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Does the Ethnic Origin of a PS Plus 2 Beneficiary determine the service they receive?

PS Plus, an ESF part funded project, has assisted over 77,000 offenders (Beneficiaries) in 42 prison establishments and 15 probation areas between September 2002 and June 2008.

In the second phase of the project, "PS Plus 2", nearly 33,000 Beneficiaries were started on the project between September 2004 and March 2007, in 39 establishments – both male and female, categories B, C, D and open prisons, throughout England. PS Plus 2 aimed to assist beneficiaries in gaining employment (full time, part time, self or voluntary), gaining further education or training and securing accommodation on release from the establishment.

PS Plus prides itself on its diverse values. The aim of this report is to analyse and statistically show if the ethnic origin of a PS Plus 2 beneficiary is dependant on whether or not the beneficiary achieves an employment, education/training or accommodation outcome on release.

The dataset has been obtained from the PS Plus developed database, CATS. A beneficiary's needs are assessed before starting the project. The dataset looks at the number (percentage) of beneficiaries who required help with finding employment, education/training or accommodation on release compared to the number (percentage) of beneficiaries who received an employment, education/training or accommodation outcome.

Key Points:

- Accommodation
 - For the entire project, between 15% and 27% of the beneficiaries obtained an outcome per ethnic origin.
 - Per establishment
 - In 36 establishments there is no significant statistical evidence to show the ethnic origin of a beneficiary determines whether an outcome is achieved.
 - In 3 establishments there is significant statistical evidence to show the ethnic origin of a beneficiary has an effect on whether the beneficiary received an outcome.
- Employment
 - For the entire project, between 4% and 7% of the beneficiaries obtained an outcome per ethnic origin.
 - Per establishment
 - In 37 establishments there is no significant statistical evidence to show the ethnic origin of a beneficiary determines whether an outcome is achieved.
 - In 2 establishments there is significant statistical evidence to show the ethnic origin of a beneficiary has an effect on whether the beneficiary received an outcome.
 - In 1 establishment there was not enough data to perform accurate statistical analysis.
- Education/Training
 - For the entire project, between 7% and 9% of the beneficiaries obtained an outcome per ethnic origin.
 - Per establishment
 - In 38 establishments there is no significant statistical evidence to show the ethnic origin of a beneficiary determines whether an outcome is achieved.
 - There are no establishments with significant statistical evidence to show the ethnic origin of a beneficiary determines whether the beneficiary received an outcome.
 - In 2 establishments there was not enough data to perform accurate statistical analysis.

Accommodation

Table 1 – The number of beneficiaries requesting and subsequently receiving an accommodation outcome

Establishment	Ethnic Origin – Received Requested											
	Asian		Black		Mixed Race		Not Known/ Other		White-British		White-Other	
Ashwell	4	23	8	54	3	10	1	1	65	274	3	12
Askham Grange	0	3	4	15	3	8	0	0	42	124	1	5
Bristol	0	5	1	38	1	15	0	5	37	386	0	5
Buckley Hall*	0	8	0	11	0	3	0	0	1	86	0	4
Buckley Hall (F)	0	2	1	9	2	10	0	1	40	169	2	5
Channings Wood	1	8	1	31	1	3	0	3	71	453	5	16
Dartmoor	0	5	9	28	2	9	0	1	98	441	0	10
Drake Hall	1	4	12	31	6	12	1	2	91	191	7	13
Erlestoke	1	5	10	39	7	19	1	1	101	299	6	12
Exeter	0	2	0	8	0	8	0	0	110	454	1	10
Featherstone*	4	20	21	65	4	13	1	2	49	311	8	14
Forest Bank	6	34	4	41	7	20	1	2	142	760	4	19
Garth^	0	3	0	19	1	6	0	1	4	135	2	12
Guys Marsh	0	9	13	70	4	17	0	3	137	441	4	14
Haverigg^	1	9	3	18	1	10	1	1	42	417	0	5
Highpoint	7	33	22	221	3	31	0	3	51	336	2	30
Hindley	2	6	0	8	2	6	0	0	62	207	0	5
Kirkham	0	8	6	13	1	3	1	1	69	259	1	5
Lancaster Castle^	1	1	0	4	0	0	0	0	87	269	2	6
Lancaster Farms	2	12	2	8	0	8	0	0	36	222	0	13
Leicester	4	28	2	53	5	20	0	0	65	431	2	10
Leyhill	1	12	4	44	2	8	1	3	35	335	2	17
Lincoln	1	6	6	24	0	4	0	0	71	467	1	13
Morton Hall	2	4	11	25	3	7	0	0	52	81	2	7
New Hall	2	4	0	10	6	10	0	0	118	299	3	7
North Sea Camp	2	6	0	20	2	6	0	1	39	191	1	7
Nottingham	4	11	6	25	3	17	0	0	49	282	0	5
Preston^	0	7	0	7	0	2	0	0	50	374	1	3
Ranby	1	14	11	72	8	26	3	7	205	789	7	23
Risley	0	13	2	22	2	7	0	2	38	404	3	15
Stafford	4	16	7	33	1	8	1	3	79	418	2	10
Stocken*	1	13	2	35	3	17	0	0	72	279	1	15
Stoke Heath	0	3	9	19	3	5	0	2	38	132	2	3
Styal	2	5	3	31	4	18	1	2	198	720	2	7
Sudbury	2	14	3	26	1	9	2	2	31	156	2	12
Thorn Cross^	0	4	1	5	0	3	0	0	28	105	0	0
Wayland	2	13	9	141	1	21	0	6	37	397	1	35
Wellingborough*	1	22	21	125	1	24	1	5	56	273	1	26
Whatton	1	5	1	13	0	2	1	4	56	278	1	17
Wymott	1	10	1	13	0	5	0	0	58	433	4	13

* Establishment failed the chi-square test at the 0.01 significance level. We must also consider that these establishments 'passed' the chi-square test for both education/training and employment.
^ Should be treated with caution due to a lack of data.
+ PS Plus did not offer any accommodation assistance.

Figure 1 – Percentage of Beneficiaries Receiving an Accommodation Outcome When Requested Broken-down By Ethnic Origin

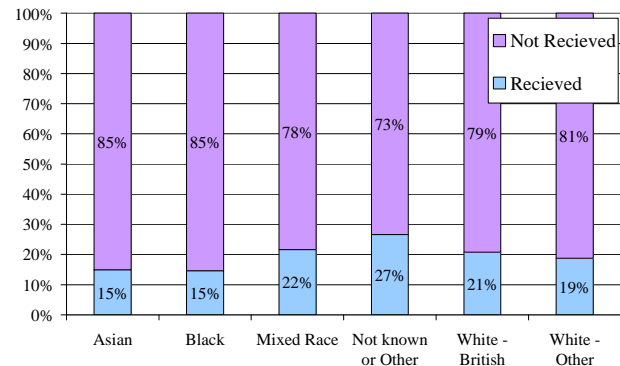
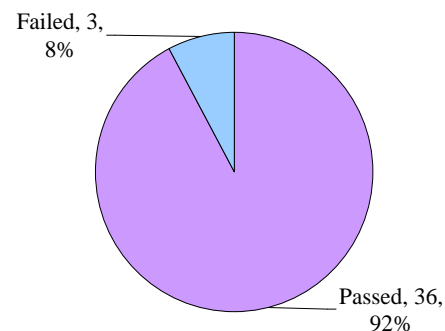


Table 1 details a break-down of accommodation outcomes requested and received by beneficiaries of each ethnic group, for each establishment. Of these 40 establishments, Buckley Hall (Male) did not offer assistance in gaining accommodation.

As shown in Figure 1, at the project level, there is some variation in the probability of a beneficiary receiving an accommodation outcome between ethnic groups. However, as can be seen in Figure 2, in 92% of reliable cases, there is no statistical evidence for a relationship between a beneficiary's ethnic origin and the probability of the beneficiary receiving an accommodation outcome on PS Plus 2. The results from 5 establishments must be viewed with caution – due to the lack of data, the chi-square result may give an inaccurate reading as all assumptions have not been met.

When evidence of a relationship is found, this does not necessarily mean that one particular ethnic group is more/less successful at receiving outcomes. What this really indicates is that the variation in 'success rates' between ethnic groups cannot be explained by randomness, and is instead partially driven by an unknown variable(s).

Figure 2 – Percentage of establishments, with reliable statistics, that 'passed' the chi-square test for obtaining accommodation outcomes



Employment

Table 2 – The number of beneficiaries requesting and subsequently receiving an employment outcome

Establishment	Ethnic Origin – Received Requested											
	Asian		Black		Mixed Race		Not Known/Other		White-British		White-Other	
Ashwell	8	62	4	80	1	16	13	158	58	456	1	18
Askham Grange	1	12	3	28	2	10	6	50	32	233	1	7
Bristol^	0	8	0	50	0	16	0	74	8	493	0	5
Buckley Hall^	0	32	0	20	0	9	6	68	4	194	0	10
Buckley Hall (F)^	0	2	0	15	0	11	1	29	11	266	0	7
Channings Wood^	0	14	2	57	1	10	3	81	23	790	1	26
Dartmoor^*	0	14	0	49	0	13	0	76	49	746	0	18
Drake Hall	1	14	3	45	2	24	6	83	37	358	2	14
Erlestoke	0	7	0	55	0	22	0	84	24	402	0	19
Exeter^	0	8	0	16	0	12	0	36	16	854	0	11
Featherstone	9	78	7	121	0	30	16	229	43	564	0	21
Forest Bank	1	107	1	85	2	51	4	243	31	1485	3	44
Garth†	1	17	1	33	0	16	2	66	3	276	0	23
Guys Marsh	0	20	3	102	0	24	3	146	35	663	1	19
Haverigg^	1	53	1	30	0	16	2	99	30	818	0	13
Highpoint*	2	86	7	375	0	45	9	506	43	596	4	59
Hindley	6	47	1	47	4	36	11	130	65	871	1	17
Kirkham	7	64	2	32	1	12	10	108	74	847	3	22
Lancaster Castle^	1	6	0	8	0	1	1	15	19	414	0	9
Lancaster Farms^	1	29	1	23	0	21	2	73	20	692	4	37
Leicester	2	71	5	99	2	35	9	205	32	766	3	16
Leyhill	2	30	8	63	1	14	11	107	82	604	3	24
Lincoln^	0	14	5	32	0	4	5	50	26	622	0	19
Morton Hall	2	10	5	37	0	6	7	53	8	143	2	12
New Hall^	0	7	0	18	1	26	1	51	18	534	1	14
North Sea Camp	4	37	1	39	0	14	5	90	26	504	2	19
Nottingham^	1	37	1	52	0	27	2	116	7	458	0	9
Preston^	0	42	0	11	0	6	0	59	22	727	0	4
Ranby	7	73	6	123	3	47	16	243	68	1289	2	31
Risley	1	50	0	68	1	30	2	148	31	909	0	27
Stafford	6	68	2	71	1	16	9	155	34	796	2	21
Stocken	3	46	7	68	1	26	11	140	25	494	0	10
Stoke Heath	3	33	8	73	2	19	13	125	61	486	1	9
Styal^	2	11	0	45	2	26	4	82	53	1068	3	29
Sudbury	7	93	2	100	0	21	9	214	37	472	1	11
Thorn Cross	5	58	2	32	3	24	10	114	76	583	2	49
Wayland	4	35	8	190	3	28	15	253	17	573	4	39
Wellingborough	4	50	7	206	2	45	13	301	36	482	1	30
Whatton	6	21	0	19	0	5	6	45	36	515	2	27
Wymott^	1	39	0	24	0	7	1	70	37	846	0	18

* Establishment failed the chi-square test at the 0.01 significance level. We must also consider that Highpoint and Dartmoor 'passed' the chi-square test for both education/training and accommodation.
^ Should be treated with caution due to a lack of data.
† Not enough data to perform analysis.

Figure 3 – Percentage of Beneficiaries Receiving an Employment Outcome When Requested Broken-down By Ethnic Origin

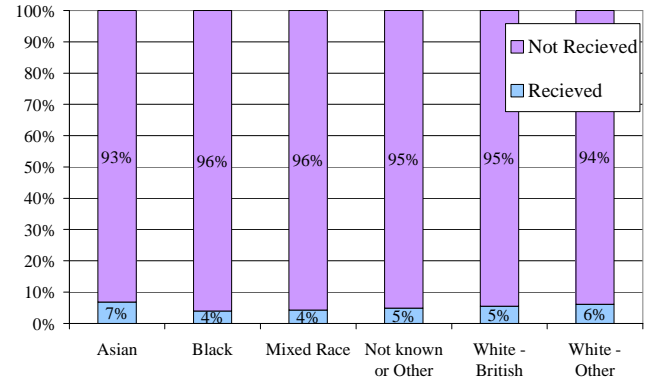
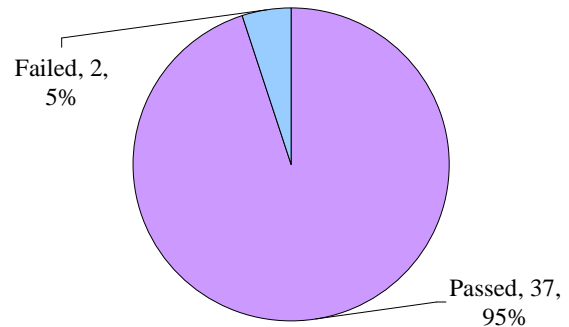


Table 2 details a break-down of employment outcomes requested and received by beneficiaries of each ethnic group, for each establishment. Of these 40 establishments, 1 (Garth) was deemed unreliable due to the small number of employment outcomes gained – this would cause inaccurate results for the chi-square test.

As can be seen in Figure 3, at the project level, there is some variation in the probability of a beneficiary receiving an employment outcome between ethnic groups. However, as shown in Figure 4, in 95% of reliable cases, there is no statistical evidence for a relationship between a beneficiary's ethnic origin and the probability of the beneficiary receiving an employment outcome per establishment on PS Plus 2. The results from 15 establishments must be viewed with caution – due to the lack of data, the chi-square result may give an inaccurate reading as all assumptions have not been met.

As explained previously, this indicates that for Highpoint and Dartmoor, the variation in 'success rates' between ethnic groups cannot be explained by randomness, and is instead partially driven by an unknown variable(s).

Figure 4 – Percentage of establishments, with reliable statistics, that 'passed' the chi-square test for obtaining employment outcomes



Education/Training

Table 3 – The number of beneficiaries requesting and subsequently receiving an education/training outcome

Establishment*	Ethnic Origin – Received Requested											
	Asian		Black		Mixed Race		Not Known/Other		White-British		White-Other	
Ashwell	2	63	3	78	5	18	0	1	66	493	1	22
Askham Grange	3	11	11	26	2	9	0	0	70	234	2	8
Bristol	1	5	4	44	1	15	0	5	33	413	0	5
Buckley Hall*	0	32	0	20	0	9	0	0	4	194	0	10
Buckley Hall (F)*	0	2	0	15	0	11	0	2	11	266	0	7
Channings Wood^	0	12	1	53	0	9	0	3	28	731	2	25
Dartmoor	0	13	1	48	0	11	0	2	59	657	2	16
Drake Hall	2	10	6	42	7	22	1	4	49	352	3	14
Erlestoke^	0	7	3	56	0	20	0	2	9	379	0	20
Exeter^	0	6	2	15	0	11	0	0	89	807	1	11
Featherstone	6	69	9	112	2	30	1	2	39	523	1	21
Forest Bank	4	97	2	74	4	48	2	3	65	1374	3	39
Garth^	0	16	3	33	0	16	0	1	11	274	0	22
Guys Marsh	0	19	3	97	0	24	0	4	29	614	2	17
Haverigg^	2	51	2	29	0	15	0	1	24	793	0	13
Highpoint	3	77	17	346	0	42	0	6	16	560	2	55
Hindley	7	47	6	45	2	33	0	1	67	839	1	17
Kirkham	5	55	3	30	4	13	2	2	82	759	0	19
Lancaster Castle^	1	5	0	7	0	1	0	0	85	404	1	9
Lancaster Farms	0	26	0	21	0	22	0	1	36	688	4	35
Leicester	1	66	3	98	0	33	0	2	19	715	0	16
Leyhill	2	31	5	63	0	13	0	3	91	589	5	20
Lincoln	2	12	1	28	0	5	0	0	85	593	2	19
Morton Hall	0	5	8	39	1	8	0	2	24	148	1	11
New Hall	0	8	0	16	4	28	0	1	65	619	4	12
North Sea Camp	8	35	3	36	2	14	0	2	88	498	3	18
Nottingham	10	37	5	51	5	27	0	0	87	441	0	7
Preston^	1	42	1	12	0	5	0	0	39	689	0	3
Ranby	3	71	9	116	4	51	0	9	170	1234	3	30
Risley^	0	41	0	57	1	24	0	3	19	802	0	21
Stafford	6	65	10	63	0	15	0	6	78	747	0	15
Stocken	7	46	8	64	8	29	0	3	102	488	3	21
Stoke Heath	5	33	20	67	1	18	0	7	52	445	0	9
Styal	0	12	4	46	1	27	0	3	95	1084	1	8
Sudbury	6	84	9	92	2	20	2	4	46	426	3	23
Thorn Cross	2	51	3	24	1	20	0	0	34	509	1	10
Wayland	0	34	5	191	0	27	0	10	14	551	2	49
Wellingborough	7	49	17	195	2	42	0	10	47	472	2	38
Whatton^	1	19	0	17	0	5	0	4	16	436	2	24
Wymott	3	37	0	24	0	7	0	1	108	791	4	26

*No Establishments failed the chi-square test at the 0.01 significance level.

^Should be treated with caution due to a lack of data.

+ Not enough data to perform analysis.

Figure 5 – Percentage of Beneficiaries Receiving an Education/training Outcome When Requested Broken-down By Ethnic Origin

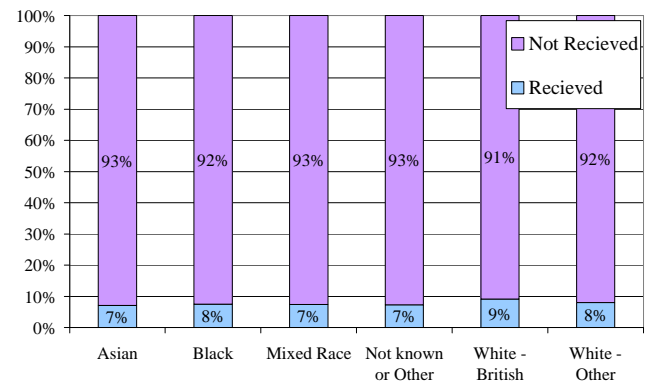


Table 3 details a break-down of education/training outcomes requested and received by beneficiaries of each ethnic group, for each establishment. Of these 40 establishments, 2 (Buckley Hall Male and Buckley Hall Female) were deemed unreliable due to the small number of education/training outcomes gained – this would cause inaccurate results for the chi-square test.

As shown in Figure 5, the probability of a beneficiary receiving an education/training outcome remains relatively constant between ethnic groups. In all of the reliable cases tested (38 establishments), there is no statistical evidence for a relationship between a beneficiary's ethnic origin and the probability of the beneficiary receiving an education/training outcome on PS Plus 2. The results from 9 establishments must be viewed with caution – due to the lack of data, the chi-square result may give an inaccurate reading as all assumptions have not been met.

Other Information

Further analysis shows that some of the datasets for Featherstone (accommodation) and Stocken (accommodation) are sensitive due to their small size. This is a problem that was previously identified in the PS Plus Guidance Note: GN6.0 "An update on the performance of PS Plus 2 in relation to ethnic group". Equally, there is a lack of data for Dartmoor (employment) to give a reliable analysis. Therefore, we should treat the statistics for Dartmoor, Featherstone and Stocken with due care.

References: Field, A (2001). Discovering Statistics Using SPSS
Hutcheson, G & Sofroniou, N (1999). The Multivariate Social Scientist