathways to HE outcomes are shown in Tables B12 to B15.

Table B8. Vocational Pathways from KS4 to HE Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath17		Vocational Pathways via HE Degree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 2/3, 3, 1, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 2/3, 3, 1, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 2/3, 3, 1, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 2/3, 3, 1, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 2/3, 4, 1, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 2/3, 4, 1, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 2/3, 4, 1, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 2/3, 4, 1, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 2/3, 3, 1, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 2/3, 3, 1, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 2/3, 3, 1, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 2/3, 3, 1, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 2/3, 4, 1, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 2/3, 4, 1, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 2/3, 4, 1, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 2/3, 4, 1, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 2/3, 3, 1, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 2/3, 3, 1, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 2/3, 3, 1, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 2/3, 3, 1, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 2/3, 4, 1, 1–5

	22	GCSE-Low, NVQ-L2-, Subdegree	3, 2/3, 4, 1, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 2/3, 4, 1, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 2/3, 4, 1, 8
	25	GCSE-None, NVQ-L3, Degree	4, 2/3, 3, 1, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 2/3, 3, 1, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 2/3, 3, 1, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 2/3, 3, 1, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 2/3, 4, 1, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 2/3, 4, 1, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 2/3, 4, 1, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 2/3, 4, 1, 8
	0	All other pathways	Other

Table B9. Vocational Pathways from KS4 to HE Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath18		Vocational Pathways via HE Subdegree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 2/3, 3, 3, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 2/3, 3, 3, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 2/3, 3, 3, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 2/3, 3, 3, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 2/3, 4, 3, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 2/3, 4, 3, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 2/3, 4, 3, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 2/3, 4, 3, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 2/3, 3, 3, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 2/3, 3, 3, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 2/3, 3, 3, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 2/3, 3, 3, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 2/3, 4, 3, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 2/3, 4, 3, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 2/3, 4, 3, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 2/3, 4, 3, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 2/3, 3, 3, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 2/3, 3, 3, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 2/3, 3, 3, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 2/3, 3, 3, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 2/3, 4, 3, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 2/3, 4, 3, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 2/3, 4, 3, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 2/3, 4, 3, 8
	25	GCSE-None, NVQ-L3, Degree	4, 2/3, 3, 3, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 2/3, 3, 3, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 2/3, 3, 3, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 2/3, 3, 3, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 2/3, 4, 3, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 2/3, 4, 3, 6

	31	GCSE-None, NVQ-L2-, Continuing	4, 2/3, 4, 3, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 2/3, 4, 3, 8
	0	All other pathways	Other

Table B10. Vocational Pathways from KS4 to HE Apprenticeship Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath19		Vocational Pathways via HE Apprenticeship Degree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 2/3, 3, 2, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 2/3, 3, 2, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 2/3, 3, 2, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 2/3, 3, 2, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 2/3, 4, 2, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 2/3, 4, 2, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 2/3, 4, 2, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 2/3, 4, 2, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 2/3, 3, 2, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 2/3, 3, 2, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 2/3, 3, 2, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 2/3, 3, 2, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 2/3, 4, 2, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 2/3, 4, 2, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 2/3, 4, 2, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 2/3, 4, 2, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 2/3, 3, 2, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 2/3, 3, 2, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 2/3, 3, 2, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 2/3, 3, 2, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 2/3, 4, 2, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 2/3, 4, 2, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 2/3, 4, 2, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 2/3, 4, 2, 8
	25	GCSE-None, NVQ-L3, Degree	4, 2/3, 3, 2, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 2/3, 3, 2, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 2/3, 3, 2, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 2/3, 3, 2, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 2/3, 4, 2, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 2/3, 4, 2, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 2/3, 4, 2, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 2/3, 4, 2, 8
	0	All other pathways	Other

Table B11. Vocational Pathways from KS4 to HE Apprenticeship Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath20		Vocational Pathways via HE Apprenticeship Subdegree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 2/3, 3, 4, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 2/3, 3, 4, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 2/3, 3, 4, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 2/3, 3, 4, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 2/3, 4, 4, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 2/3, 4, 4, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 2/3, 4, 4, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 2/3, 4, 4, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 2/3, 3, 4, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 2/3, 3, 4, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 2/3, 3, 4, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 2/3, 3, 4, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 2/3, 4, 4, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 2/3, 4, 4, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 2/3, 4, 4, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 2/3, 4, 4, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 2/3, 3, 4, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 2/3, 3, 4, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 2/3, 3, 4, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 2/3, 3, 4, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 2/3, 4, 4, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 2/3, 4, 4, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 2/3, 4, 4, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 2/3, 4, 4, 8
	25	GCSE-None, NVQ-L3, Degree	4, 2/3, 3, 4, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 2/3, 3, 4, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 2/3, 3, 4, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 2/3, 3, 4, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 2/3, 4, 4, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 2/3, 4, 4, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 2/3, 4, 4, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 2/3, 4, 4, 8
	0	All other pathways	Other

Table B12. Apprenticeship Pathways from KS4 to HE Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath21		Apprenticeship Pathways via HE Degree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 3/4, 5, 1, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 3/4, 5, 1, 6

	3	GCSE-High, NVQ-L3, Continuing	1, 3/4, 5, 1, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 3/4, 5, 1, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 3/4, 6, 1, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 3/4, 6, 1, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 3/4, 6, 1, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 3/4, 6, 1, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 3/4, 5, 1, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 3/4, 5, 1, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 3/4, 5, 1, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 3/4, 5, 1, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 3/4, 6, 1, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 3/4, 6, 1, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 3/4, 6, 1, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 3/4, 6, 1, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 3/4, 5, 1, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 3/4, 5, 1, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 3/4, 5, 1, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 3/4, 5, 1, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 3/4, 6, 1, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 3/4, 6, 1, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 3/4, 6, 1, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 3/4, 6, 1, 8
	25	GCSE-None, NVQ-L3, Degree	4, 3/4, 5, 1, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 3/4, 5, 1, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 3/4, 5, 1, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 3/4, 5, 1, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 3/4, 6, 1, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 3/4, 6, 1, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 3/4, 6, 1, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 3/4, 6, 1, 8
	0	All other pathways	Other

Table B13. Apprenticeship Pathways from KS4 to HE Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath22		Apprenticeship Pathways via HE Subdegree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 3/4, 5, 3, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 3/4, 5, 3, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 3/4, 5, 3, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 3/4, 5, 3, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 3/4, 6, 3, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 3/4, 6, 3, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 3/4, 6, 3, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 3/4, 6, 3, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 3/4, 5, 3, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 3/4, 5, 3, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 3/4, 5, 3, 7

	12	GCSE-Med, NVQ-L3, Withdrawn	2, 3/4, 5, 3, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 3/4, 6, 3, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 3/4, 6, 3, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 3/4, 6, 3, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 3/4, 6, 3, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 3/4, 5, 3, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 3/4, 5, 3, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 3/4, 5, 3, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 3/4, 5, 3, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 3/4, 6, 3, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 3/4, 6, 3, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 3/4, 6, 3, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 3/4, 6, 3, 8
	25	GCSE-None, NVQ-L3, Degree	4, 3/4, 5, 3, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 3/4, 5, 3, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 3/4, 5, 3, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 3/4, 5, 3, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 3/4, 6, 3, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 3/4, 6, 3, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 3/4, 6, 3, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 3/4, 6, 3, 8
	0	All other pathways	Other

Table B14. Apprenticeship Pathways from KS4 to HE Apprenticeship Degree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath23		Apprenticeship Pathways via HE Apprenticeship Degree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 3/4, 5, 2, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 3/4, 5, 2, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 3/4, 5, 2, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 3/4, 5, 2, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 3/4, 6, 2, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 3/4, 6, 2, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 3/4, 6, 2, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 3/4, 6, 2, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 3/4, 5, 2, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 3/4, 5, 2, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 3/4, 5, 2, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 3/4, 5, 2, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 3/4, 6, 2, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 3/4, 6, 2, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 3/4, 6, 2, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 3/4, 6, 2, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 3/4, 5, 2, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 3/4, 5, 2, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 3/4, 5, 2, 7

	20	GCSE-Low, NVQ-L3, Withdrawn	3, 3/4, 5, 2, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 3/4, 6, 2, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 3/4, 6, 2, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 3/4, 6, 2, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 3/4, 6, 2, 8
	25	GCSE-None, NVQ-L3, Degree	4, 3/4, 5, 2, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 3/4, 5, 2, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 3/4, 5, 2, 7
	28	GCSE-None, NVQ-L3, Withdrawn	4, 3/4, 5, 2, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 3/4, 6, 2, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 3/4, 6, 2, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 3/4, 6, 2, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 3/4, 6, 2, 8
	0	All other pathways	Other

Table B15. Apprenticeship Pathways from KS4 to HE Apprenticeship Subdegree Registration and HE Attainment by Age 22.

Name	Value	Label	Coding Pattern
HEpath24		Apprenticeship Pathways via HE Apprenticeship Subdegree Registration to the End of HE	W2, W3, W4, W5, W6
	1	GCSE-High, NVQ-L3, Degree	1, 3/4, 5, 4, 1–5
	2	GCSE-High, NVQ-L3, Subdegree	1, 3/4, 5, 4, 6
	3	GCSE-High, NVQ-L3, Continuing	1, 3/4, 5, 4, 7
	4	GCSE-High, NVQ-L3, Withdrawn	1, 3/4, 5, 4, 8
	5	GCSE-High, NVQ-L2-, Degree	1, 3/4, 6, 4, 1–5
	6	GCSE-High, NVQ-L2-, Subdegree	1, 3/4, 6, 4, 6
	7	GCSE-High, NVQ-L2-, Continuing	1, 3/4, 6, 4, 7
	8	GCSE-High, NVQ-L2-, Withdrawn	1, 3/4, 6, 4, 8
	9	GCSE-Med, NVQ-L3, Degree	2, 3/4, 5, 4, 1–5
	10	GCSE-Med, NVQ-L3, Subdegree	2, 3/4, 5, 4, 6
	11	GCSE-Med, NVQ-L3, Continuing	2, 3/4, 5, 4, 7
	12	GCSE-Med, NVQ-L3, Withdrawn	2, 3/4, 5, 4, 8
	13	GCSE-Med, NVQ-L2-, Degree	2, 3/4, 6, 4, 1–5
	14	GCSE-Med, NVQ-L2-, Subdegree	2, 3/4, 6, 4, 6
	15	GCSE-Med, NVQ-L2-, Continuing	2, 3/4, 6, 4, 7
	16	GCSE-Med, NVQ-L2-, Withdrawn	2, 3/4, 6, 4, 8
	17	GCSE-Low, NVQ-L3, Degree	3, 3/4, 5, 4, 1–5
	18	GCSE-Low, NVQ-L3, Subdegree	3, 3/4, 5, 4, 6
	19	GCSE-Low, NVQ-L3, Continuing	3, 3/4, 5, 4, 7
	20	GCSE-Low, NVQ-L3, Withdrawn	3, 3/4, 5, 4, 8
	21	GCSE-Low, NVQ-L2-, Degree	3, 3/4, 6, 4, 1–5
	22	GCSE-Low, NVQ-L2-, Subdegree	3, 3/4, 6, 4, 6
	23	GCSE-Low, NVQ-L2-, Continuing	3, 3/4, 6, 4, 7
	24	GCSE-Low, NVQ-L2-, Withdrawn	3, 3/4, 6, 4, 8
	25	GCSE-None, NVQ-L3, Degree	4, 3/4, 5, 4, 1–5
	26	GCSE-None, NVQ-L3, Subdegree	4, 3/4, 5, 4, 6
	27	GCSE-None, NVQ-L3, Continuing	4, 3/4, 5, 4, 7

	28	GCSE-None, NVQ-L3, Withdrawn	4, 3/4, 5, 4, 8
	29	GCSE-None, NVQ-L2-, Degree	4, 3/4, 6, 4, 1–5
	30	GCSE-None, NVQ-L2-, Subdegree	4, 3/4, 6, 4, 6
	31	GCSE-None, NVQ-L2-, Continuing	4, 3/4, 6, 4, 7
	32	GCSE-None, NVQ-L2-, Withdrawn	4, 3/4, 6, 4, 8
	0	All other pathways	Other

6. Simplified Pathway Variables

In order to simplify the presentation of the relationships between the educational pathways from the end of KS4 through FE and on to the four main outcome variables used in the pathway analyses (i.e., 'HE Entry', 'Age 18/19 HE Entry', 'Entry into a Top-tier HE Institution' and 'Degree Attainment by age 22'), four simplified educational pathway variables were created. Each simplified pathway variable is focused on one of these four main outcome variables and, as described below, combines pathway information from several of the previously described academic, vocational and apprenticeship pathways variables.

The first simplified pathway variable, 'Simplified Educational Pathways to HE Entry', (i.e., SimP1) was constructed by combining information from HEpath2 (i.e., 'Traditional and Alternative Academic Pathways to HE Entry'), HEpath3 (i.e., 'Vocational Pathways to HE Entry') and HEpath4 (i.e., 'Apprenticeship Pathways to HE Entry'). For example, if a young person followed the traditional academic pathway from KS4 to HE entry (i.e., HEpath1 = 1), then they were assigned a '1' on the 'Simplified Educational Pathways to HE Entry' variable (i.e., SimP1 = 1, where 1 = Traditional). Similarly, if a young person followed a vocational pathway from KS4 to HE entry (i.e., HEpath3 = 1–8), then they were assigned a '3' on the 'Simplified Educational Pathways to HE Entry' variable (i.e., SimP1 = 3, where 3 = Vocational). The complete construction of the 'Simplified Educational Pathways to HE Entry' variable is summarised in Table B16.

Table B16. Simplified Educational Pathways to HE Entry.

Name	Value	Label	Coding Pattern
SimP1		Simplified Educational Pathways to HE Entry	
	1	Traditional academic	HEpath2 = 1
	2	Alternative academic	HEpath2 = 2–9
	3	Vocational	HEpath3 = 1–8
	4	Apprenticeship	HEpath4 = 1–8
	0	Other	HEpath2, HEpath3, or HEpath4 = 0

The second simplified pathway variable, 'Simplified Educational Pathways to Age 18/19 HE Entry' (i.e., SimP2), was similarly constructed by combining information from

HEpath6 (i.e., 'Traditional and Alternative Academic Pathways to Age 18/19 HE Entry'), HEpath7 (i.e., 'Vocational Pathways to Age 18/19 HE Entry') and HEpath8 (i.e., 'Apprenticeship Pathways to Age 18/19 HE Entry'). The complete construction of the 'Simplified Educational Pathways to Age 18/19 HE Entry' variable is summarised in Table B17.

Table B17. Simplified Educational Pathways to Age 18/19 HE Entry.

Name	Value	Label	Coding Pattern
SimP2		Simplified Educational Pathways to Age 18/19 HE Entry	
	1	Traditional academic	HEpath6 = 1
	2	Alternative academic	HEpath6 = 2–9
	3	Vocational	HEpath7 = 1–8
	4	Apprenticeship	HEpath8 = 1–8
	0	Other	HEpath6, HEpath7, or HEpath8 = 0

The third simplified pathway variable, 'Simplified Educational Pathways to a Top-tier HE Institution' (i.e., SimP3), was constructed by combining information from HEpath10 (i.e., 'Traditional and Alternative Academic Pathways to a Top-tier HE Institution'), HEpath11 (i.e., 'Vocational Pathways to a Top-tier HE Institution') and HEpath12 (i.e., 'Apprenticeship Pathways to a Top-tier HE Institution'). The complete construction of the 'Simplified Educational Pathways to a Top-tier HE Institution' variable is summarised in Table B18.

Table B18. Simplified Educational Pathways to a Top-tier HE Institution.

Name	Value	Label	Coding Pattern
SimP3		Simplified Educational Pathways to a Top-tier HE Institution	
	1	Traditional academic	HEpath10 = 1
	2	Alternative academic	HEpath10 = 2–9
	3	Vocational	HEpath11 = 1–8
	4	Apprenticeship	HEpath12 = 1–8
	0	Other	HEpath10, HEpath11, or HEpath12 = 0

The fourth simplified pathway variable, 'Simplified Educational Pathways to a Degree (by age 22)' (i.e., SimP4), was constructed by combining information from across each of the HEpath13 to HEpath24 variables. The construction of this 'SimP4' variable was more complicated than the construction of the previously described simplified pathway variables because of the many different pathways through HE that could result in

attaining a first (Level 6) degree. For example, a young person may have registered for only a subdegree upon HE entry but have gone on to attain a first degree in any case. Consequently, where coding SimP4, any HE pathway was included that resulted in a first degree, regardless of the young person's initial registration. The complete construction of the 'Simplified Educational Pathways to a Degree (by age 22)' variable is summarised in Table B19.

Table B19. Simplified Educational Pathways to a Degree (by age 22).

Name	Value	Label	Coding Pattern
SimP4		Simplified Educational Pathways to a Degree (by age 22)	
	1	Traditional academic	HEpath13 = 1
	2	Alternative academic	HEpath13 = 5, 9, 13, 17, 21, 25, 29, 33; HEpath14, HEpath15, HEpath16 = 1, 5, 9, 13, 17, 21, 25, 29, 33
	3	Vocational	HEpath17, HEpath18, HEpath19, HEpath20 = 1, 5, 9, 13, 17, 21, 25, 29
	4	Apprenticeship	HEpath21, HEpath22, HEpath23, HEpath24 = 1, 5, 9, 13, 17, 21, 25, 29
	0	Other	HEpath13 through HEpath24 = 0