

# ERRATA CORRIGE: “ARE MUSLIM IMMIGRANTS DIFFERENT IN TERMS OF CULTURAL INTEGRATION?”

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## Abstract

We are thankful to Michael Lundholm and Mahmood Arai for pointing us towards a coding error which invalidates the regressions in our paper. Correcting the code leads to a decrease in sample sizes, though much smaller than Arai et al. (2011) claim based on their “replication”. An appropriate redefinition of the variables and of the model specification allows us to reproduce the substance of the empirical analysis in our original published paper. Although the results are now less clear-cut, our analysis remains essentially unchanged. (JEL: A14, J15)

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## 1. On “Replicating” Bisin et al. (2008)

A labelling error in the code invalidates the empirical analysis of our paper on *Are Muslim Immigrants Different in terms of Cultural Integration?*, published in the *Journal of European Economic Association*, 6, 445–456, 2008. The error affected our sample selection procedure. We thank Mahmood Arai, Jonas Karlsson, and Michael Lundholm for alerting us to a problem with sample sizes which in turn pointed us to the coding error. In private email correspondence we have provided Arai, Karlsson, and Lundholm with the data and code of a revision of our analysis that we have produced after correcting for the error. In spite of that, the authors decided to submit a note to *JEEA* which is published in this issue of the journal under the title, “On Fragile Grounds: A Replication of . . .”, Arai et al. (2011).

We would like first to comment on the reading of our Introduction by Arai et al. (2011). They find disagreeable our interpretation of the effects of terrorist attacks and riots in Europe on popular opinions regarding Muslim immigration. They are free

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to believe that terrorist attacks and riots have no effect on popular opinion. Correct logical reasoning does not allow them, however, to conclude that we share the popular opinions we report on. Most importantly, we disagree on the description of their note as a “replication”, as the error invalidates the sample selection at the basis of the empirical analysis of our previous paper. The authors seem to disregard the substance of what the data reveal about the question at hand, that is, the pattern of Muslim integration in the United Kingdom. We explain the issue in the following.

The available sample in the *Fourth National Survey of Ethnic Minorities 1993–1994 (FNSEM)* is dramatically smaller than our coding error had led us to believe in the previously published paper (Bisin et al., 2008). The number of Muslim and non-Muslim after the correction is reduced, respectively, from 2,369 to 2,019 and from 3,594 to 2,639. Arai et al. (2011) report a drop in sample from 5,963 to 1,901 individuals. This is obviously the result of their misguided attempt at minimizing the sample, as we document in turn:

- (i) They code as missing both the genuine *non-available* and all the unknown categories, whereas, for example, in some crucial dummy variable definitions (i.e., for the dependent variables) it seems appropriate to include the “Can’t say” category in the reference category (defined as 0). For instance, in the definition of “Attitude towards inter-marriage” those answering “Can’t say” to the question “Would you personally mind if a close relative were to marry a white person?” are clearly individuals with no strong ethnic identity and therefore appropriately included in the reference category.
- (ii) They eliminate all single (not-married) individuals because one control (dummy) variable, *Arranged marriage*, is constructed on a question answered by married people only. Precisely, the question is the following one: “What part did your parents play in choosing your husband/wife?” and is coded as a dummy taking 1 if the answer is “The parents made the decision”. It is natural to consider instead singles as individuals whose ethnic identity has not been influenced by an authoritative parental decision regarding marriage.

Unfortunately, however, sample sizes decrease further in the regression analysis because of missing values in variables. In this respect the “replication” by Arai et al. (2011) is also misguided: they have in fact chosen to reproduce our regressions using the dependent variables and the extensive set of control variables we had employed (when we erroneously worked with a larger sample). For a large fraction of the agents in the sample several values of these variables are simply not available.

In addition, in our analysis, we use a different measure of ethnic identity as dependent variable in different regression model specifications. The individuals having missing values on those variables are not the same across variables. Arai et al. (2011) remove observations with missing values *on all variables of interest*, thus dropping a priori all those individuals. If the objective is an empirical analysis of the data (regarding pattern of Muslim integration in the UK), this is unjustified. Regression results for different dimensions of ethnic identity can quite naturally rely on a different number of observations.

We report here, therefore, on our revision of the analysis of Bisin et al. (2008). Results based on the correct sample are less clear-cut and some estimated coefficients lose statistical significance. We interpret these results, however, as essentially confirming our previous analysis in its substance.

## 2. Definition of Variables and Model Specification

To reduce the number of missing observations we have opted for the following changes with respect to our previous analysis, in Bisin et al. (2008):<sup>1</sup>

- (1) We eliminate some controls (those for which missing value or multicollinearity problems are more severe), namely “No parents”, “Parents’ physical contacts”, “Parents’ telephone calls”, “Parents’ letters”, “English spoken at home (younger)”, “Discrimination of own ethnicity”.
- (2) We redefine the education and labour market variables as follows. We define *Ukhigher*, a dummy taking value 1 if the respondent reports having O-level or A-level education; we also define *Ukdegree*, a dummy taking value 1 if the respondent reports having any non-school diploma (including trade apprenticeship) or university diploma; and “Foreign education,” a dummy taking value 1 if the respondent reports having any overseas qualification. We define *Employed*, a dummy taking value 1 if the respondent reports being in paid work.
- (3) We use “House owner” instead of “Household income” as proxy for income. We define *House owner* as a dummy taking value 1 if the respondent reports she/he owns or is buying his/her accommodation.
- (4) We redefine our measure of “Attitude towards intermarriage” as a dummy taking value 1 if the respondent answers “Yes” to the question “Would you personally mind if a close relative were to marry a white person?”. In the published paper, the measure of “Attitude towards intermarriage” we had used was a dummy having value 1 for those respondents who, after declaring they would *mind* if a close relative were to marry a white person, also stated they would *mind very much*.
- (5) We use “Attitude towards religious composition in school” as our third proxy of ethnic identity, instead of “Attitude towards racial composition in school”. Precisely, we use the following question: “If you were choosing a school for a child, would you prefer a school for children of your own religion, or would you prefer a school for children of any religion?” The answer is coded as a dichotomous variable, taking value 1 if the individual would prefer a school for children of only her/his religion, and 0 otherwise.
- (6) We define “Time spent in the UK” as “Years since arrival” if the respondent is not born in the United Kingdom and as “Age” if the respondent is born in the United Kingdom. We also add a squared term on both variables to increase the model’s fit.

1. The code and final data set are available upon request at [http://www.nyu.edu/econ/user/bisina/dofile\\_Errata\\_JEEA.pdf](http://www.nyu.edu/econ/user/bisina/dofile_Errata_JEEA.pdf) and [http://www.nyu.edu/econ/user/bisina/data\\_Errata\\_JEEA.dta](http://www.nyu.edu/econ/user/bisina/data_Errata_JEEA.dta), respectively.

TABLE 1. Description of data.

<i>Variable</i>	<i>Explanation of the variable</i>	<i>Muslim</i>		<i>Non-Muslim</i>		<i>n.obs:</i>	
		<i>n.obs.</i>	<i>Mean</i>	<i>St.dev.</i>	<i>n.obs.</i>	<i>Mean</i>	<i>St.dev.</i>
Importance of religion	In the text	1032	0.75	0.43	1338	0.44	0.50
Attitude towards inter-marriage	In the text	1034	0.47	0.50	1338	0.27	0.44
Attitude towards religious composition in schools	In the text	1029	0.27	0.44	1329	0.13	0.33
Age	Respondent's age in years	2019	36.74	14.52	2638	41.00	15.61
Age at arrival	Respondent's age in years at arrival in the UK	1961	20.00	10.77	2587	22.13	11.54
Female	Dummy variable taking value one if the respondent is female.	2019	0.48	0.50	2638	0.55	0.50
Born in the UK	Dummy variable taking value one if the respondent is born in the UK	2018	0.14	0.35	2636	0.24	0.43
Arranged Marriage	Dummy variable taking value one if the husband/wife of the respondent has been chosen by the parents.	1004	0.46	0.50	1316	0.20	0.40
Discrimination	Dummy variable taking value one if the respondent had been insulted or threatened in the last year for reasons to do with race or colour.	2002	0.09	0.29	2595	0.11	0.31
Children	Dummy variable taking value one if the respondent has children.	2019	0.74	0.44	2638	0.68	0.46
Years since arrival	Number of years since respondent's arrival in UK.	1961	16.83	11.25	2587	18.77	13.52
British degree	Dummy variable taking value one if the respondent has a University diploma or another professional certificate.	2019	0.11	0.31	2638	0.30	0.46
British high education	Dummy variable taking value one if the respondent has a UK O-level or A-level (or equivalent) qualification.	2019	0.10	0.30	2638	0.24	0.43

TABLE 1. Continued

Variable	Explanation of the variable	Muslim		n.obs: 2,019		Non-Muslim		n.obs: 2,638	
		n.obs.	Mean	St.dev.	n.obs.	Mean	St.dev.		
Foreign education	Dummy variable taking value one if the respondent has a qualification achieved abroad.	2012	0.21	0.41	2632	0.24	0.43		
Employed	Dummy variable taking value one if the respondent is in paid work.	2019	0.27	0.44	2638	0.52	0.50		
English spoken at home	Dummy variable taking value one if English is the language normally spoken at home with family members (who are older) by the respondent.	2019	0.05	0.21	2638	0.09	0.29		
English spoken with friends	Dummy variable taking value one if English is the language normally spoken with friends (outside work) by the respondent.	2019	0.25	0.43	2638	0.27	0.44		
English spoken at work	Dummy variable taking value one if English is the language normally spoken at work by the respondent.	2019	0.20	0.40	2638	0.25	0.43		
House owner	Dummy variable taking value one if the household owns (or is buying) the accommodation	2019	0.67	0.47	2639	0.74	0.44		
Ward density of own ethnicity	Percentage of residents of the respondent's ethnic group in the ward	2016	15.34	11.27	2638	12.49	9.76		
Ward unemployment rate	Ward unemployment rate	2019	16.66	4.44	2638	13.36	5.10		

Notes: *T*-tests for differences in means across groups are performed. All variables show differences statistically significant at least at the 5% level, with the exception of "English spoken with friends".

Table 1 here replaces Table 1 in the published paper. Our comments on the summary statistics in Table 1 remain essentially unchanged. Tests for equality in means remain statistically significant (at least at the 5% statistical level) in all but one case (i.e., for the variable "English spoken with friends").<sup>2</sup>

2. Our descriptive statistics, differently from those in Arai et al. (2011) are based on all the available observations on the different variables. Those individuals for whom the values of the variables used in the different model specifications are missing are then dropped in estimation.

TABLE 2. The development of an identity.

Variable	(1)		(2)		(3)	
	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim
	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)
Age at arrival	0.0009 (0.7118)	0.0084*** (0.0000)	0.0003 (0.9138)	-0.0003 (0.8218)	0.0002 (0.9160)	0.0004 (0.7302)
Age	-0.0317 (0.6752)	0.0752*** (0.0446)	-0.1874 (0.1060)	0.0530 (0.2041)	0.0352 (0.6976)	0.0530*** (0.0390)
Age <sup>2</sup>	0.0005 (0.7339)	-0.0013*** (0.0456)	0.0033 (0.1847)	-0.0011 (0.1557)	-0.0008 (0.6862)	-0.0008 (0.1016)
Female	0.0734* (0.0744)	0.0737** (0.0355)	0.0949** (0.0470)	0.0106 (0.7010)	0.0097 (0.8062)	0.0350* (0.0781)
Born in the UK	0.0906 (0.9113)	-0.7612*** (0.0210)	0.9040* (0.0753)	-0.3373 (0.4013)	-0.2338 (0.7702)	-0.4933*** (0.0319)
Arranged marriage	0.1003*** (0.0121)	0.1030*** (0.0349)	0.1763*** (0.0003)	0.3218*** (0.0000)	0.1150*** (0.0043)	0.0491* (0.0928)
Discrimination	0.0442 (0.4436)	0.0258 (0.6175)	0.1349* (0.0591)	0.0796* (0.0655)	0.0054 (0.9270)	0.0599* (0.0647)
Children	0.0727 (0.1536)	-0.0257 (0.5903)	0.1592*** (0.0167)	0.0663* (0.0924)	-0.0099 (0.8606)	0.0211 (0.4606)
Years since arrival	-0.0148 (0.1037)	-0.0021 (0.8180)	-0.0021 (0.8345)	0.0170** (0.0202)	0.0109 (0.1930)	0.0109** (0.0459)
Years since arrival <sup>2</sup>	0.0003 (0.2201)	0.0001 (0.4728)	-0.0000 (0.8445)	-0.0004*** (0.0064)	-0.0003 (0.1877)	-0.0002 (0.0644)
British degree	-0.0221 (0.6923)	0.0709* (0.0889)	-0.0011 (0.9876)	-0.0544 (0.1011)	-0.0543 (0.3948)	0.0423 (0.1000)

TABLE 2. Continued

Variable	(1)		(2)		(3)	
	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim
	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)	Marginal effect (p-value)
British high education	-0.0089 (0.8804)	-0.0725 (0.1232)	-0.0376 (0.6373)	-0.0754* (0.0522)	0.0076 (0.9100)	-0.0317 (0.2191)
Foreign education	-0.0470 (0.3134)	-0.0448 (0.3250)	-0.0556 (0.2942)	0.0253 (0.5021)	-0.0075 (0.8689)	0.0054 (0.8461)
Employed	-0.0511 (0.3238)	-0.0373 (0.3826)	0.0832 (0.1778)	-0.0858** (0.0103)	0.0468 (0.3576)	-0.0100 (0.6654)
English spoken at home	-0.2215*** (0.0013)	-0.0505 (0.3015)	-0.0240 (0.7680)	-0.0401 (0.2689)	-0.0993 (0.1148)	0.1086*** (0.0012)
English spoken at work	0.1138** (0.0170)	-0.0166 (0.7614)	-0.0446 (0.4739)	0.1902*** (0.0000)	-0.0776 (0.1176)	-0.0397 (0.2589)
English spoken with friends	-0.0391 (0.3927)	0.0155 (0.7682)	-0.1427** (0.0101)	-0.0690 (0.1189)	-0.1507*** (0.0018)	-0.0584* (0.0868)
House owner	-0.0225 (0.6177)	0.0313 (0.4806)	0.1054** (0.0262)	-0.0315 (0.3488)	0.0233 (0.5675)	-0.0558** (0.0454)
Ward density of own ethnic group	-0.0033 (0.1116)	-0.0016 (0.4234)	-0.0017 (0.4640)	0.0044*** (0.0037)	-0.0043** (0.0237)	-0.0009 (0.4229)
Ward unemployment rate	0.0028 (0.5806)	0.0073* (0.0772)	-0.0027 (0.6349)	0.0039 (0.2133)	0.0002 (0.9710)	0.0010 (0.6877)
N. Obs.	951	1252	953	1253	948	1245

Notes: Dependent variable: (1) Importance of religion, (2) Attitude towards inter-marriage, (3) Importance of religious composition in schools. Marginal effects at the sample means; results weighted for population proportions; macro-regional dummies are included.

\*Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

### 3. Results

Table 2 here replaces Table 2 in the published paper. Because of the reduced sample sizes, we lose variance and hence statistical significance of some estimated coefficients. However, where statistically significant, the estimates confirm our previous findings. So, for instance, our proxy of income, *House owner*, is positively correlated with ethnic identity for Muslims and negatively for non-Muslims; higher levels of education seem to be associated with a lower ethnic identity only for non-Muslims; the percentage of own ethnic group residents in a ward is negatively correlated with ethnic identity for Muslims and positively for non-Muslims. With respect to the evidence on assimilation, we still observe that non-Muslims seem to be more inclined towards assimilation over time: “Time spent in the UK” does not seem to be related to ethnic identity for Muslims (the estimated coefficients of both “Years since arrival” —for first generation— and “Age” —for second generation—are never statistically significant for Muslims) and if any correlation is to be found for “Born in the UK,” it appears to be positive for Muslims rather than negative. For non-Muslims, in contrast, “Born in the UK” is negatively correlated with ethnic identity; and “Time spent in UK” seems to be related with the attenuation of identity after a large enough number of years spent in the UK (the quadratic functions both in “Years since arrival” and “Age” with statistically significant coefficient estimates are first increasing and then decreasing).

### 4. Conclusion

We apologize to the readers for the error which has invalidated the empirical analysis in our paper on *Are Muslim Immigrants Different in terms of Cultural Integration?*, published in the *Journal of European Economic Association*, 6, 445–456, 2008.

While results are substantially weaker than we thought, we believe our main conclusions stand.

### References

- Bisin, Alberto, Eleonora Patacchini, Thierry Verdier, and Yves Zenou (2008). “Are Muslim Immigrants Different in terms of Cultural Integration?” *Journal of European Economic Association*, 6, 445–456.
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