

# The BME attainment gap (Kingston University)

Nigel Ling

What does it look like?

Can we see any factors that have an influence?

2004 - 05

UK institutions: good degrees 65% white  
46% BME

### Percentage of good degrees awarded (UK institutions)

	White	Asian	Black	Other	Unknown
Russell group	76.6	65.8	59.2	69.5	65.5
Other pre-1992 universities	67.2	54.6	53.2	58.5	54.7
Post-1992 universities	58.9	38.7	33.3	45.8	42.5
Specialist institutions	61.7	47.6	39.1	56.6	58
Colleges of HE	52.3	33.6	31.6	39.7	39.8

White students twice as likely as Asian to get a good degree  
three times as likely as Black

Problem endemic in UK HE

Richardson, *Studies in HE* (2008)

2012

White 66.5% get good degrees  
BME 49.2% (Black 38.1%)

Odds	<i>White</i>	<i>BME</i>	<i>Black</i>
	<i>1.99</i>	<i>0.97</i>	<i>0.61</i>

White twice as likely as BME to get good degree  
three times as likely as Black

*Stevenson* HEA 2012

**2016**

“While around three-quarters of white students achieve a good degree, this is true for fewer than half of their black peers.”

Rollock, Centre for Research in Race and  
Education, University of Birmingham  
*Guardian* 19/01/16

# Kingston – undergraduate data only

Final awards (excl. foundation) – all faculties

Performance at level 4 and 5 – Maths and  
Comp only

Some data from SITS, some from Maths records.

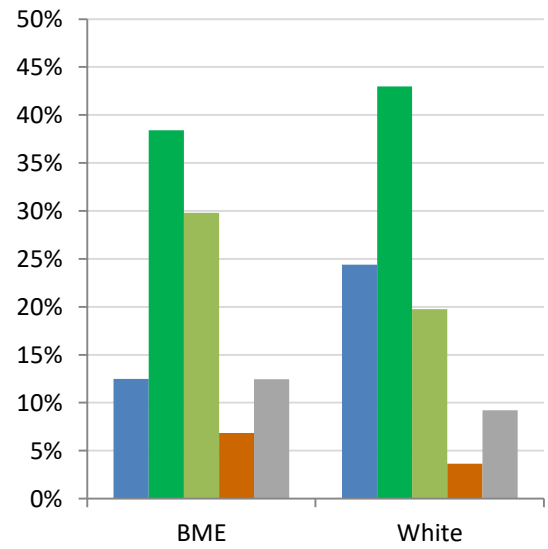
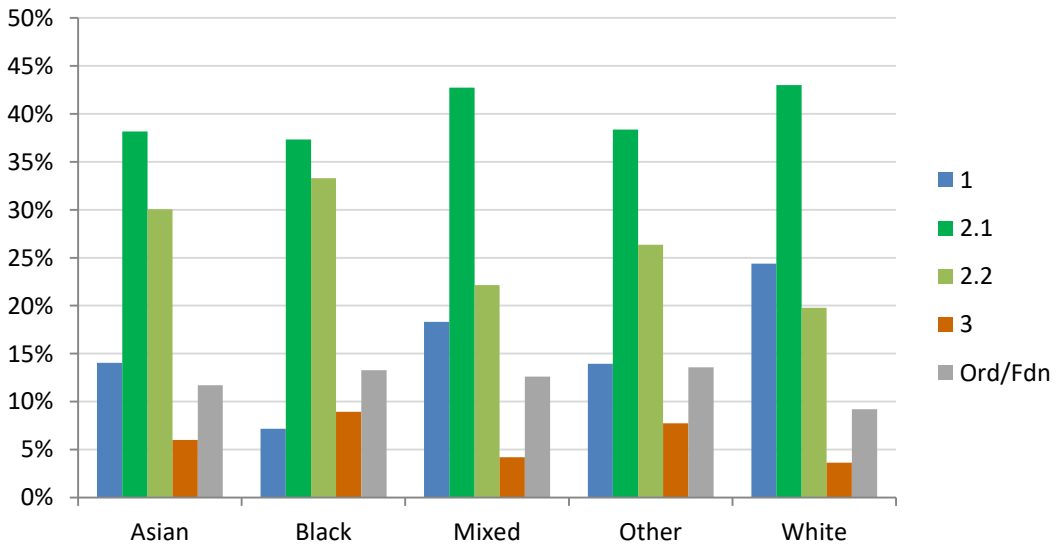
Warning: not entirely consistent; some records missing from SITS data I was given

# All faculties (2014/15)

Class	Asian	Black	Mixed	Other	White	Total
1	182	53	48	36	538	857
2.1	495	276	112	99	948	1930
2.2	390	246	58	68	436	1198
3	78	66	11	20	80	255
Ord/HE	152	98	33	35	203	521
	1297	739	262	258	2205	4761

Class	BME	White
1	12%	24%
2.1	38%	43%
2.2	30%	20%
3	7%	4%
Ord/HE	12%	9%

1	14%	7%	18%	14%	24%
2.1	38%	37%	43%	38%	43%
2.2	30%	33%	22%	26%	20%
3	6%	9%	4%	8%	4%
Ord/HE	12%	13%	13%	14%	9%



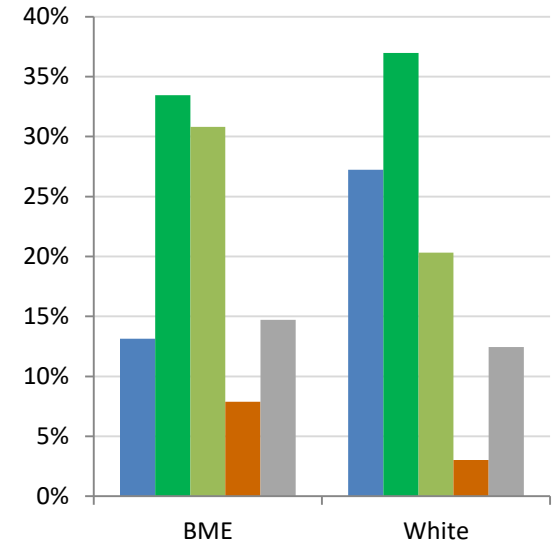
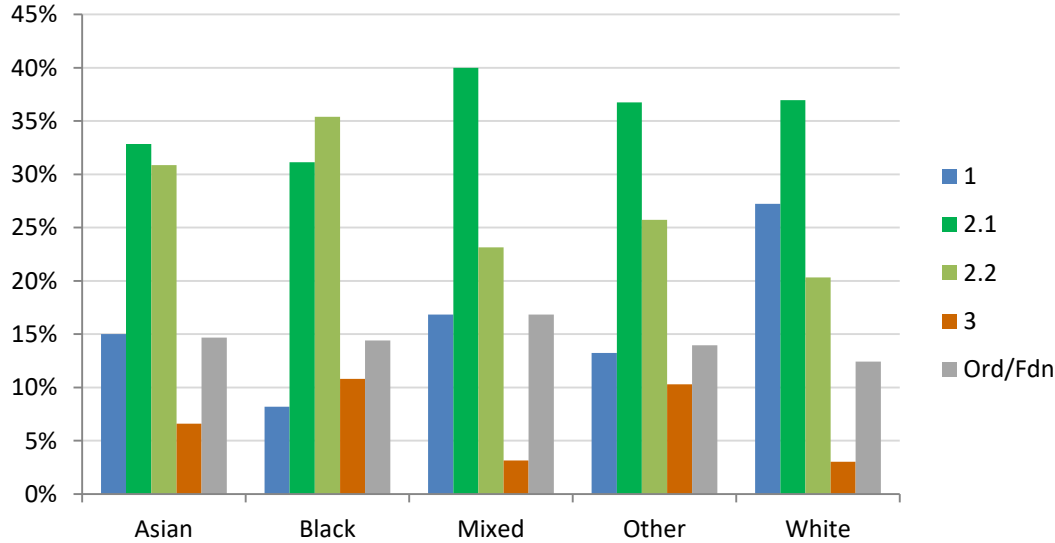
Ling

# SEC

Class	Asian	Black	Mixed	Other	White	Total
1	182	53	48	36	538	857
2.1	495	276	112	99	948	1930
2.2	390	246	58	68	436	1198
3	78	66	11	20	80	255
Ord/HE	89	44	16	19	74	185
	606	305	95	136	595	1680

Class	BME	White
1	13%	27%
2.1	33%	37%
2.2	31%	20%
3	8%	3%
Ord/HE	15%	12%

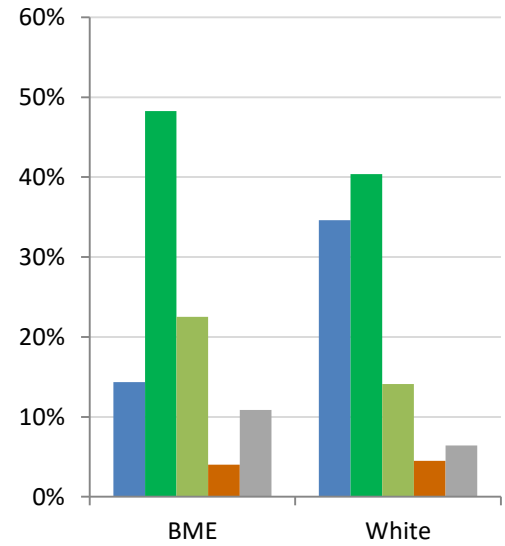
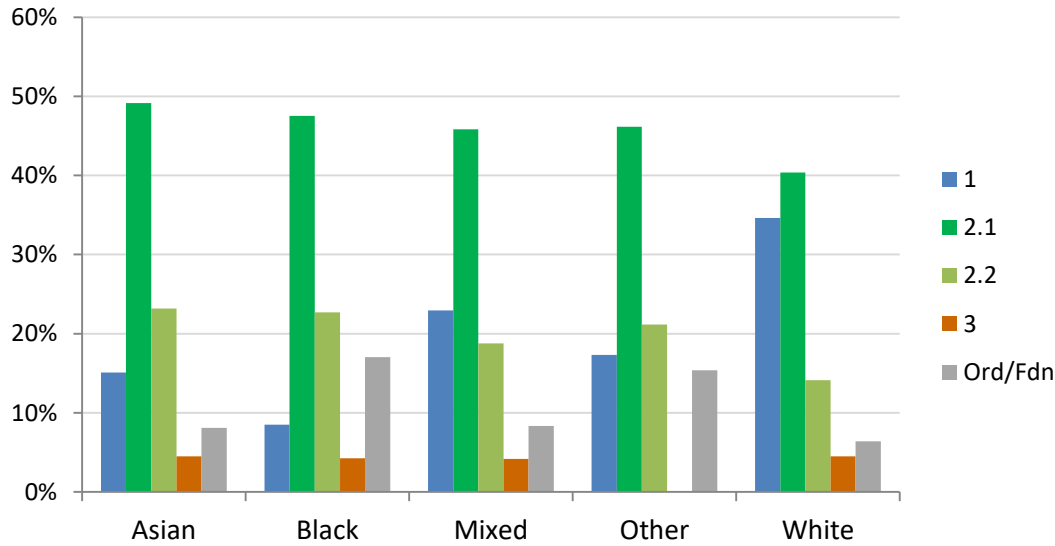
1	15%	8%	17%	13%	27%
2.1	33%	31%	40%	37%	37%
2.2	31%	35%	23%	26%	20%
3	7%	11%	3%	10%	3%
Ord/HE	15%	14%	17%	14%	12%



# B&L

Class	Asian	Black	Mixed	Other	White	Total
1	54	12	11	9	108	194
2.1	176	67	22	24	126	415
2.2	83	32	9	11	44	179
3	16	6	2		14	38
Ord/HE	29	24	4	8	20	85
	358	141	48	52	312	911
1	15%	9%	23%	17%	35%	
2.1	49%	48%	46%	46%	40%	
2.2	23%	23%	19%	21%	14%	
3	4%	4%	4%	0%	4%	
Ord/HE	8%	17%	8%	15%	6%	

Class	BME	White
1	14%	35%
2.1	48%	40%
2.2	23%	14%
3	4%	4%
Ord/HE	11%	6%



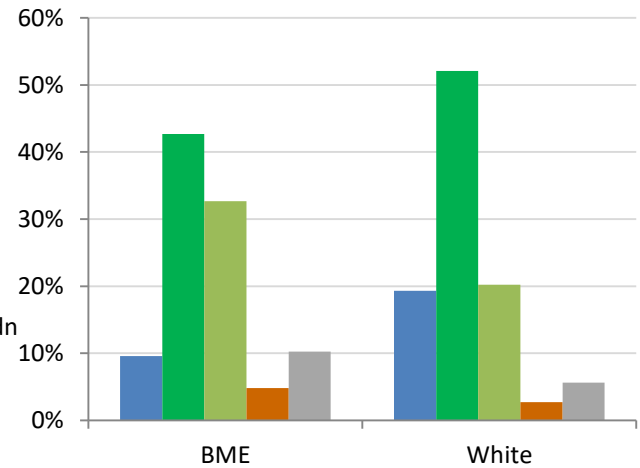
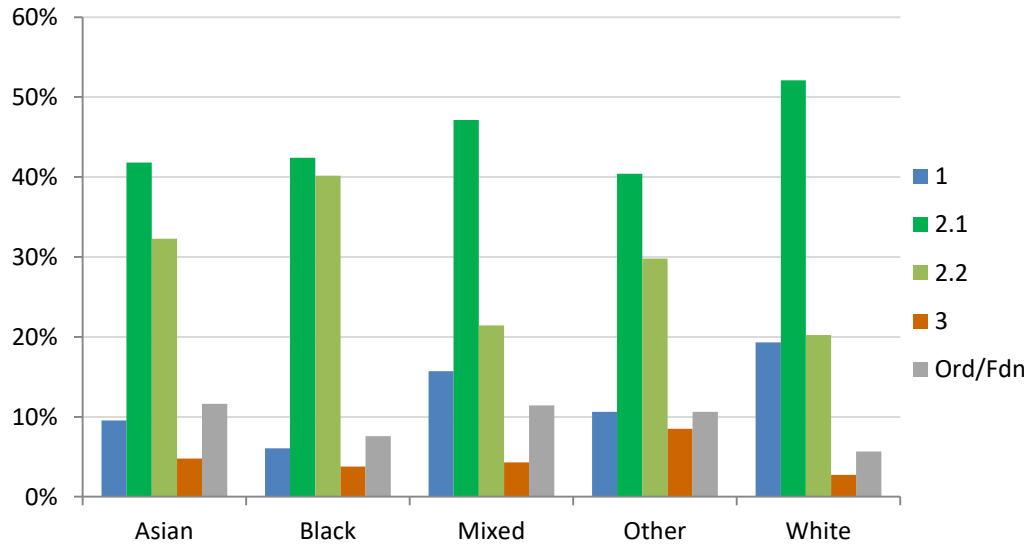


# FASS

Class	Asian	Black	Mixed	Other	White	Total
1	18	8	11	5	106	148
2.1	79	56	33	19	286	473
2.2	61	53	15	14	111	254
3	9	5	3	4	15	36
Ord/HE	22	10	8	5	31	76
	189	132	70	47	549	987

Class	Asian	Black	Mixed	Other	White
1	10%	6%	16%	11%	19%
2.1	42%	42%	47%	40%	52%
2.2	32%	40%	21%	30%	20%
3	5%	4%	4%	9%	3%
Ord/HE	12%	8%	11%	11%	6%

Class	BME	White
1	10%	19%
2.1	43%	52%
2.2	33%	20%
3	5%	3%
Ord/HE	10%	6%



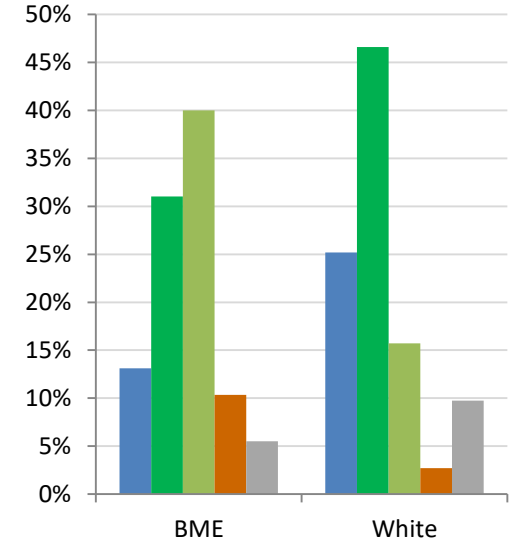
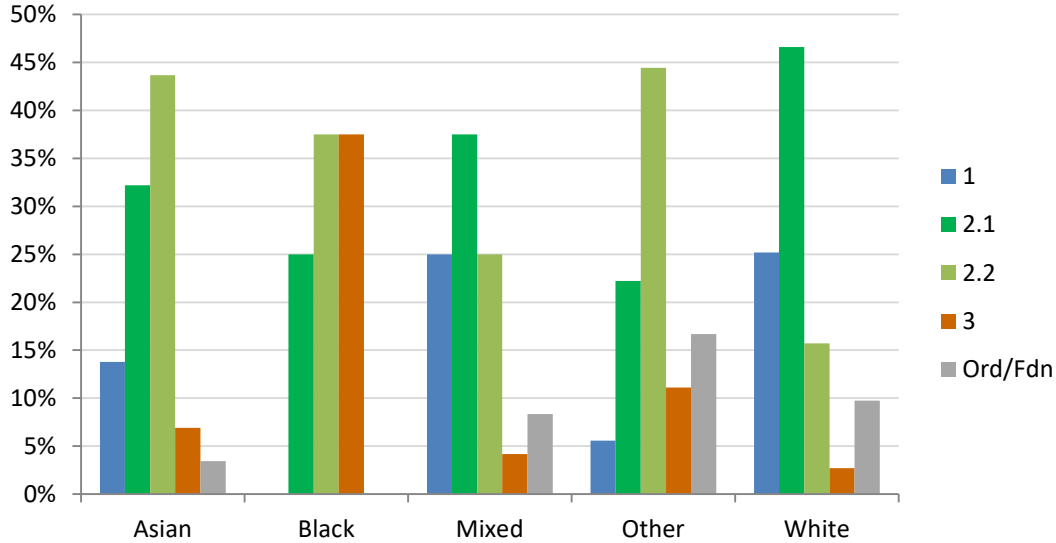
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# FADA

Class	Asian	Black	Mixed	Other	White	Total
1	12		6	1	93	112
2.1	28	4	9	4	172	217
2.2	38	6	6	8	58	116
3	6	6	1	2	10	25
Ord/HE	3	0	2	3	35	43
	87	16	24	18	368	514

1	14%	0%	25%	6%	25%
2.1	32%	25%	38%	22%	47%
2.2	44%	38%	25%	44%	16%
3	7%	38%	4%	11%	3%
Ord/HE	3%	0%	8%	17%	10%

Class	BME	White
1	13%	25%
2.1	31%	47%
2.2	40%	16%
3	10%	3%
Ord/HE	6%	10%

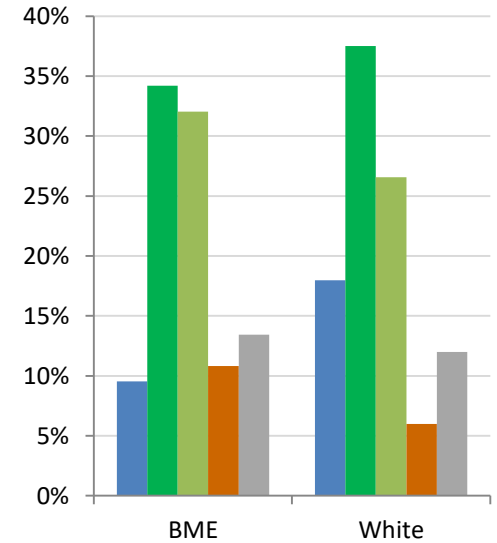
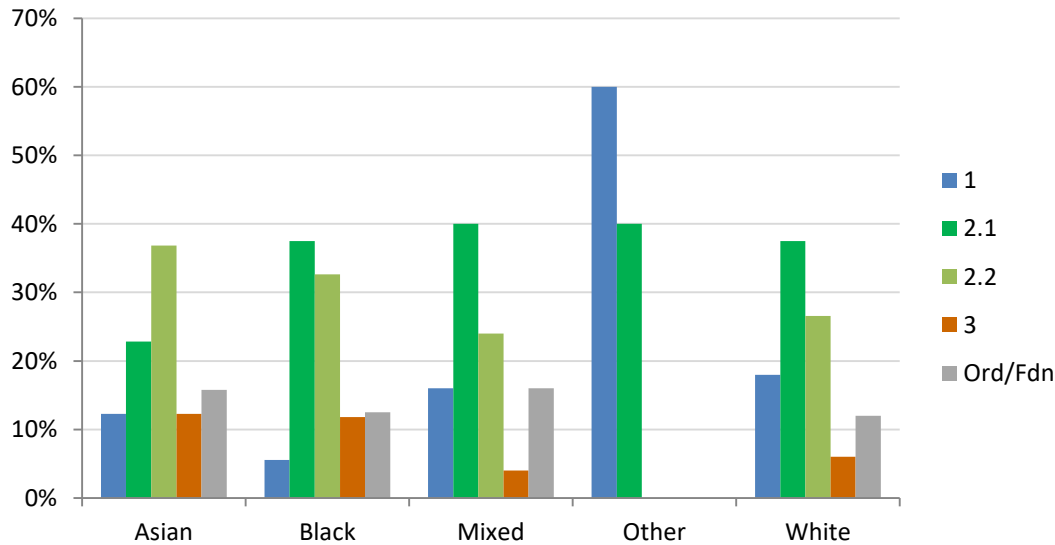


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# FHSCE

Class	Asian	Black	Mixed	Other	White	Total
1	7	8	4	3	69	91
2.1	13	54	10	2	144	223
2.2	21	47	6		102	176
3	7	17	1		23	48
Ord/HE	9	18	4	0	46	77
	57	144	25	5	384	615
1	12%	6%	16%	60%	18%	
2.1	23%	38%	40%	40%	38%	
2.2	37%	33%	24%	0%	27%	
3	12%	12%	4%	0%	6%	
Ord/HE	16%	13%	16%	0%	12%	

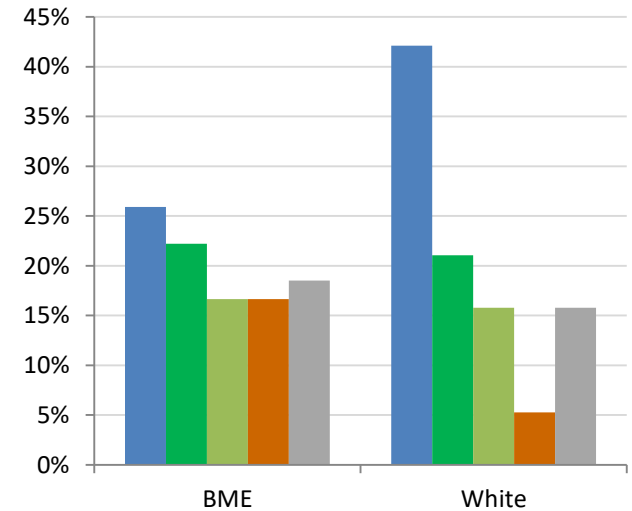
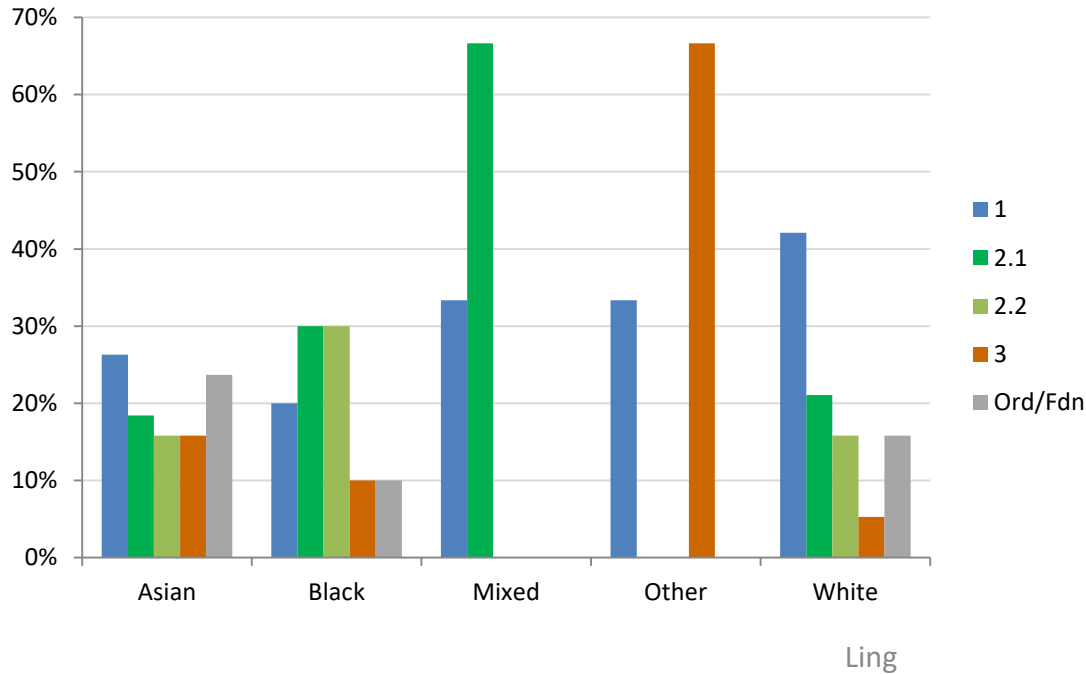
Class	BME	White
1	10%	18%
2.1	34%	38%
2.2	32%	27%
3	11%	6%
Ord/HE	13%	12%



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# Maths

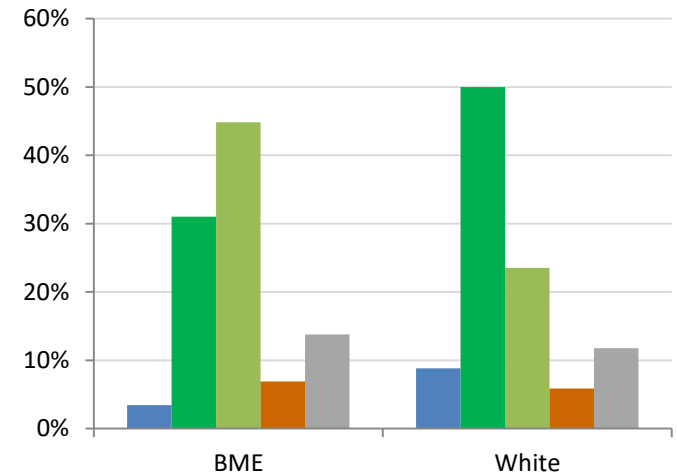
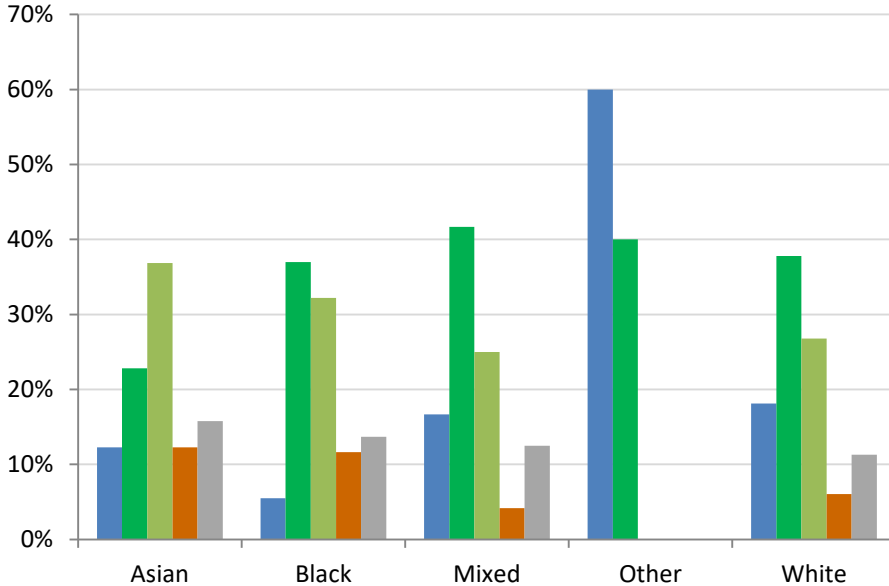
Class	Asian	Black	Mixed	Other	White	Totals			BME	White
1	10	2	1	1	8	22	28%		14	8
2.1	7	3	2		4	16	21%		12	4
2.2	6	3			3	12	15%		9	3
3	6	1		2	1	10	13%		9	1
Ord/HE	9	1	0	0	3	13	17%		10	3
	38	10	3	3	19	73			54	19
1	26%	20%	33%	33%	42%				26%	42%
2.1	18%	30%	67%	0%	21%				22%	21%
2.2	16%	30%	0%	0%	16%				17%	16%
3	16%	10%	0%	67%	5%				17%	5%
Ord/HE	24%	10%	0%	0%	16%				19%	16%



No significant difference

# Politics

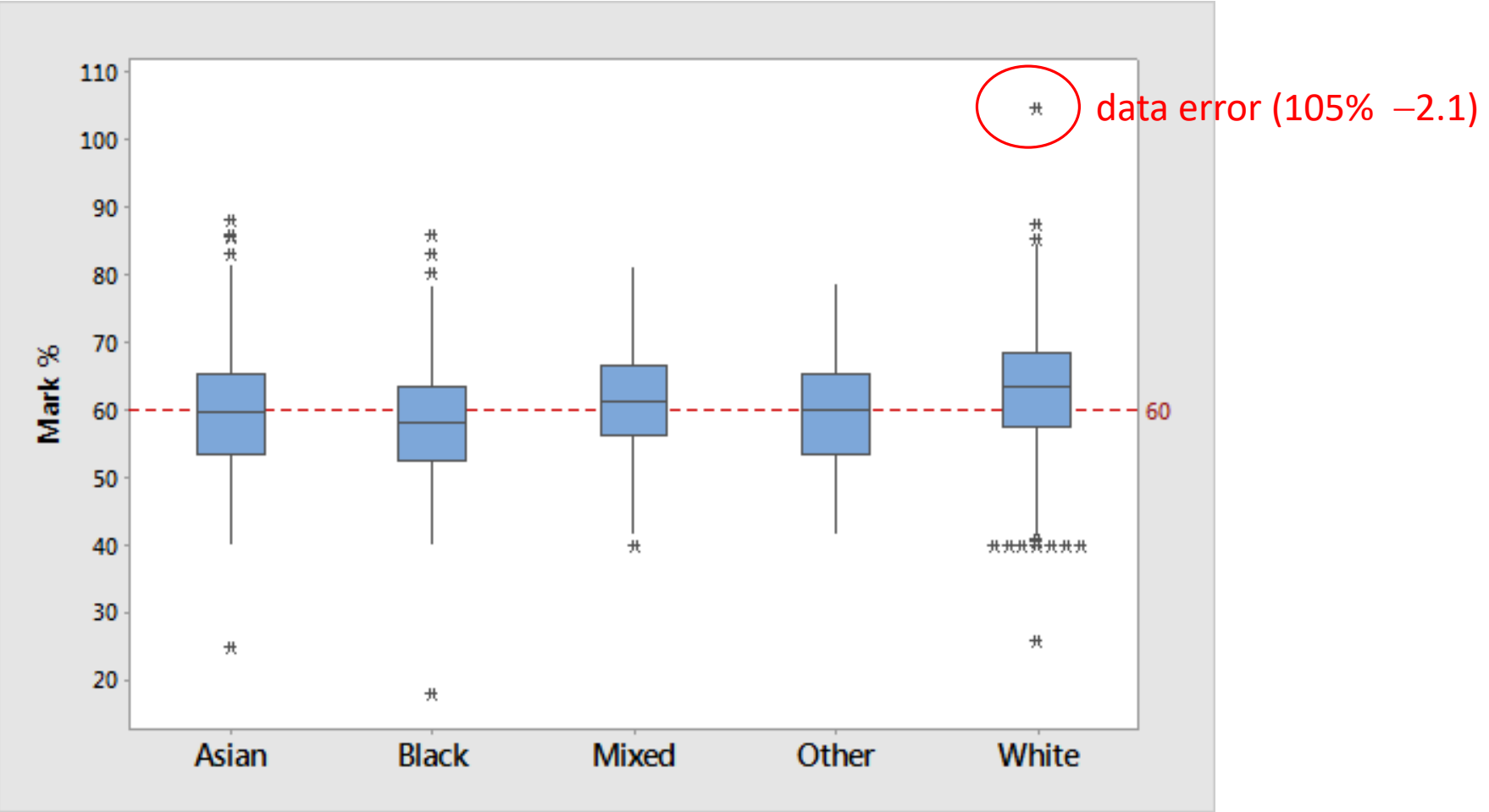
Class	Asian	Black	Mixed	Other	White			BME	White
1	1				3	4		1	3
2.1	4	2	2	1	17	26		9	17
2.2	4	3	1	5	8	21		13	8
3		1	1		2	4		2	2
Ord/Cert/ Dip	1	2	1	0	4	8		4	4
Class	Asian	Black	Mixed	Other	White			BME	White
1	25%	0%	0%	0%	75%	6%		3%	9%
2.1	15%	8%	8%	4%	65%	41%		31%	50%
2.2	19%	14%	5%	24%	38%	33%		45%	24%
3	0%	25%	25%	0%	50%	6%		7%	6%
Ord/Cert/ Dip	13%	25%	13%	0%	50%	13%		14%	12%



Ling

Evidence for significant difference

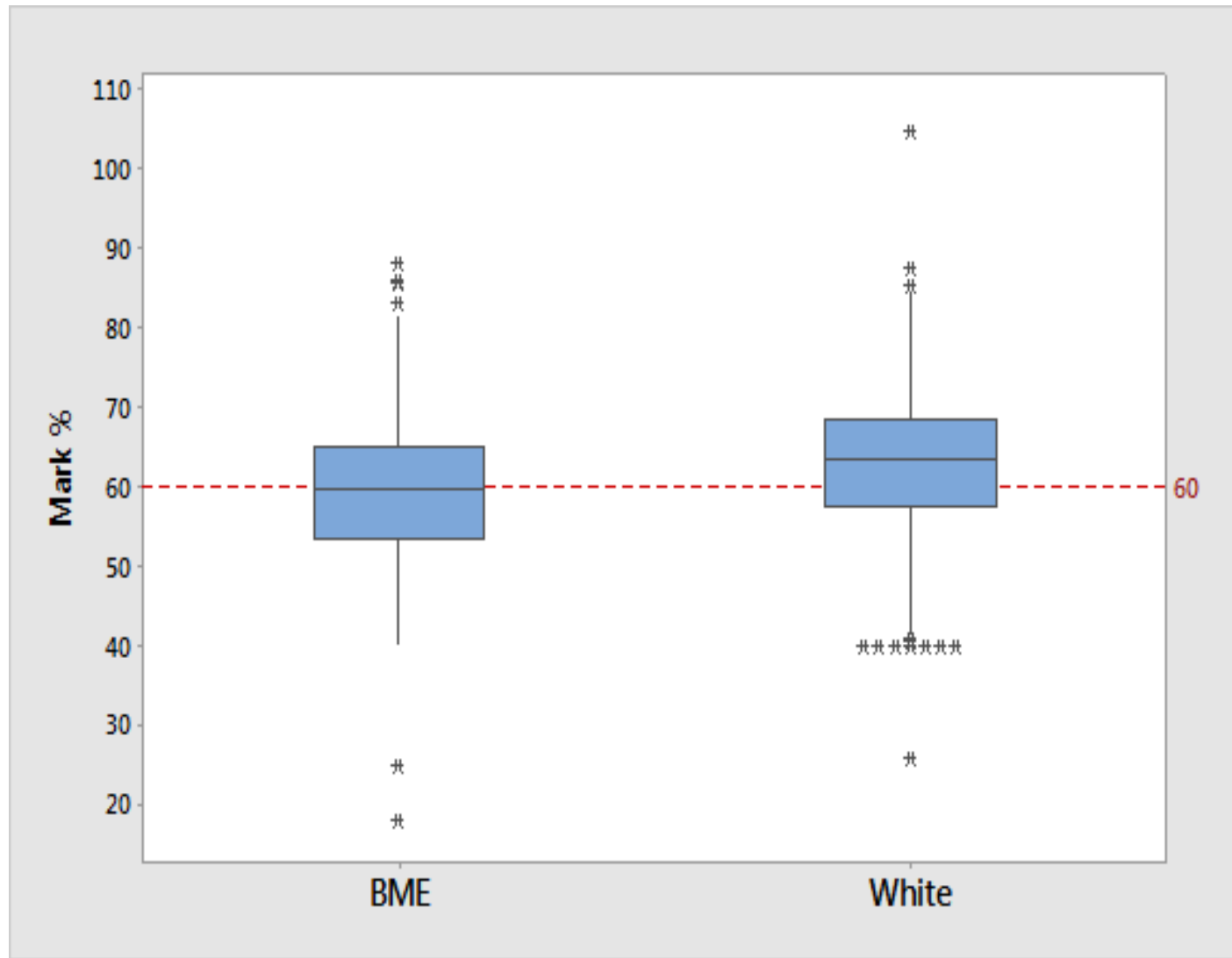
# All faculties – Final award mark (4761 students)



Medians

Asian	59.8
Black	58.3
Mixed	61.3
Other	60.0
White	63.4

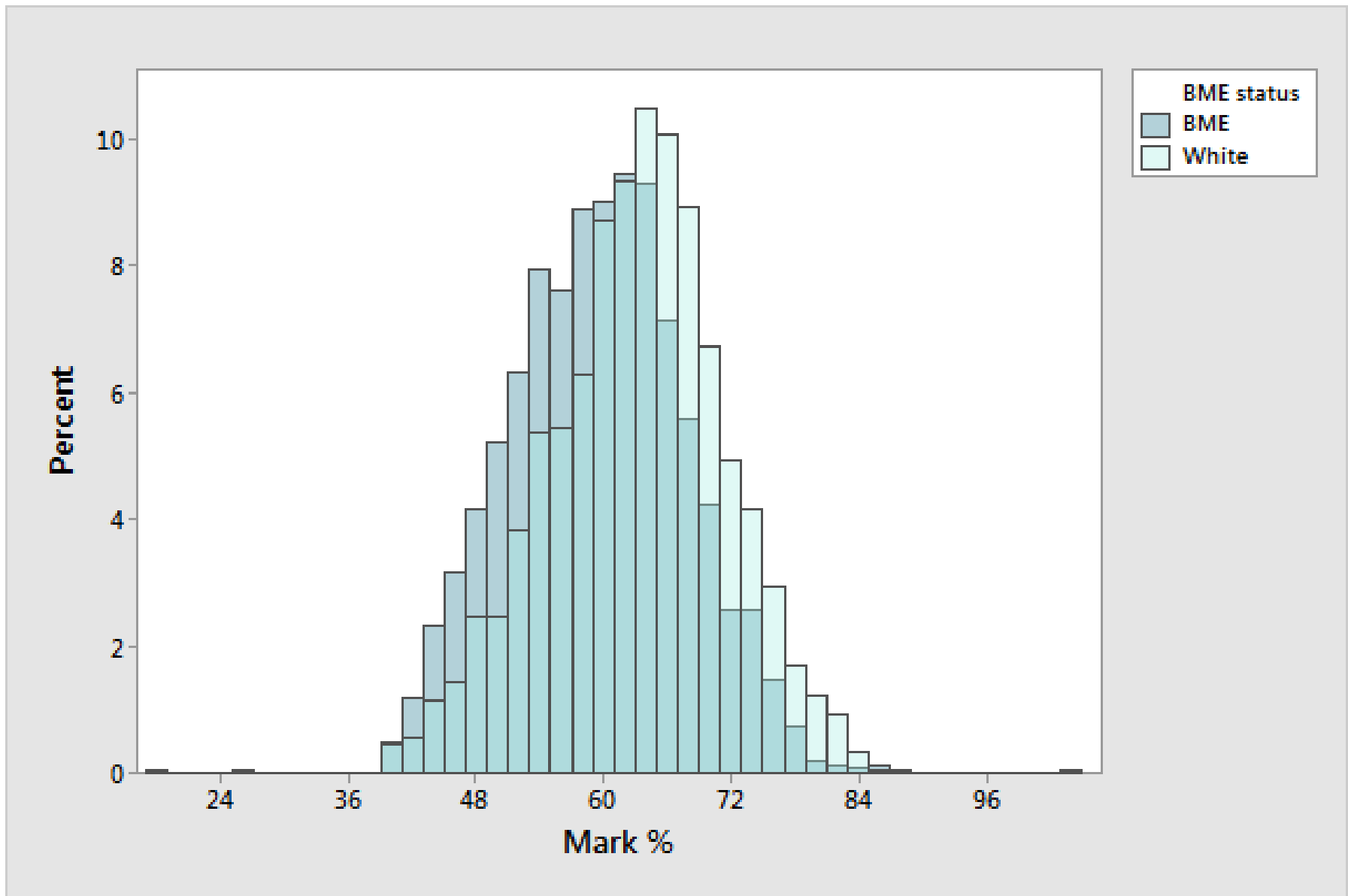
Difference is statistically significant (*but sample size large*)



### Medians

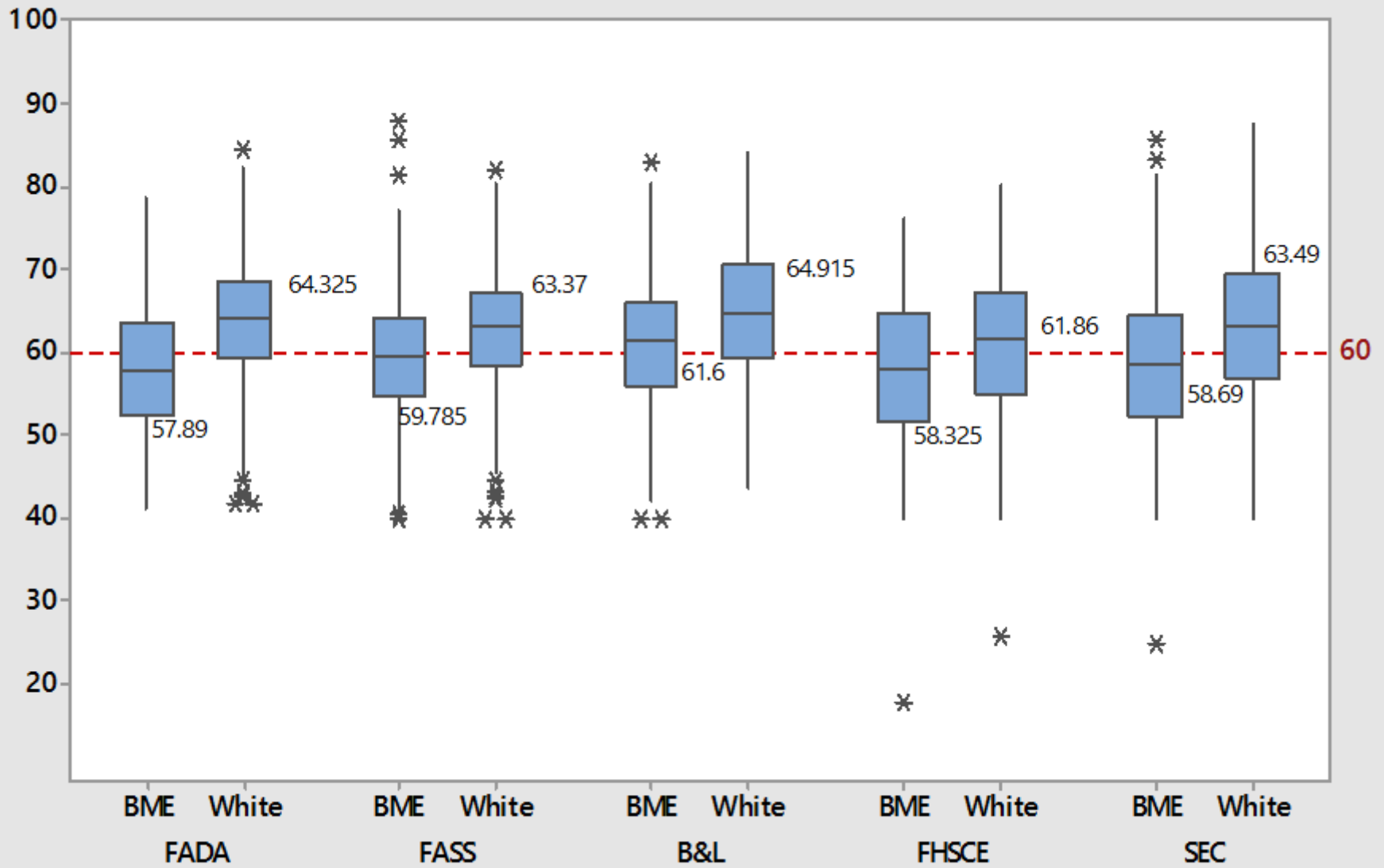
BME 59.630

White 63.440



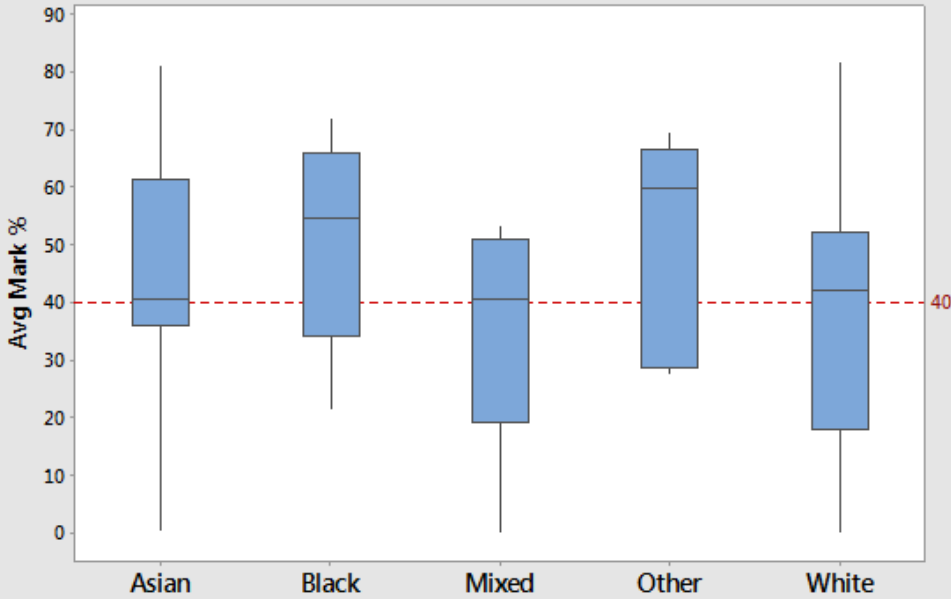


# Partitioned by faculty

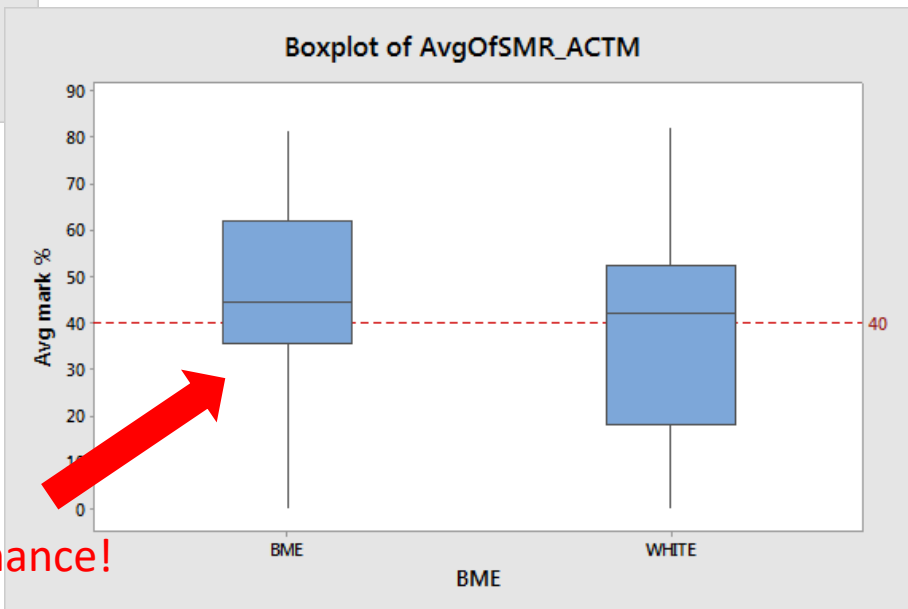


# Single year performance

# Maths L4 (14/15) – 4 modules taken, ie. no repeaters

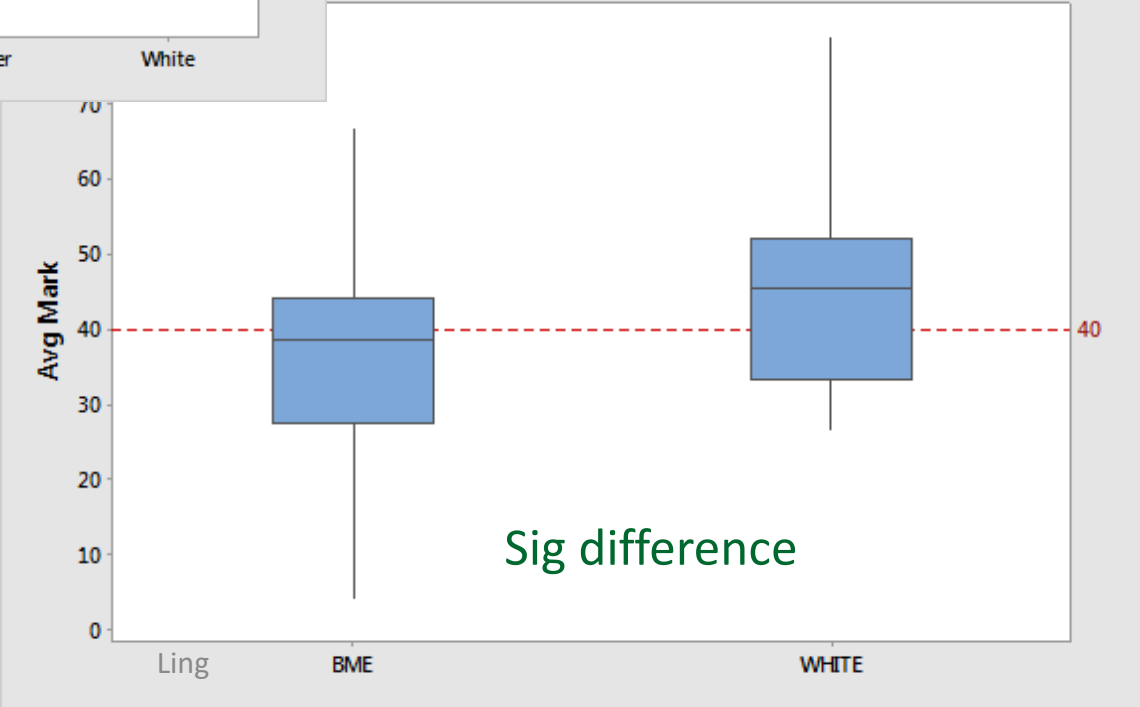
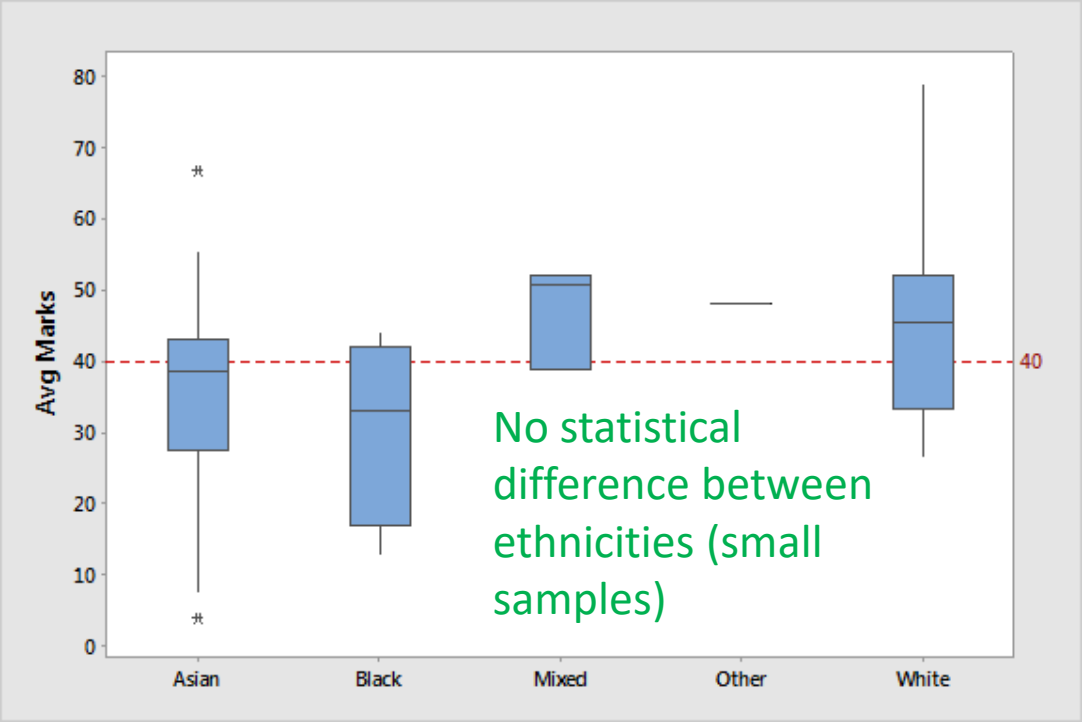


No sig difference  
between ethnicities

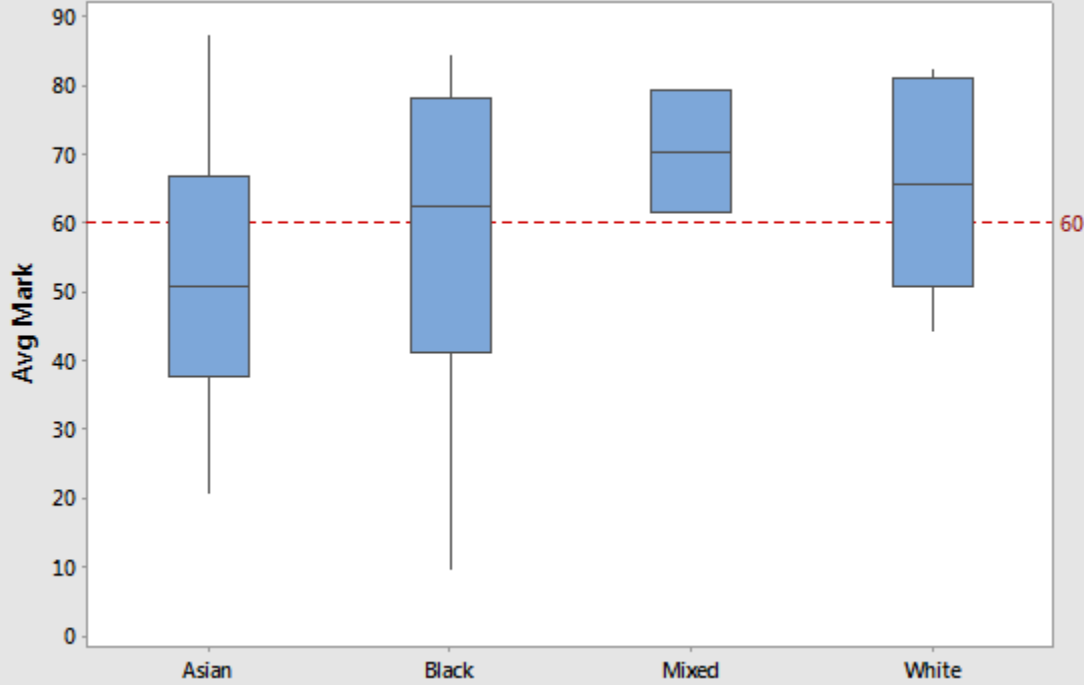


BME outperformance!

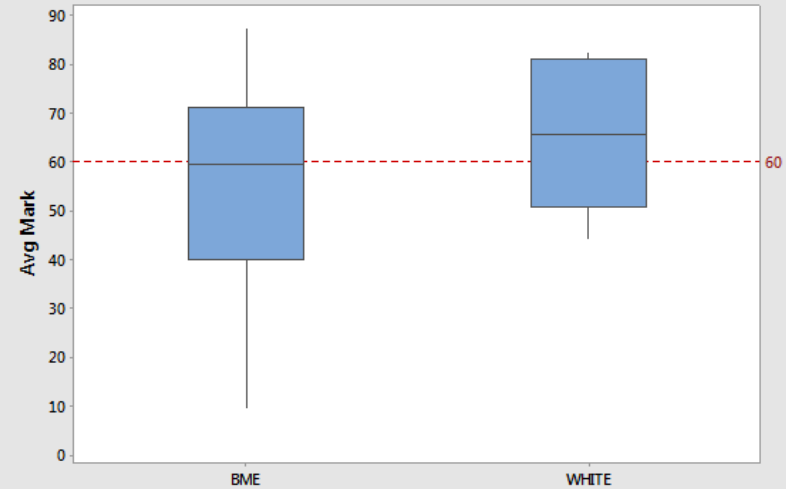
# Maths L5 (14/15) – 4 modules



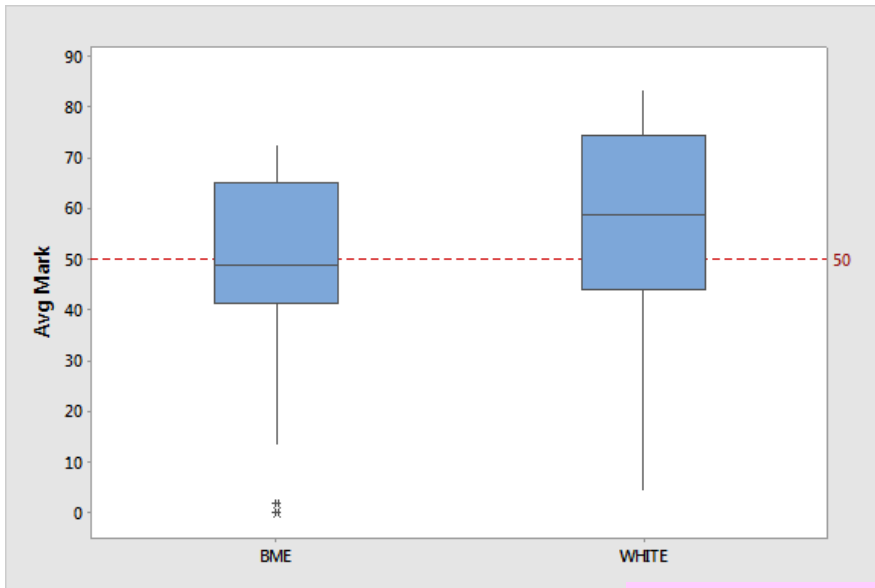
# Maths L6 (14/15) – 4 modules



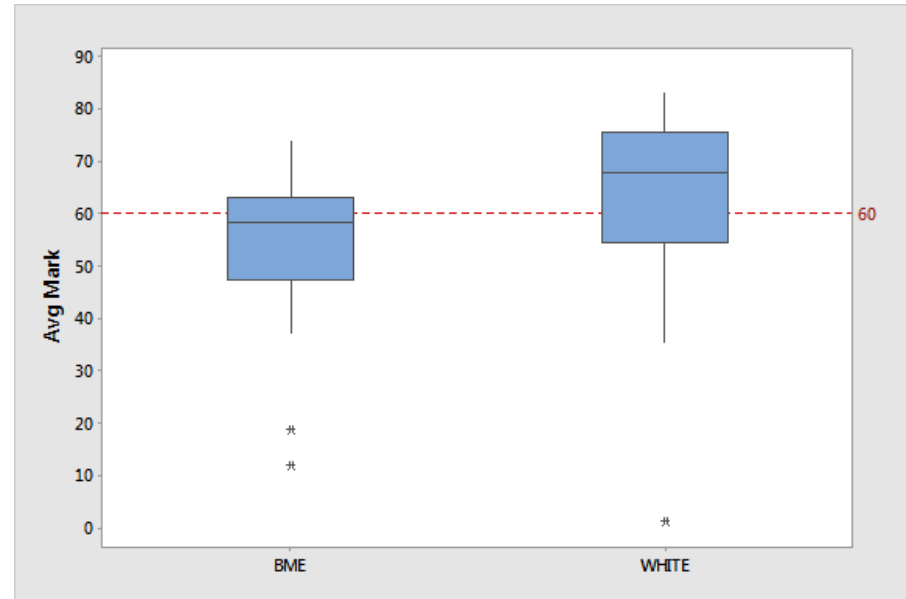
Ling



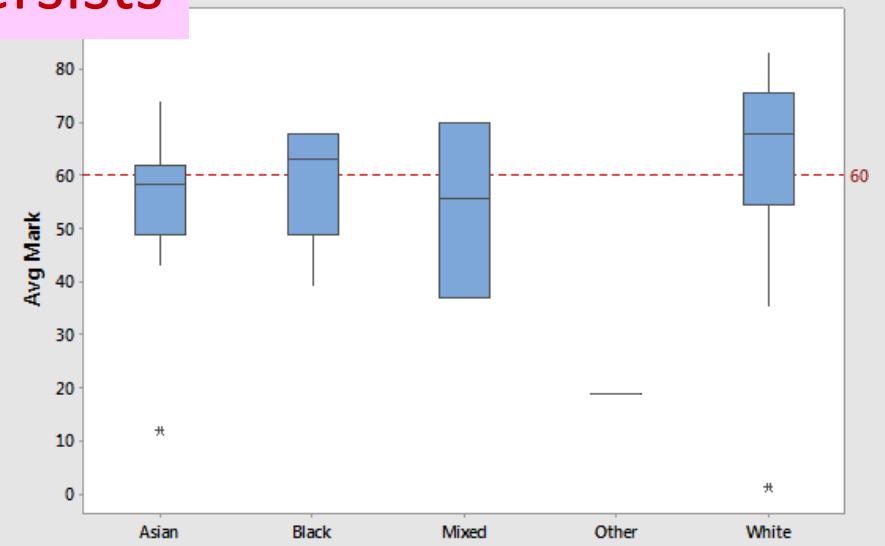
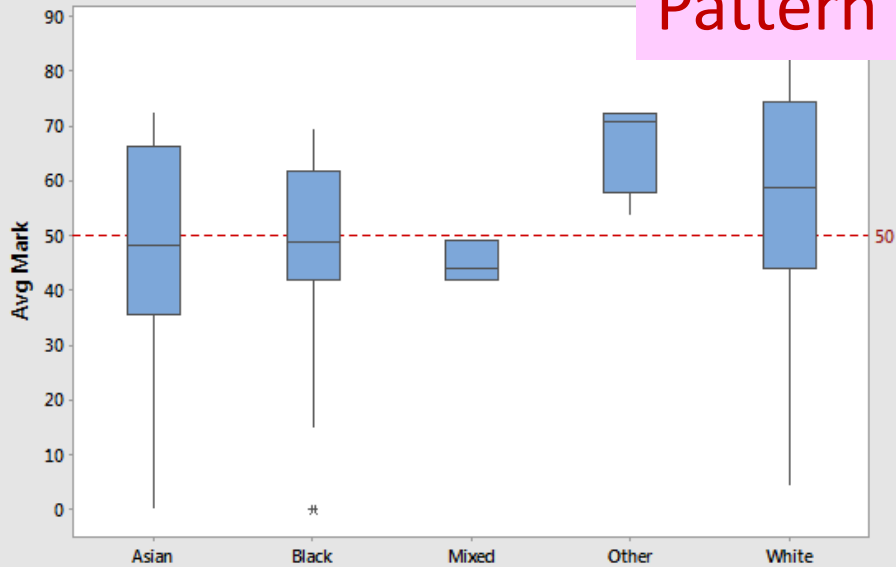
# Computing L4



# L5

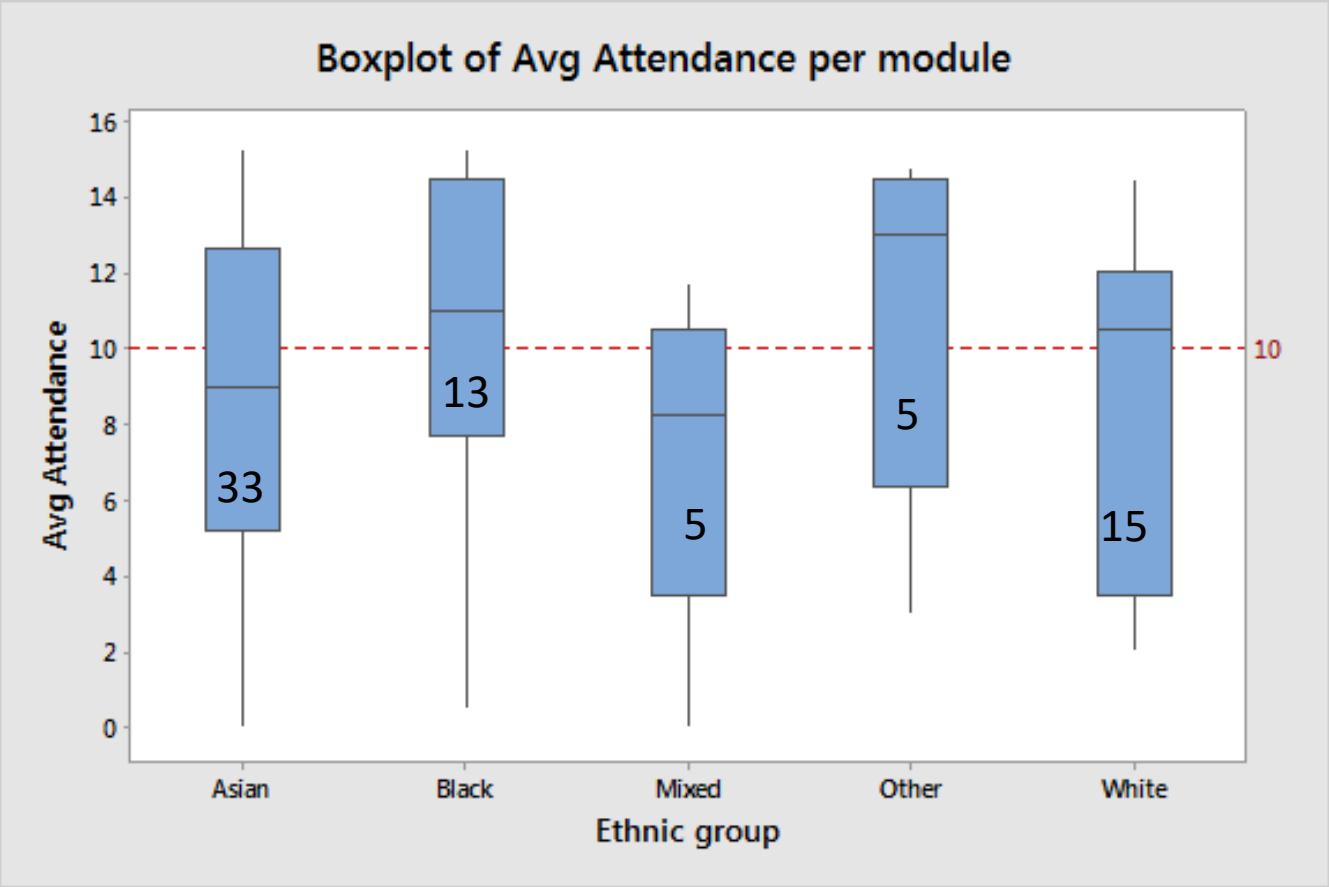


Pattern persists



Is there any difference in attendance between ethnicities?

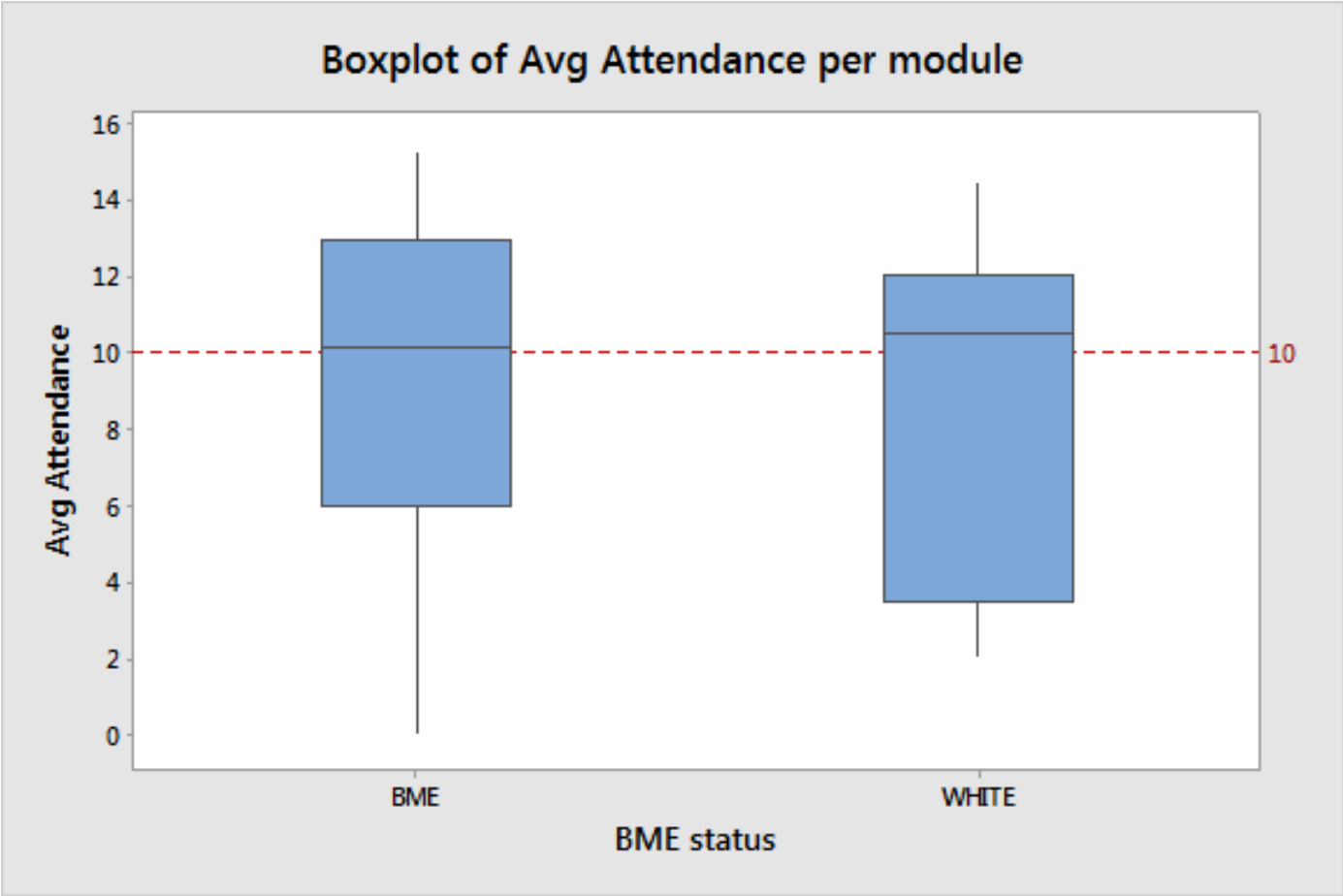
# Maths L4 modules average attendance



No difference

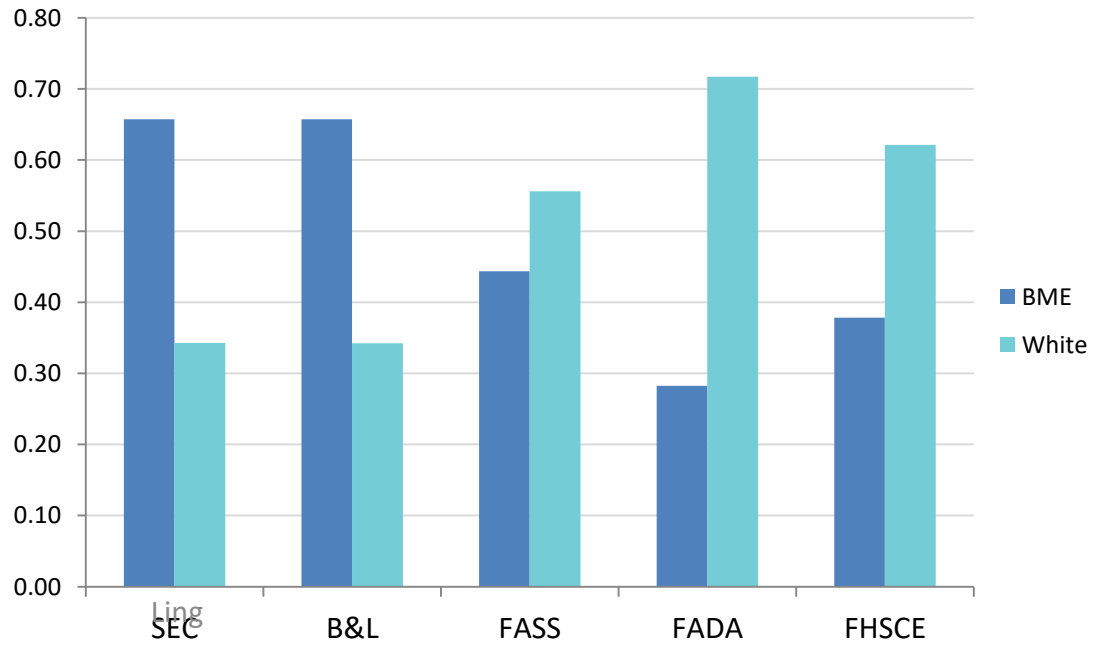
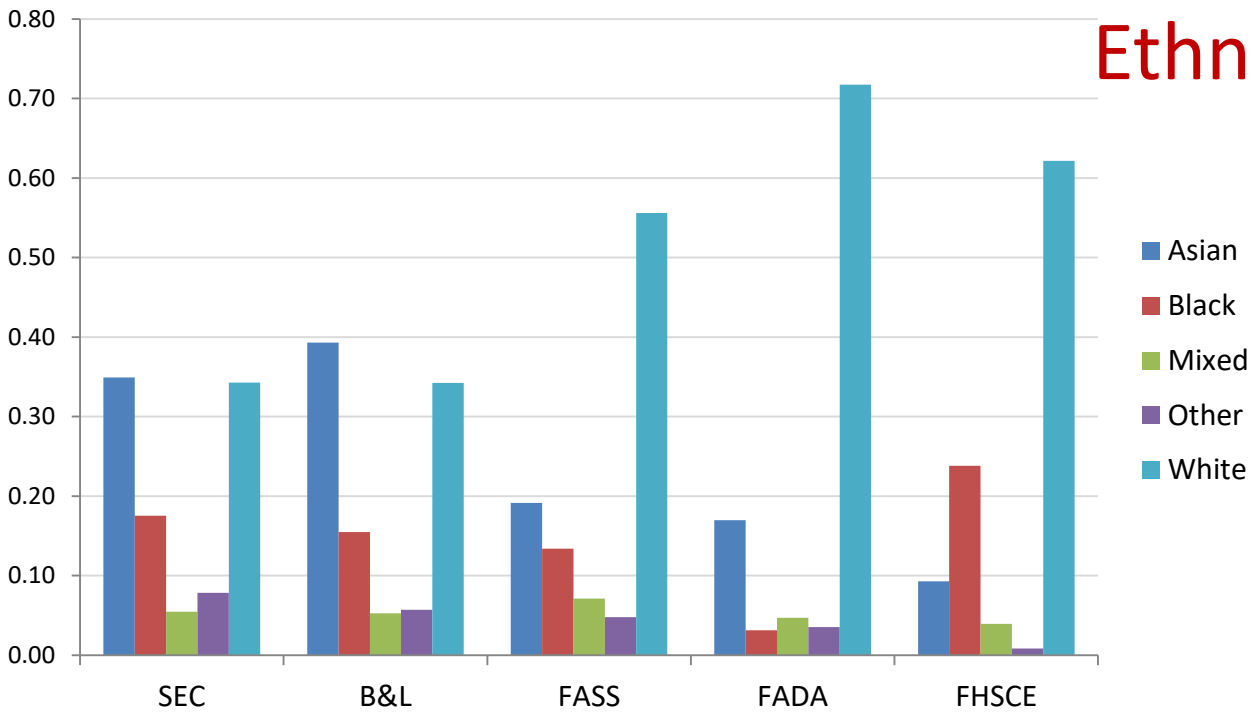


# Maths L4



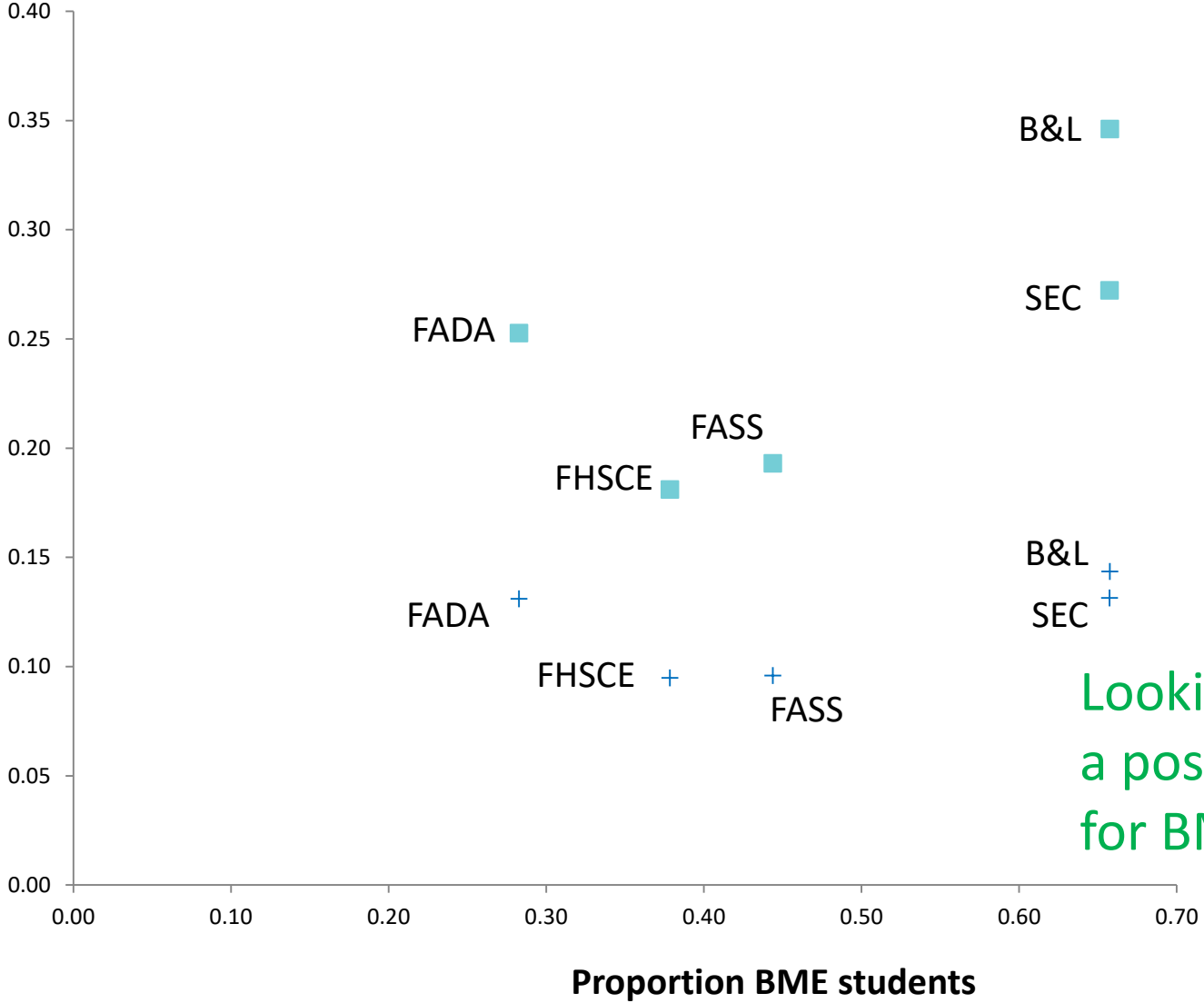
Does the ethnic mix of a faculty influence performance?

# Ethnic mix in faculties



# Proportion of Firsts across faculties

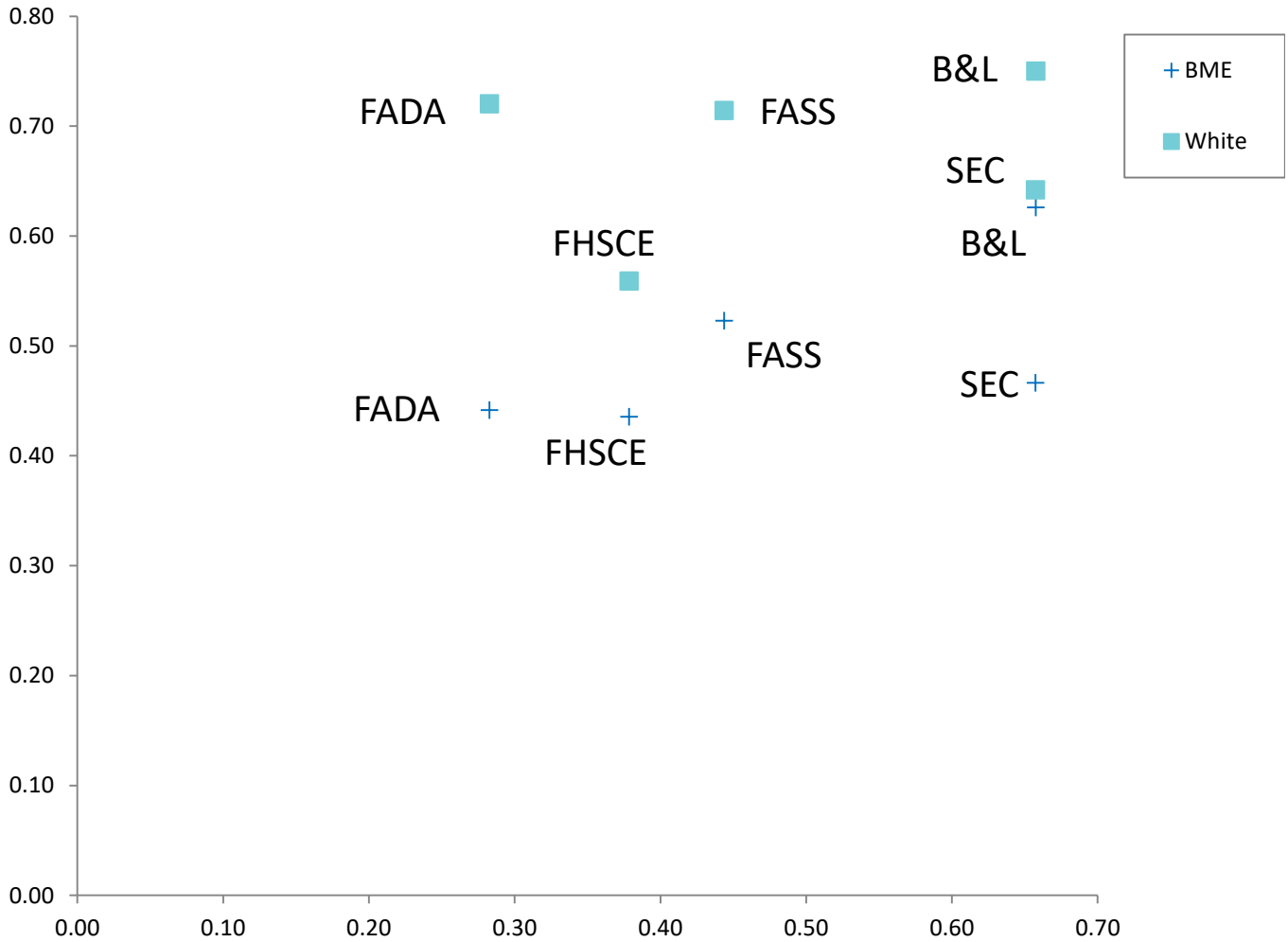
Proportion of Firsts



Looking for a positive slope for BME

# Proportion of 'Good' degrees across faculties

Proportion of Good

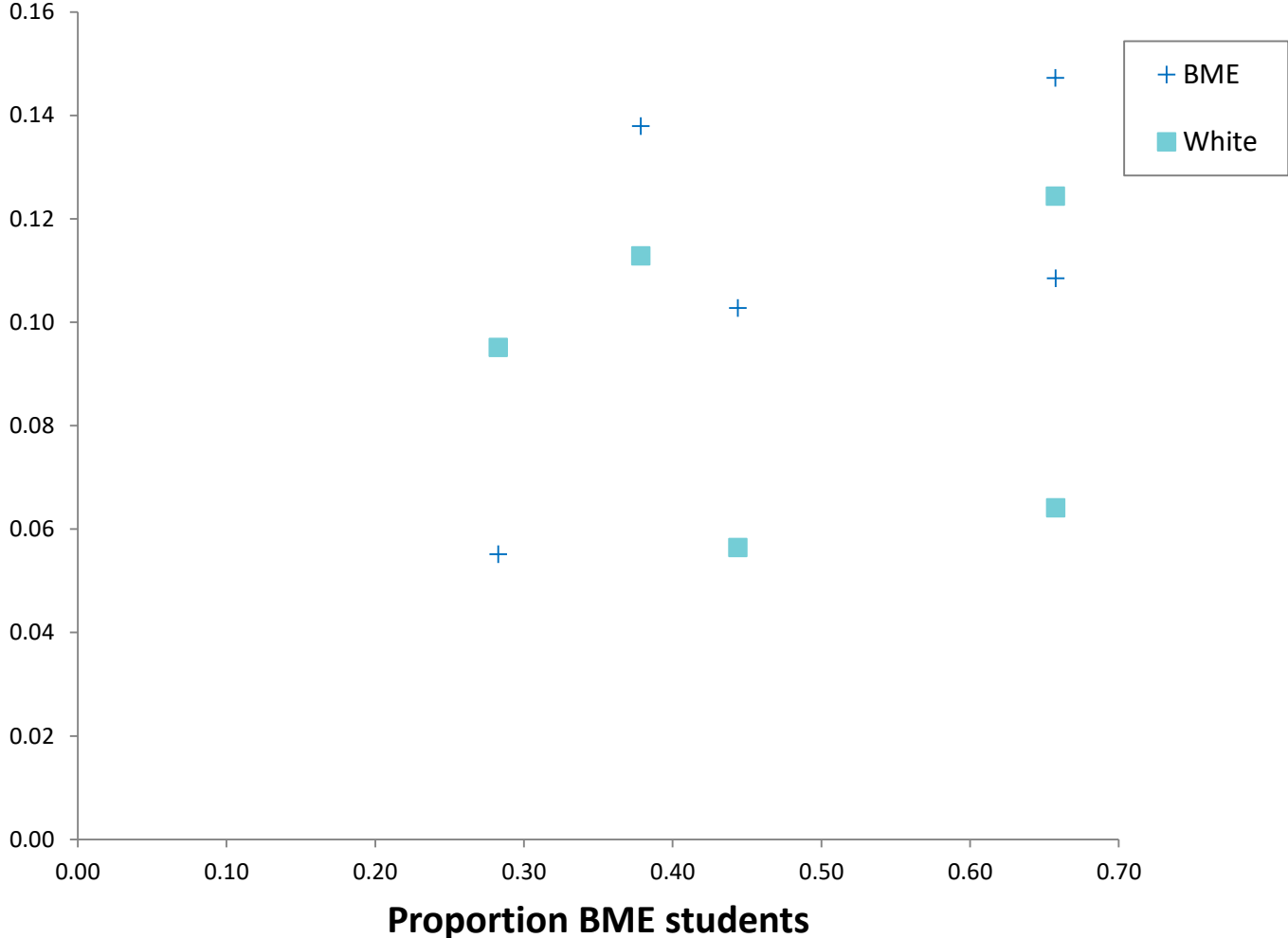


Proportion BME students

Ling

# Proportion of Ordinary degrees across faculties

Proportion of Ordinary



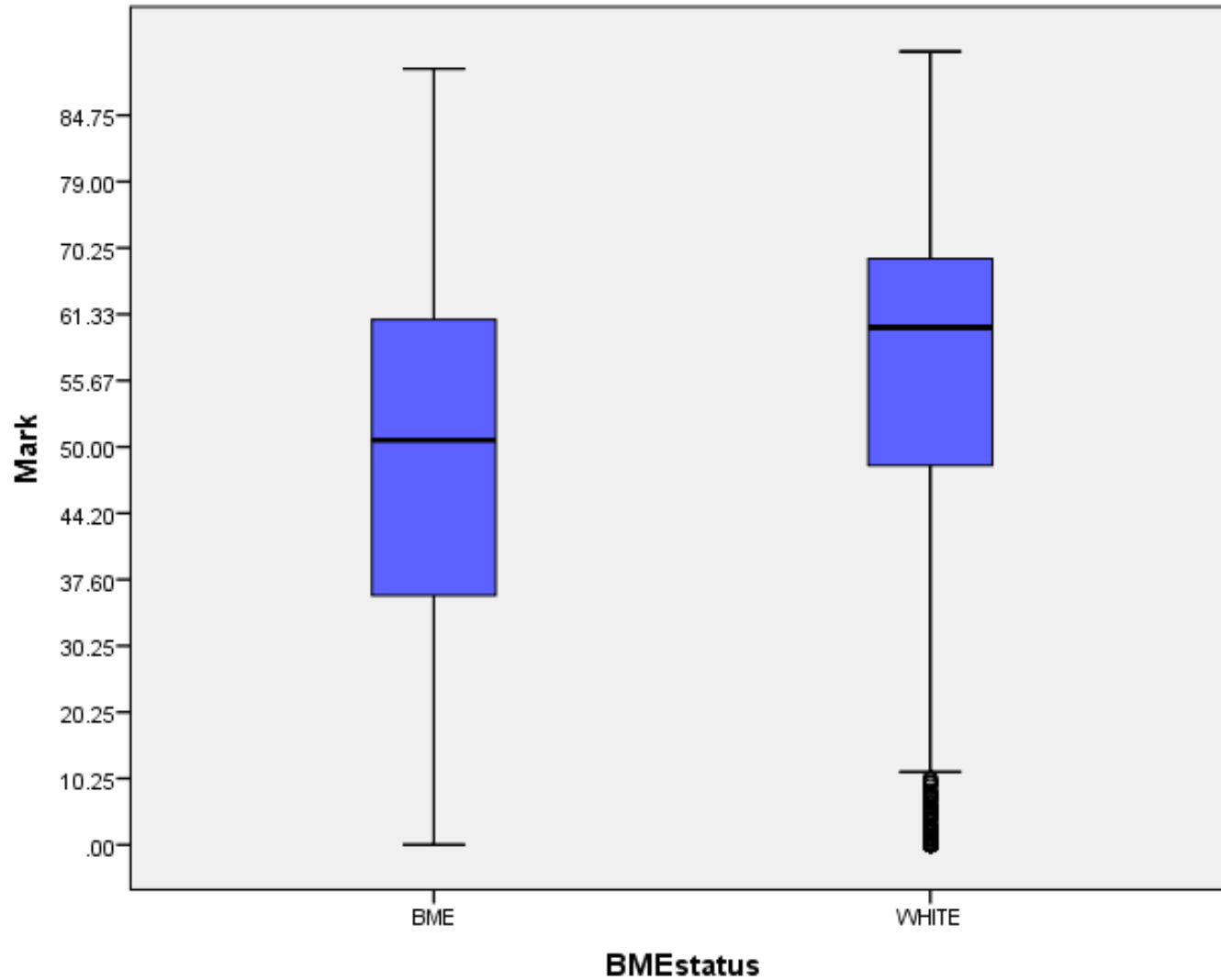
# Other relevant factors

Mature students

Gender

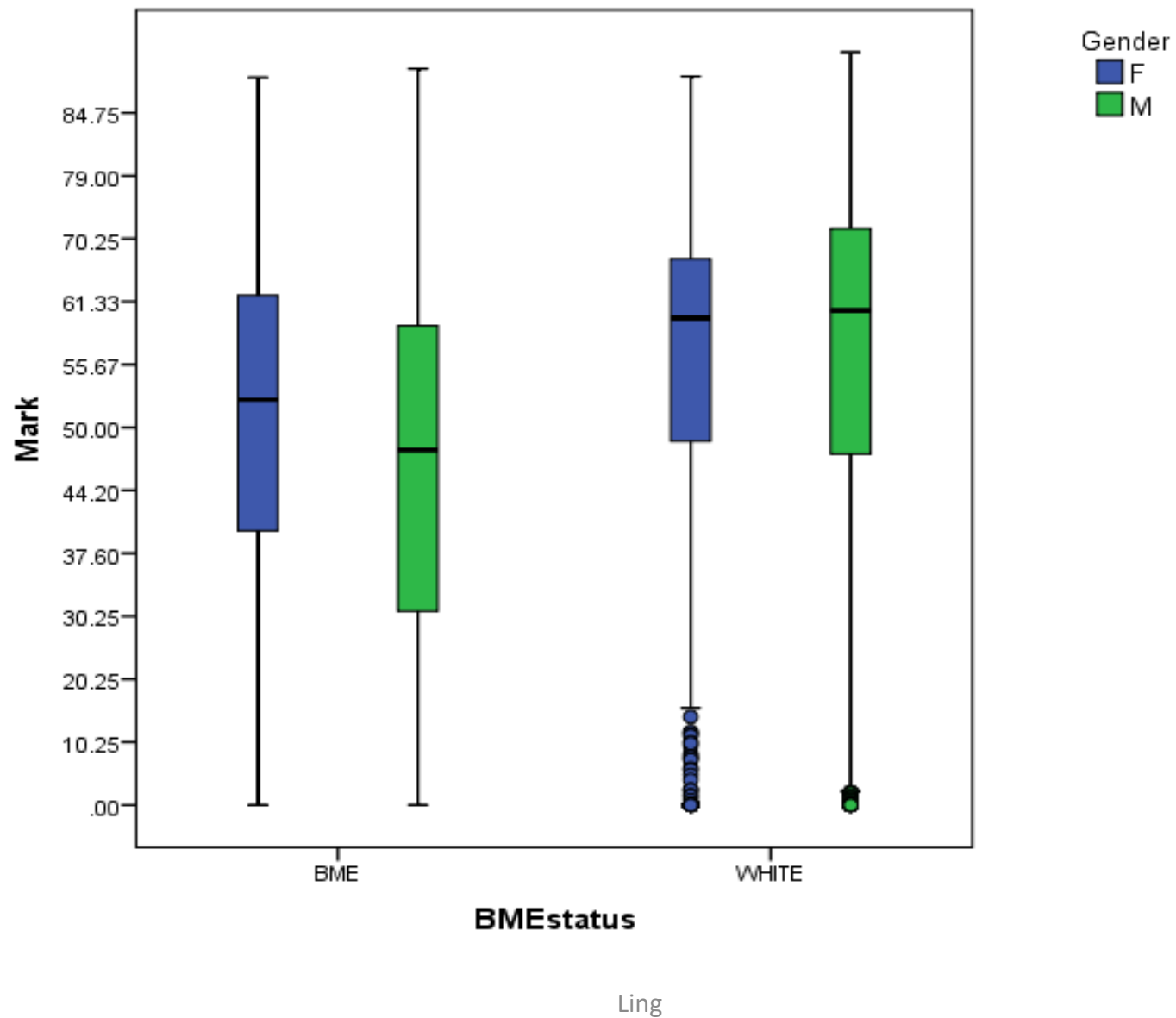
All students taken together, performance is similar

# 2015/16 first year data

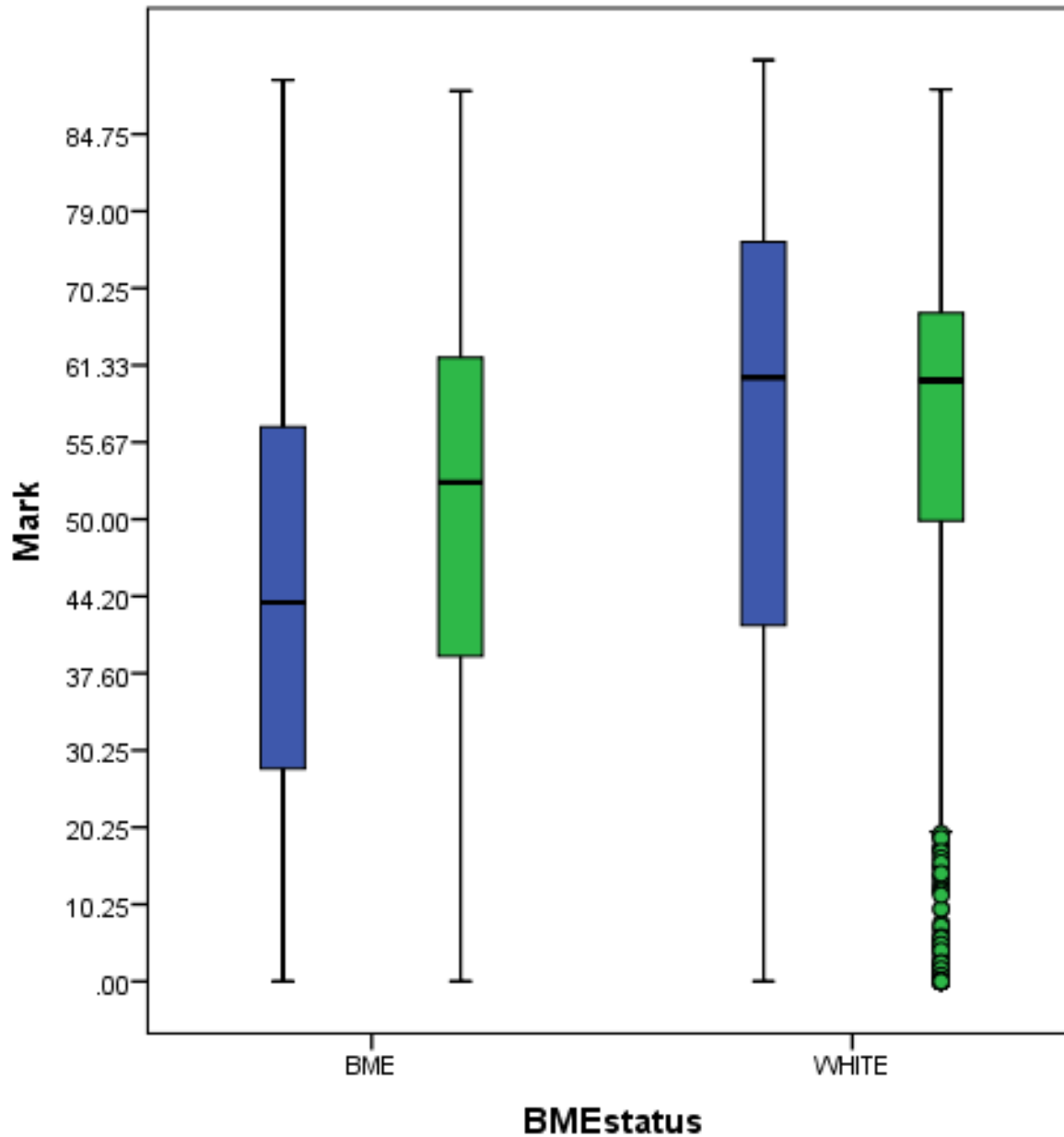




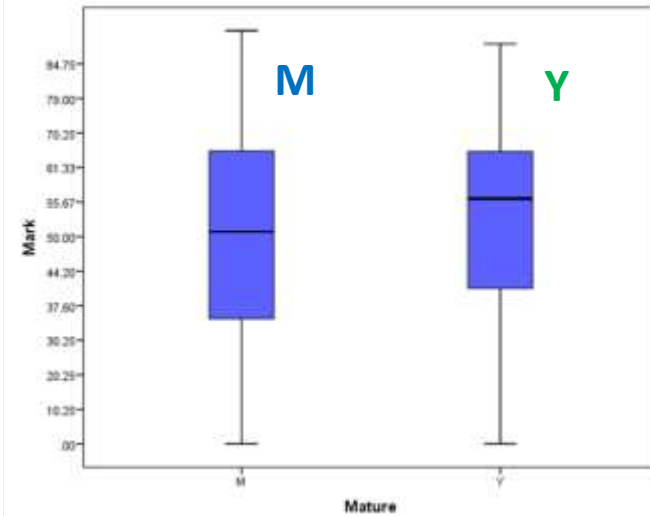
# Effect of gender



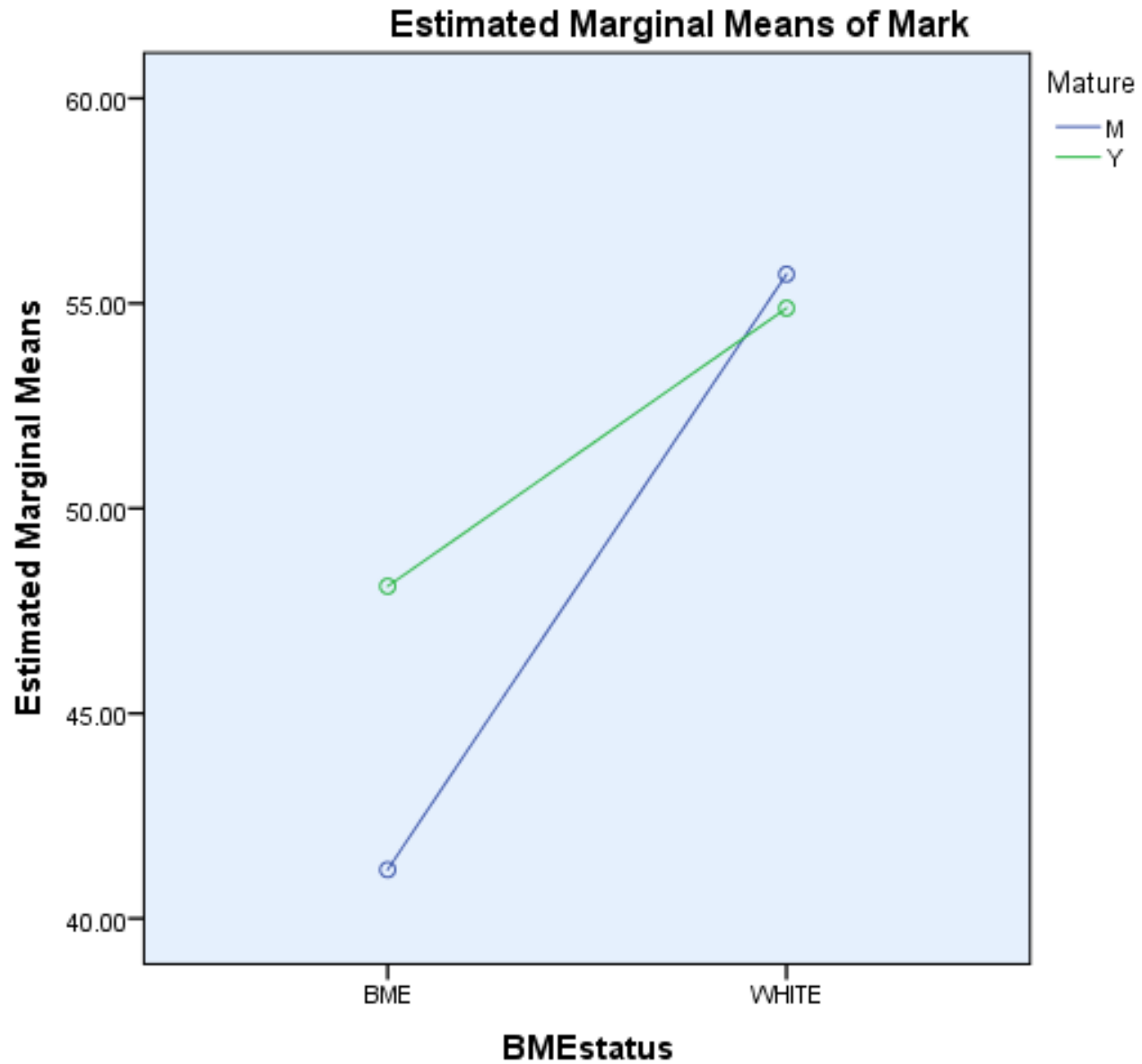
# Effect of age (*mature students defined as 21 and over*)



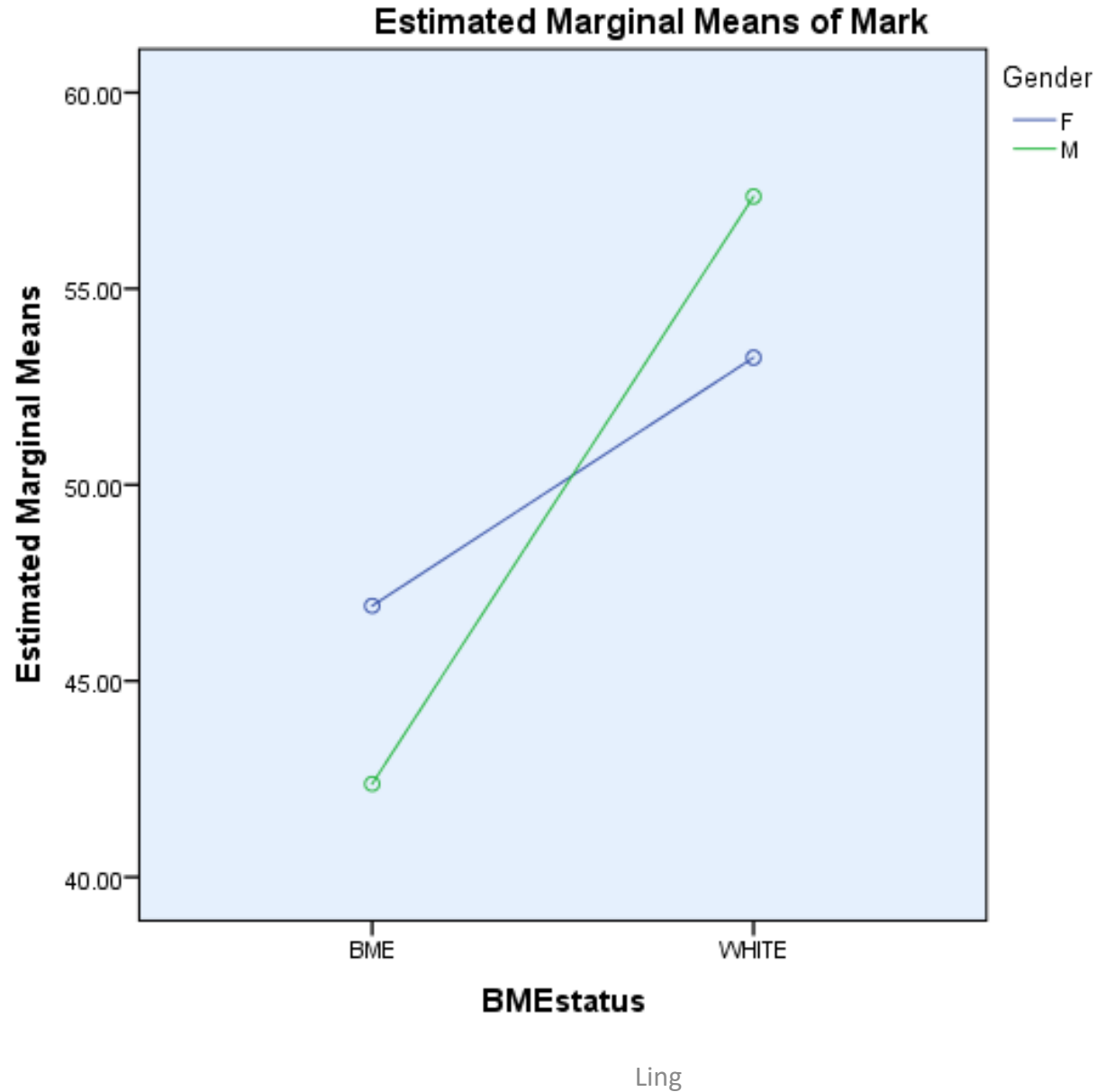
Mature



## Interaction of Maturity and BME status



# Interaction of Gender and BME status



### Tests of Between-Subjects Effects

Dependent Variable: Mark

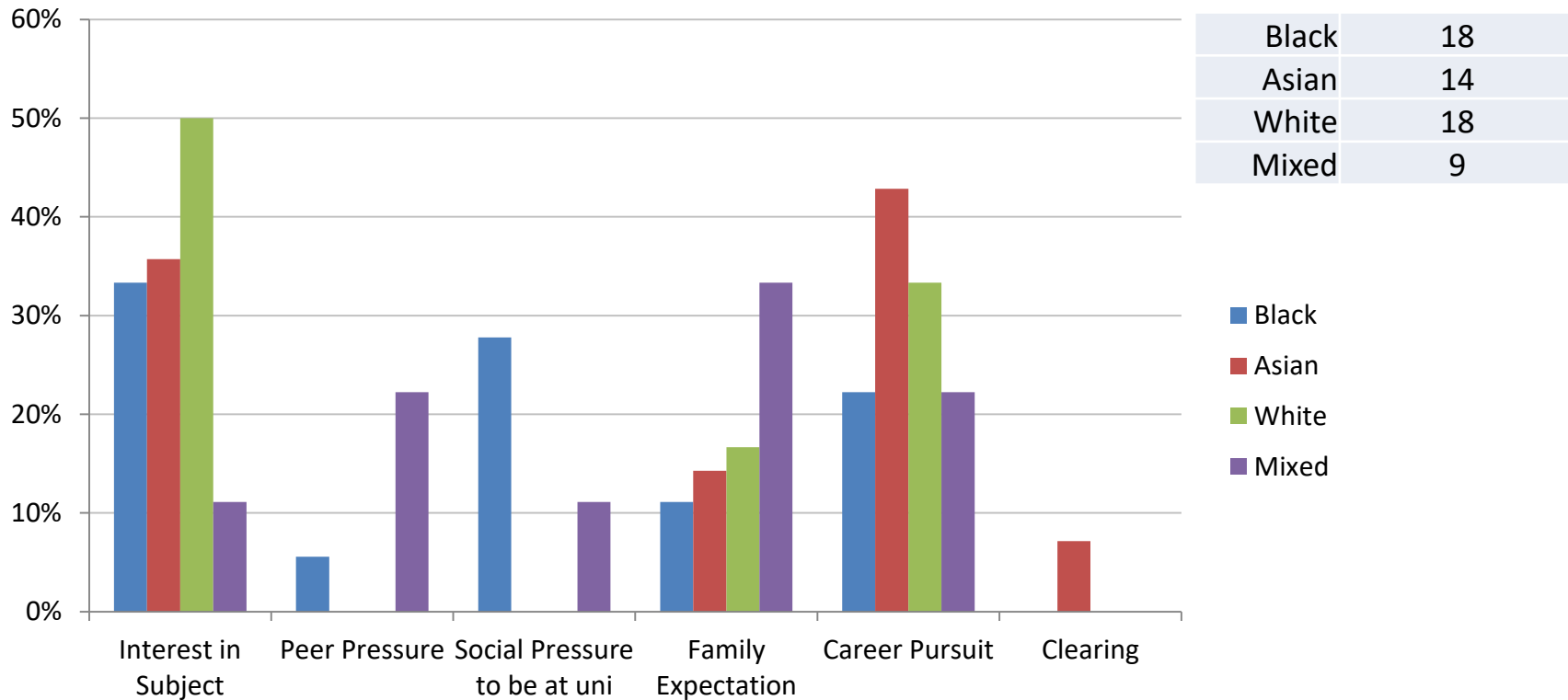
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	179934.860 <sup>a</sup>	7	25704.980	63.820	.000
Intercept	10516470.07	1	10516470.07	26110.088	.000
BMEstatus	119456.960	1	119456.960	296.585	.000
Gender	49.148	1	49.148	.122	.727
Mature	9741.275	1	9741.275	24.185	.000
BMEstatus * Gender	19680.296	1	19680.296	48.862	.000
BMEstatus * Mature	15752.682	1	15752.682	39.110	.000
Gender * Mature	12558.606	1	12558.606	31.180	.000
BMEstatus * Gender * Mature	9425.849	1	9425.849	23.402	.000
Error	2046495.795	5081	402.774		
Total	15012684.49	5089			
Corrected Total	2226430.655	5088			

a. R Squared = .081 (Adjusted R Squared = .080)

Is there a relationship between motivation and ethnicity?

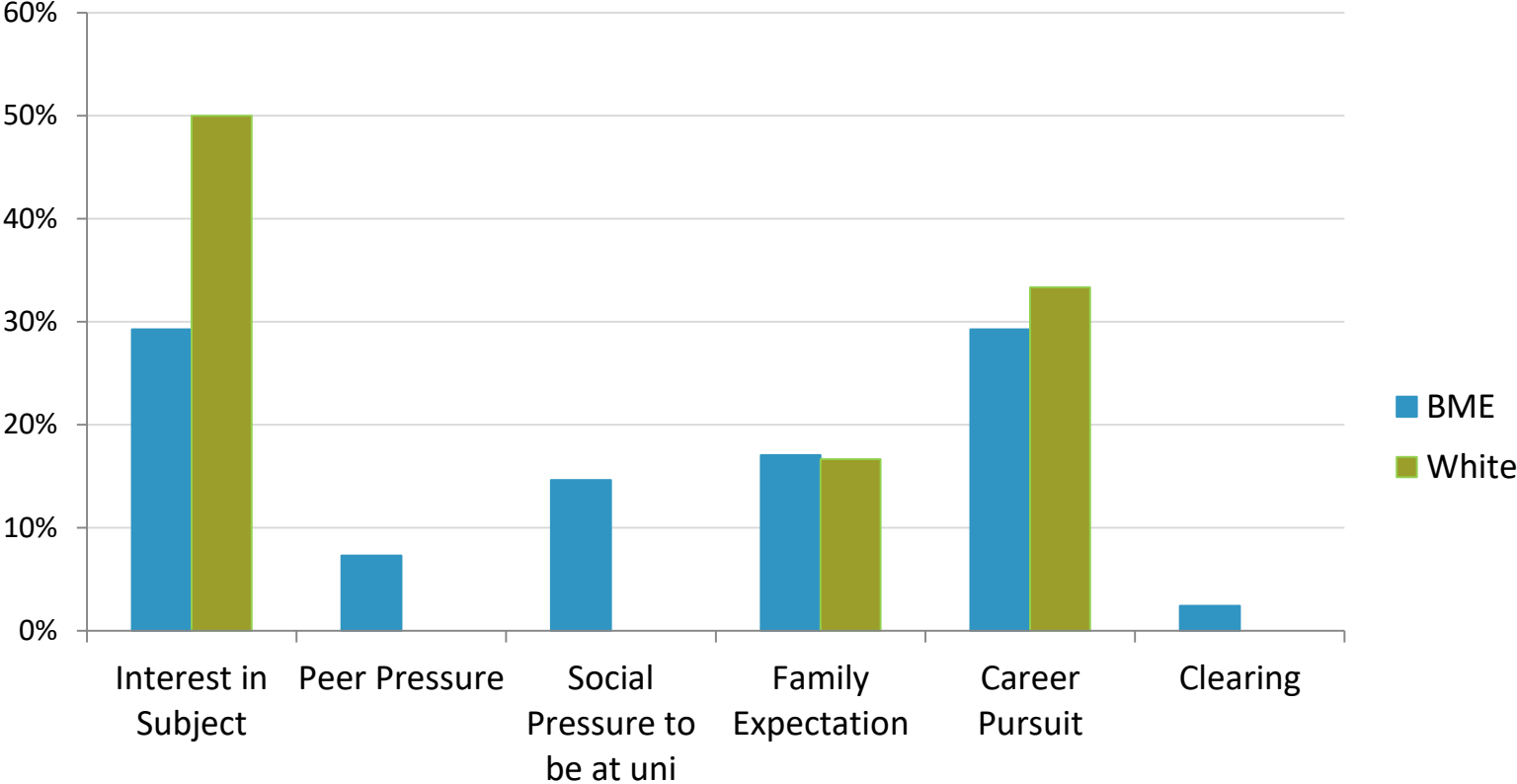
# Motivation to study at university (SEC only)

## Motivation to study science subjects



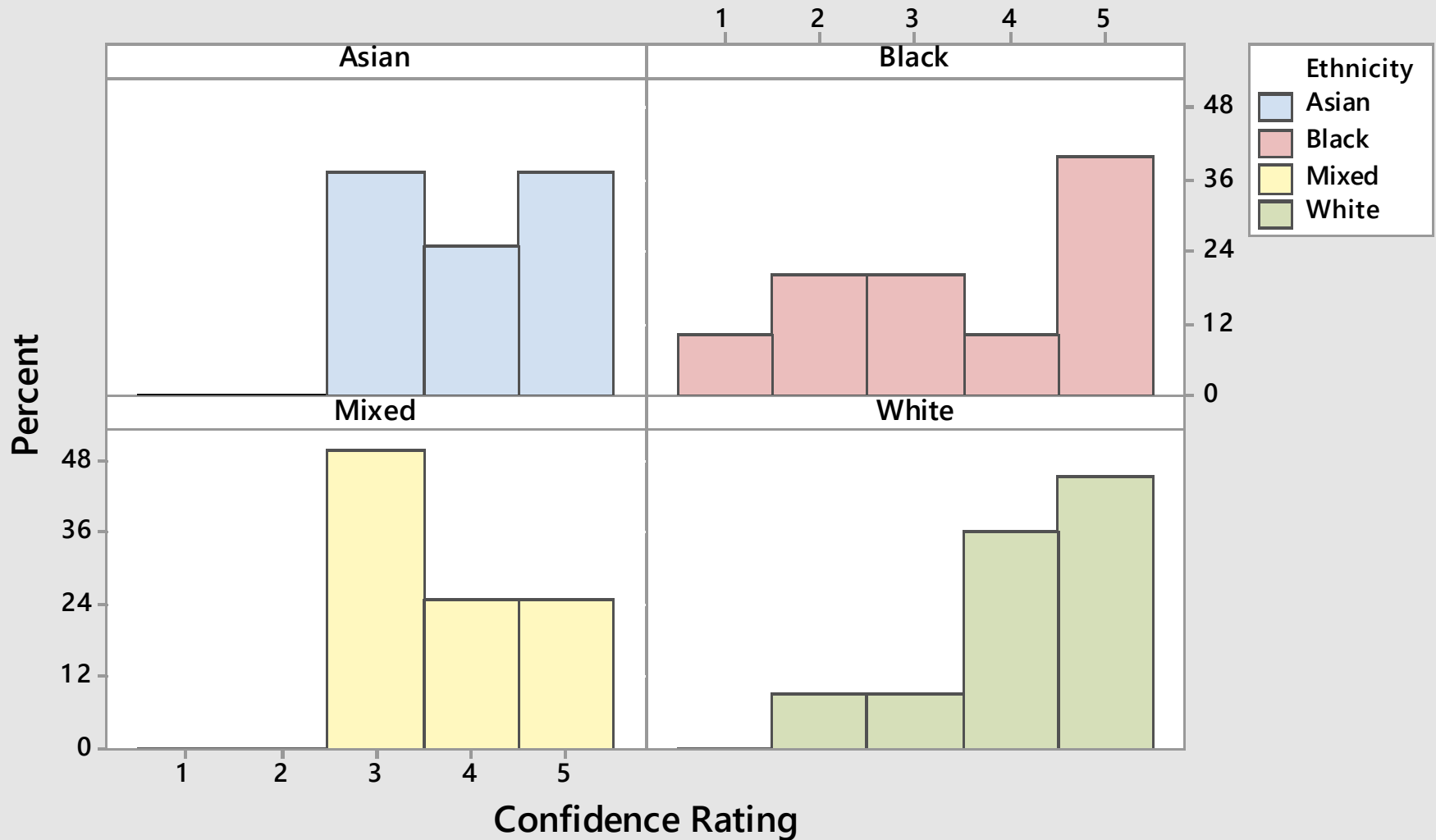
Kavneet Chaggar

# Motivation to study science subjects





# Level of confidence in their studies (1 – 5)



Panel variable: Ethnicity

→ Increasing confidence

# KU stats summary

## All faculties

Class	BME	White
1	12%	24%
2.1	38%	43%
2.2	30%	20%
3	7%	4%
Ord/Fdn	12%	9%

Odds of a good degree (1 or 2.1) = 1 (BME)  
2.03 (White)

$$\text{odds} = p/(1-p)$$

White students are twice as likely to get a good degree as BME

Similar to the rest of the country

## All faculties

	<b>Asian</b>	<b>Black</b>	<b>Mixed</b>	<b>Other</b>	<b>White</b>
1 or 2.1	52%	45%	61%	52%	67%
odds	1.09	0.80	1.57	1.10	2.07

Odds ratios: White to Black 2.6  
White to Asian 1.9

Similar to the rest of the country

# All faculties

	<b>SEC</b>	<b>B&amp;L</b>	<b>FASS</b>	<b>FADA</b>	<b>FHSCE</b>	<b>ALL</b>
<i>BME</i>	47%	63%	52%	44%	44%	51%
<i>White</i>	64%	75%	71%	72%	56%	67%
<i>odds ratio</i>	2.05	1.79	2.28	3.26	1.64	1.99

# Conclusions

BME underrepresented at good degree level and over represented at Ordinary/HE

Median award marks differ by about 4% between White and BME (black students fare worst, but not by much). May imply that BME students fail more modules, but cannot tell from this study.

Age and gender have a distinct influence in BME students

No evidence for different patterns of attendance (data limited)

No convincing evidence for improved performance when proportions of BME are higher

Some evidence for lower personal motivation in BME students and lack of confidence

# Further thoughts

Underperformance of BME is universal and persistent (at Kingston and throughout UK)

However, overall difference in marks achieved is not that great; the BME distribution is shifted downward (White has higher negative skew)

Thus a modest improvement in BME marks could have a big impact on final results

Institutional bias might be expected to cause this relatively small difference  
If this exists, it appears to exist at all institutions

Cultural reasons appear quite strong – low motivation, lack of intellectual interest, low confidence (differences between gender and age groups may be evidence)

Difficult to find specific reasons through data analysis. Unobservable influences may be at work