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Citation for published version

Reeves, Aaron and de Vries, Robert (2016) The social gradient in cultural consumption and the information-processing hypothesis. *The Sociological Review*, 64 (3). pp. 550-574. ISSN 0038-0261.

DOI

<https://doi.org/10.1111/1467-954X.12406>

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The social gradient in cultural consumption and the information-processing hypothesis

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Acknowledgements:

We would like to thank the editor and two anonymous reviewers for helpful comments on this paper. We are also grateful to Tak Wing Chan for helpful comments and suggestions on an earlier version of this paper.

Abstract:

Patterns of cultural consumption have a strong social gradient which is primarily driven by education, but what explains these educational differences in cultural preferences remains unclear. Explanations based on information processing capacity have gained widespread currency; the perceived cognitive ‘difficulty’ of both appreciating high culture, and of maintaining broad, omnivorous tastes. If, on average, high culture is more complex than low culture then a higher level of information processing capacity may be required to derive enjoyment from it. In contrast, socialization theories suggest that exposure to ‘high’ culture, may explain this gradient, particularly among university graduates with degrees in the Arts or Humanities. To test these two theories we use the Cultural Capital & Social Exclusion survey (n = 1,079) and estimate the association between degree type and measures of cultural preference and consumption, including: film directors, artists, and cultural participation. Compared to non-graduates, Arts, Humanities, and Social Science graduates are more likely to enjoy highbrow directors and artists, and are more likely to be cultural omnivores; while graduates from other subjects are not clearly distinct from non-graduates in their cultural preferences. These findings suggest that information processing plays a minor role in shaping the social gradient in cultural consumption.

Keywords: education; information processing; cultural consumption; inequality

Introduction

Patterns of cultural consumption have a strong social gradient. This gradient has two particularly notable features. First, people of higher socio-economic position (SEP) are more likely to consume traditionally ‘highbrow’ cultural forms, such as opera, theatre, or classical music (Bennett et al. 2009, Bourdieu 1984, Gans 1999). Second, people of higher SEP are also more likely to have broad tastes, encompassing both traditionally high- and lowbrow forms; i.e. they are more likely to be cultural ‘omnivores’ (Alderson, Junisbai and Heacock 2007, Kraaykamp et al. 2007, Peterson and Kern 1996). For example, while people of higher SEP are more likely to report liking ‘high-brow’ musical genres like Classical and Jazz, they are also more likely to report liking a wide variety of genres (including traditionally ‘lower-brow’ genres like Rock and Pop) (Chan 2010). People of lower SEP are both less likely to appreciate highbrow genres and more likely to restrict their preferences to only one or two genres (Chan 2010).

These gradients in both omnivory and appreciation of ‘high’ culture have been demonstrated using a number of measures of SEP, including social class, social status, and income (Bennett et al. 2009, Chan 2010, Guveli, Need and De Graaf 2007, Nagel and Ganzeboom 2002, Tampubolon 2010, Warde and Gayo-Cal 2009). However, these differences may be primarily driven by education (Chan 2010, Scherger and Savage 2010). Highly educated people, particularly university graduates, are substantially more likely to appreciate highbrow forms, and to be cultural omnivores (Bennett et al. 2009, Chan and Goldthorpe 2007a, Chan and Goldthorpe 2005, Chan 2010). The primary question for the present paper is what explains these educational differences in cultural preferences.

In the past, there are likely to have been substantial economic barriers to accessing highbrow culture. Before our age of mass transportation and almost universal literacy, and the more recent advent of the internet, those with lower levels of education (and also, therefore, likely fewer economic resources) might find it difficult to access highbrow art or literature. These barriers to highbrow culture are largely gone in the UK, and yet educational differences remain.

One particular explanation of the persistence of educational differences has gained widespread currency (Ganzeboom 1982). This explanation depends on the perceived cognitive ‘difficulty’ of both appreciating high culture, and of maintaining broad omnivorous tastes. If, on average, high culture (e.g. Classical music) is more complex and nuanced than low culture (e.g. Pop music) – i.e. if it has greater ‘information content’ (Chan and Goldthorpe 2007b) – then a higher level of information processing capacity may be required to derive enjoyment from it (Chan and Goldthorpe 2007b). Where economic barriers to accessing highbrow culture may have receded, information processing capacity may remain as an important obstacle. - while finding recordings of Schoenberg is now relatively easy, the music is not necessarily easier to understand and appreciate.

By this view, education both ‘trains and signals the individual intellectual ability to process complex information’ (Torche 2007). Education, alongside other factors like parental influence, can increase information processing capacity. However, educational attainment is also a selection mechanism by which those with greater information processing capacity are selected (or self-select) into receiving greater training of some variety. In other words, education serves to both improve a person’s information processing capacity and serves as a proxy for underlying intellectual ability (Chan 2010).

This explains how educational attainment may correspond to information processing abilities, but it does not explain why people with these abilities are more drawn to highbrow culture. One simple explanation is that those with greater information-processing capacity simply enjoy highbrow culture more. The psychology of aesthetic enjoyment has long argued that one's enjoyment of a work of art is at least partially determined by one's capacity to interpret it (Berlyne 1974). This is consistent with studies showing that interpretation and enjoyment are closely linked in reward related areas of the brain (Silvia 2013) and that, when works of art are too complex, enjoyment declines (Ganzeboom 1982). Further studies have shown that educational attainment, as a proxy for information-processing, increases the likelihood of enjoying complex art (McManus and Furnham 2006, van Eijck 1997). Those with high information processing capacity consume more highbrow culture because they have a greater capacity to interpret, and therefore enjoy, complex or high-information cultural products (Chatterjee 2011).

More recently, this association between interpretative capacity, enjoyment, and information-processing has been applied to the omnivorous disposition. One reading of the information processing argument suggests that cultural products with low information content or low complexity will be under-stimulating and therefore unattractive to those with high information processing capacity (van Eijck 1997). By this view, those with better information processing abilities should not necessarily be cultural omnivores – they should reject lowbrow culture rather than embracing it. Yet, there is strong empirical evidence that education (used as a proxy for high information processing) is highly correlated with being an omnivore (Chan 2010). Consequently, other researchers have suggested that a greater information processing capacity may actually be required to support the 'intense and wide-ranging omnivore [consumption] style' (Torche 2007). This view would suggest that greater information processing capacity is behind both highly educated people's greater consumption of 'high' culture and their greater tendency to be cultural omnivores.

If differences in information processing capacity are the main explanation for the educational gradient in cultural consumption, a natural consequence is that people with the same information processing abilities should share similar patterns of consumption, regardless of other factors.

And yet there are reasons to be cautious of this strong version of the information processing hypothesis. First, the assumption that highbrow cultural products are consistently more complex than lowbrow products has not been definitively tested. Complexity in music is often measured using indicators such as instrument variety or the presence of simultaneous musical lines (Bueno 2004). However, such distinctions cannot be applied as easily to other cultural forms. A second reason for being cautious is that there may be differences in specific cultural resources even between people with similar general information processing abilities. For example, university graduates from different fields of study (which presumably require broadly similar levels of information processing capacity) may be endowed with different cultural resources (van de Werfhorst and Kraaykamp 2001). This may result from direct training – e.g. Silvia (Silvia 2010, Silvia 2013) showed that art training increased the interest people showed in a work of art – or from a process of socialisation. People on, for example, Arts and Humanities programmes might be more exposed to instructors or peers with broad cultural interests, and with interests in 'high' culture (McManus and Furnham 2006, Silvia and Berg 2011). By this view, educational attainment does not reflect differences in information processing capacity (at least as regards cultural consumption), but instead specific exposure to wide varieties of cultural forms, and to 'high' culture.

In the present study we examine the predictions of the information processing hypothesis using data from a highly detailed survey of educational attainment and cultural consumption; the Cultural Consumption and Social Exclusion survey (CCSE) (Silva 2005). In particular we examine differences in cultural consumption patterns between university graduates from different types of degree programme (e.g. Arts and Humanities vs. Sciences) and compare them with a group of non-graduates.

If the educational gradient in cultural consumption is principally driven by differences in information processing capacity, assuming that different types of degree programme require broadly similar information processing abilities, we should see a similar gradient in consumption patterns across all degree types. In other words, both Science and Arts/Humanities graduates should be equally more likely than non-graduates a) to enjoy high-culture, and b) to be cultural omnivores. Alternatively, if the gradient is primarily driven by specific training and exposure to cultural forms, we would expect the gradient to differ by degree type. Particularly, we would expect it to be stronger for Arts/Humanities and Social sciences graduates (van de Werfhorst and Kraaykamp 2001). Previous research has relied on relatively crude measures of educational attainment; distinguishing only between university graduates and non-graduates (Bennett et al. 2009, van de Werfhorst and Kraaykamp 2001). The information processing hypothesis has therefore not previously been tested in this level of detail.

Data and Method

The Cultural Capital and Social Exclusion (CCSE) project was a mixed-methods study, including a nationally representative random survey, intended to explore the relationship between cultural capital and SEP (Bennett et al. 2009). This national survey, including an ethnic boost for Indian, Pakistani, and Afro-Caribbean populations, collected data on a range of cultural preferences and consumption practices between November 2003 and March 2004 (n = 1,564) (Silva 2005). The cross-sectional sample was a stratified, clustered random sample, designed to be representative of adults (aged 18+) living in private households in England, Wales and Scotland. It was drawn from the small users Postcode Address File (PAF) (Bennett 2006). The response rate was 53% for the original sample and 43% for the ethnic boost. The survey has been used in a variety of other publications (Bennett et al. 2009, Savage, Silva and Warde 2010, Warde, Wright and Gayo-Cal 2008, Warde and Gayo-Cal 2009).

The analytic sample includes only those people who were aged 22 and over to focus on those most likely to have finished their university degree. To make the graduate and non-graduate group more comparable, we further restricted our analysis to those with 5 GCSEs A*-C or an equivalent qualification (n = 1,079). Attainment of 5A*-C grades at GCSE is a benchmark which strongly predicts further participation in education. Those not attaining this level of education are likely to differ strongly from graduates on a number of dimensions separate from education. Therefore by confining our non-graduate comparison group to those achieving this benchmark we are able to more accurately estimate the effect on cultural consumption of receiving a degree in a particular subject area. This is a similar approach to that used by economists who want to examine the influence of receiving a degree on earnings. They frequently compare those with 2 or more 'A Levels' (i.e., those who could have conceivably gone on to university but did not) with those who gained an undergraduate degree. While this specific comparison was not possible here we have used a similar method.

Measures of cultural access, preference and participation

The various measures of cultural consumption are split into three domains: film directors, visual artists, and cultural participation.

Regarding directors, respondents were asked whether they had heard of a named director, e.g., Steven Spielberg (No = 0, Yes = 1), and, if they had, whether they would make a point of seeing one of their films (No=0, Yes=1). This allowed us to measure both access to particular directors (whether a respondent has heard of them) and preference (whether they liked a director enough to make a point of watching one of their films). Respondents were asked about the following directors: Stephen Spielberg, Pedro Almodovar, Alfred Hitchcock, Ingmar Bergman, Jane Campion, and Mani Rathnam. This list includes both ‘highbrow’ ‘arthouse’ directors (Almodovar, Bergman, and Campion), ‘popular’ directors (Spielberg and Hitchcock) and a director that might be more popular among some ethnic groups (Rathnam).

For artists, respondents were asked whether they had heard of them and, if so, whether they had liked their paintings or not. Again, the first component of the question captures access. The second component measures preference, but consumption, to some extent, is also implied. While the problems with collapsing the distinction between preferences and consumption are well known, the survey questions were asked in such a way as to make drawing clear distinctions difficult (Chan and Goldthorpe 2007b). Respondents were asked about the following artists: Vincent Van Gogh, Pablo Picasso, Frida Kahlo, JMW Turner, Tracy Emin, Andy Warhol, and LS Lowry. The distinction between highbrow and popular artists is less clear-cut than in the case of directors. However, one may consider less popularly known artists such as Kahlo and Emin to be relatively more ‘highbrow’ than, for example, Picasso or Van Gogh.

The measures of cultural participation indicate whether respondents participated in the following activities more than once per year (Yes = 1, No = 0): Cinema, Museum, Rock concert, Opera, Orchestral concert, Stately Home, Bingo, Theatre, Art gallery, Nightclub, or Musicals. No specific measures of preference were available for these activities. However, as these are activities which require some degree of effort (as opposed to, for example, casually stating a preference for opera), we can assume that participation and preference are highly correlated.

Independent variables

The predictor of interest is degree type. CCSE data includes measures of the following degree types: 1. Arts, Languages, and Humanities, 2. Business, Accounting, and Law, 3. Education and Teaching, 4. Engineering and Computing, 5. Medicine and Nursing, 6. Sciences and Mathematics, and 7. Social sciences. Because these categories involve small numbers we collapsed them into three domains: 1. Humanities (Social Sciences & Arts, Languages, and Humanities), 2. Sciences (Sciences, Mathematics, Engineering and Computing), and 3. Professional (Business, Accounting, Law, Education, Teaching, Medicine and Nursing). Previous research has examined the extent to which particular degree schemes transmit cultural resources to their students (de Werfhorst and Hofstede 2007, Guveli, Need and De Graaf 2007, van de Werfhorst and Kraaykamp 2001). Our categorization therefore reflects the orientation of the courses, their association (in previous research) with the indicators of cultural preference and participation, and the extent to which each scheme is likely to offer direct training in particular cultural forms. Our models also include a group of graduates who have not reported their degree scheme. We label this group NR (not reported) and do not

discuss them at length because using them to assess the information-processing hypothesis is difficult without further information about their degree type.

There are, of course, any number of ways in which these degree programmes could be categorised. However, we believe our classification offers the most homogeneity within categories with respect to characteristics relevant to cultural participation. One problematic degree type may be education. Education is not included in the Arts and Humanities group because our measure only includes university courses and not post-graduate schemes like the PGCE. Many teachers move into education – as a profession – from other degree schemes, such as the Humanities and Social sciences, where cultural resources are transmitted to them. So while teachers as a profession may be more likely to be culturally active, we argue that, in the UK, it is not clear how cultural resources would be transmitted to those studying education in the abstract. More details of all the variables are available in table 1.

[Table 1 here]

Statistical analysis

In the first stage of our analysis, we used separate multivariate logistic regression models to examine the association between degree type and each specific cultural item (Spielberg, Van Gogh, visiting museums, etc). For film directors and visual artists, we estimated separate models for access and preference. For cultural activities (e.g. visiting museums), we estimated models for participation in each activity.

Degree type was entered into these models as a categorical variable, with non-graduates (GCSE or higher) as the reference category. If information processing capacity is the primary driver of the educational gradient in consumption, we would predict a similar ‘advantage’ in access to and preference for ‘highbrow’ directors and artists, and in participation in ‘highbrow’ activities, for graduates of all degree types. All models were adjusted for age, gender, and university type. If cultural participation patterns are determined to a greater extent by a process of acculturation, then we would expect to see strong variation in ‘highbrow advantage’ between degree types. Particularly, we would expect to see the most pronounced advantage for Humanities graduates.

In the second stage of our analysis we tested the association between degree type and the likelihood of being a cultural omnivore using one-step latent class regression models (Vermunt 2010, Yamaguchi 2000). With a relatively limited sample size (as we have here), the one-step approach has more reliable standard errors than the three-step approach. Latent class analysis (LCA) posits that an unobserved (latent) categorical variable explains responses among a set of observed (manifest) variables. LCA, therefore, studies the responses among the observed variables to determine the structure of the latent variable. Here, we hypothesized that latent types of cultural participation determine the observed patterns of cultural participation. The object of LCA is to explain the co-variation observed among the manifest variables through membership in the latent variable (McCutcheon 2002). Because it allows these latent patterns to come to the fore, LCA is an excellent tool for capturing and testing assumptions regarding patterns of cultural engagement (Chan and Goldthorpe 2007b, Van Rees, Vermunt and Verboord 1999). Nine cultural participation variables are included in our latent class model as manifest variables: Cinema, Museum, Rock concert, Opera, Orchestral concert, Stately Home, Bingo, Theatre, Art gallery. As covariates we include degree type, age, gender, university type, and social status. All models were estimated using CRAN R v6 2.15.2 using poLCA package (Linzer and Lewis 2011).

Socio-demographic variables such as age and gender were included in all models. We also adjusted for university type. Information-processing may be correlated with attending an elite university (Wai 2013). We defined elite universities as members of the Russell group (Silva 2005). Following Chan & Goldthorpe we included a measure of social status in the latent class analysis regression models (Chan 2010).

Results

Directors

Table 2 shows the relationship between degree type and the likelihood of having heard of each film director. Humanities graduates were significantly more likely than non-graduates to have heard of Almodovar, Bergman, Campion, and Rathnam. Sciences graduates were more likely than non-graduates to have heard of Almodovar and Campion while NR graduates were more likely to have heard of Bergman and Campion. Contrastingly, recipients of a professional degree were neither more nor less likely to have heard of any of these directors than non-graduates. The only exception was Hitchcock. Professional graduates were less likely than non-graduates to have heard of Hitchcock. Humanities graduates were the most differentiated from non-graduates and professional graduates the least differentiated.

[Table 2 near here]

Given that respondents have heard of these directors, what is the likelihood that they would make a point of watching one of their films (Table 3)? Humanities graduates were the only group to express a positive preference for any of these directors (i.e., Campion). Science, Professional and NR graduates are indistinguishable from non-graduates in this regard. The only exception is Spielberg where Humanities, Professional and NR graduates all expressed a slight negative preference relative to non-graduates. Again, Humanities graduates are the most differentiated from non-graduates.

[Table 3 near here]

Artists

Table 4 shows the association between degree type and the likelihood of having heard of each visual artist. Recipients of a Humanities degree were more likely than non-graduates to have heard of Kahlo, Turner and Emin. Sciences graduates were more likely to have heard of Kahlo and Emin, while NR Graduates were more likely to have heard of Turner and Emin. Graduates from Professional degrees were very similar to non-graduates but were more likely to have heard of Turner than non-graduates. Humanities graduates are the most differentiated and again professional graduates are the least differentiated from non-graduates.

[Table 4 near here]

Given that respondents have heard of these artists, what is the likelihood that they like their work (Table 5)? Humanities graduates were more likely than non-graduates to say that they enjoyed Van Gogh, Picasso, Kahlo, Emin, and Warhol. Science graduates only differed from non-graduates in their increased preference for Emin and Warhol. NR graduates were more likely to enjoy Van Gogh, Picasso, Kahlo, and Turner. Professional graduates again were very similar to non-graduates except for slightly stronger preference for Picasso. Professional and science graduates were the least differentiated from non-graduates and Humanities graduates were the most differentiated.

[Table 5 near here]

Cultural participation

Similar to the results above, table 6 shows the relationships between degree type and the likelihood respondents participate at least yearly in each specific activity. Humanities graduates are more likely than non-graduates to visit: cinemas, museums, rock concerts, the opera, stately homes, the theatre, and art galleries. Science graduates are more likely than non-graduates to visit the cinema, museums, stately homes, and art galleries. Professional graduates are only more likely than non-graduates to have visited museums, the opera, stately homes, the theatre and art galleries. NR graduates are more likely than non-graduates to have visited the cinema, museums, the opera, orchestral concerts, stately homes, the theatre, and art galleries. In general, humanities are, again, the most differentiated from non-graduates while science and professional graduates are the least.

These results suggest that the probability of being involved in a range of cultural participation activities is most positively correlated with graduating with a Humanities degree but there is still an association with those who possess a science or professional degree¹.

[Table 6 near here]

Omnivores and degree type

Table 6 suggests that Humanities graduates may be more likely to participate in a range of cultural participation activities. However, it is not clear whether those Humanities graduates who go to the opera are also those who go to the cinema. Omnivores usually participate in a range of cultural activities, including high-, middle-, and lowbrow activities. Does the likelihood of being an omnivore differ by degree type?

To test this hypothesis we used one-step latent class regression analysis to estimate the likelihood of being an omnivore. In table 7 we report the goodness-of-fit statistics for our latent class model. The 4-class model is a good fit for the data ($\chi^2(220) 252.33$, $p = 0.47$). Although the 5-class model represents a significant improvement ($\chi^2(9) 78.98$, $p < 0.01$) it only accounts for an additional ~5% (86.21% - 81.44%) of the variance between these nine cultural participation variables. Further, the BIC for the 5-class model is slightly higher than the 4-class model suggesting that the 4-class model is the most parsimonious.

[Table 7 near here]

Figure 1 plots the probability of participating in each activity more than once per year for each latent class. The None cluster have very low probabilities of being actively engaged in all of these activities. The Cinema cluster, the largest latent class, have low probabilities of participating in any of these activities except for the Cinema. Highbrow omnivores have high probabilities of participating in almost all of the activities except Rock concerts. Lowbrow omnivores also have high probabilities of participating in almost all of these activities except Opera and Orchestral concerts. A generation divide partially explains the differences in musical tastes as those in the highbrow omnivore category have a higher average age than the lowbrow omnivores, as suggested in previous research (Bennett et al. 2009).

¹ The exception in this case is Bingo. All graduates were less likely than non-graduates to participate in Bingo. It is possible that participation in Bingo is a marker of low social position.

[Figure 1]

Adjusting for age, gender, social status, university type, and degree type we estimated the odds of being a member of the omnivore latent classes using the None cluster as the baseline. Results for the contrast between the Cinema and None cluster are not reported here because the degree categories were not significant at the $\alpha = 0.05$ level. Science, professional and NR graduates are not more likely than non-graduates to be members of either omnivore class. By contrast, Humanities students are 6 times more likely than non-graduates to be Lowbrow Omnivores, and 4.5 times more likely to be Highbrow Omnivores than non-graduates (Table 8).

[Table 8 near here]

To compare the effect of degree type against social status we plot the probability of being a Lowbrow Omnivore (Figure 2) and a Highbrow Omnivore (Figure 3) given their degree type at each level of social status. The impact of social status is far more important for Highbrow Omnivores than Young Omnivores but, in general, we can see that Humanities graduates are more likely to be cultural omnivores at all levels of social status.

[Figures 2 & 3 near here]

Taken together, graduates from humanities degrees are consistently the graduates who are most different from non-graduates. Humanities graduates are different from non-graduates on approximately twice as many of the artist and film indicators than science or NR graduates. Moreover, while humanities graduates are different from non-graduates on 16 of these artist and film indicators, graduates from professional degrees are only different from non-graduates on 3 of these same indicators. Additionally, there is strong evidence that only humanities graduates are more likely to be omnivores compared with non-graduates.

Robustness check

Although one-step latent class models produce more reliable standard errors, including too many covariates in one-step latent class regression analysis can lead to instability in the model estimates. This is a potential challenge because residual confounding in the one-step model due to omitted variables remains plausible. To address this possible weakness we also estimated our models using the three-step approach used by Chan & Goldthorpe and others (see Web Appendix 1) (Chan and Goldthorpe 2007b, Magidson and Vermunt 2004, Vermunt 2010). This approach gives results which are consistent with our original findings. In fact, the association between Humanities graduates and being an omnivore is even greater in this three-step approach.

The impact of degree type on cultural participation may also be confounded by family background. Parental education is correlated with information processing and cultural socialization, but is an imperfect measure of both (Ganzeboom 1982, van Eijck 1997). Parental education is also associated degree scheme selection (Bourdieu 1984, Sullivan 2007, Zimdars, Sullivan and Heath 2009). However, while adjusting these models for parental education may control for the influence of parents on cultural preferences and course selection it will also attenuate the effect of education as a proxy for information processing. Given this ambiguity in parental education, we anticipate that educational attainment should

remain a better proxy for information-processing than parental education and that we should therefore see broadly consistent results. After adjusting for Father's education we find, as expected, that the effect of degree type is attenuated slightly for Humanities graduates but our findings do not qualitatively change (see Web Appendix 2).

Following Silva (2006), we also classify Kahlo and Emin together, opposing Picasso and Van Gogh. We find the strongest divergence between Humanities graduates and non-graduates (Web Appendix 3). Similar to Table 3, our results suggest university students of all kinds are more likely than non-graduates to have heard of Kahlo and Emin but they are not necessarily more likely to enjoy their work. The association between enjoying Kahlo and Emin among both Humanities and Science graduates is also consistent with the results in Table 4.

Discussion

Educational attainment is one of the major determinants of cultural taste (Goldberg 2011, Kaufman and Gabler 2004, Lareau and Weininger 2003, Reeves 2014, Zimdars, Sullivan and Heath 2009). Graduates are far more likely than non-graduates to 1) express preferences for highbrow and lowbrow culture (Tampubolon 2010), 2) consume highbrow culture (Tampubolon 2008), and 3) to be cultural omnivores (Chan 2010). Because much of this research is based on secondary analysis of survey data and frequently uses general measures of educational attainment, e.g., highest qualification attained, it fails to resolve whether information-processing or another mechanism associated with educational attainment is driving this association (de Werfhorst and Hofstede 2007, Guveli, Need and De Graaf 2007). Some studies have examined whether educational attainment reflects information-processing (and a consequent increased ability to appreciate more complex art, and to support wide-ranging cultural tastes) or whether education reflects direct training or exposure to culture. Yet, such studies are few, located mostly in the Netherlands, which may not apply to the UK and therefore limiting geographical generalizability (Ganzeboom 1982, Guveli, Need and De Graaf 2007), and use relatively crude measures of cultural taste or participation, e.g., 'how often do you attend a movie, play or concert?' (Notten et al. 2013). By disaggregating graduates by their degree scheme, this data provides more finely grained proxies for the educational experience of obtaining a degree (de Werfhorst and Hofstede 2007). Importantly, with the 'Cultural Capital and Social Exclusion' survey we can observe the association between different degree schemes and a range of cultural taste and cultural participation indicators.

Highbrow cultural taste

Our findings do not offer strong support for the information processing hypothesis. While differences in cultural preference between graduates and non-graduates remain, we also show that there are consistent differences in cultural preferences within university graduates depending on their degree scheme. In terms of both knowledge and appreciation of highbrow film directors and artists (e.g. Almodovar or Kahlo), we found that Humanities graduates were consistently more likely than non-graduates to be aware of and enjoy highbrow forms (directors and artists). While there are some measures where science, professional and NR graduates are distinguishable from non-graduates (differences that would be anticipated when testing so many indicators) there is no consistent pattern across these three domains of cultural taste and consumption. In many instances graduates from Science and Professional programmes were indistinguishable from non-graduates in their enjoyment of highbrow artists and directors. The same is broadly true of the NR graduates as well.

Of course, these results do not falsify the information processing hypothesis. It is likely that both information processing and acculturation play a role in explaining the educational gradient in cultural consumption, and we are not able to conclusively test their relative contributions with the available data. However, our results are inconsistent with the contention that information processing capacity is a strong or primary determinant of differences in highbrow cultural consumption. If information processing differences played a primary and acculturation a secondary role, we would expect to see a strong, consistent, 'highbrow advantage' for all graduates, with a smaller differentiation by degree type.

For our findings to be consistent with a primary role for information processing, we would need to assume that humanities graduates have, on average, better information processing abilities than graduates from Science and Professional programmes. Moreover, graduates from the Professional programmes would, on average, have information processing capacities that are more similar to non-graduates than to humanities graduates. Cross-national measures of information processing, such as literacy and numeracy, indicate that non-graduates tend to have lower information processing capacity than graduates (PISA).

One possible exception to these results is found in the measures of cultural participation. There is some evidence that science and professional graduates have slightly different cultural participation patterns from non-graduates. Yet, even here, humanities graduates are more likely to participate in a wider range of activities and are differentiated from non-graduates to a greater extent. In short, while these findings do not preclude a potential role for information processing in shaping the social gradient in cultural consumption, they do suggest that this role is likely to be relatively minor.

Information processing and omnivory

Our results broadly replicate existing findings showing the omnivore/inactive (i.e., None) distinction. We observe both omnivores and univores (the 'Cinema' cluster) but also find a distinction between 'lowbrow' and 'highbrow' omnivores, who are distinguished by whether they consume Rock concerts or Orchestral music.

Only Humanities graduates were consistently more likely to be both kinds of omnivore in the one-step and the three-step models. In contrast, graduates from professional and science degree schemes, along with NR graduates, were indistinguishable from non-graduates in both the one-step and three-step models. If omnivorous participation were primarily driven by increased capacity for information processing, all graduates should be more likely than non-graduates to be cultural omnivores. Our findings are not consistent with this expectation. Again, unless professional and science graduates are assumed to have, on average, the same level of information-processing as non-graduates then these results are inconsistent with the information-processing hypothesis.

Taken together, our findings indicate that part of the educational gradient in cultural participation is somewhat driven by Humanities graduates, and is therefore unlikely to be primarily explained by differences in information processing. Currently, arts, humanities, and social science students account for approximately 28% of the undergraduate population and it is these students who are most likely to become cultural omnivores, and to engage in highbrow participation (HESA 2014). Our findings suggest that the ~34% of undergraduates

who are in professional degrees are no more likely than non-graduates to be omnivores, or to have highbrow tastes.

Acculturation or selection?

If educational differences are not primarily explained by information processing then what does explain why professional graduates have comparable cultural/arts interests to those without a university degree? Or, alternatively, why humanities graduates have different cultural/arts interests from those without a university degree? Broadly, there are two potential explanations for why Arts, Humanities, and Social Science graduates are more likely to enjoy highbrow art, and to be cultural omnivores. The first is one of the hypotheses we put forward in the introduction; i.e. acculturation, which may consist of both socialisation and direct training. It is clear that particularly Arts and Humanities students are more likely than those in professional or science degrees to receive direct training in particular cultural forms (e.g. English students reading 'highbrow' literature for assignments). However, this training is likely to be heavily domain specific, and its extent will vary dramatically between courses. Social Science students, for example (who comprise 9.5% of the current undergraduate population), are unlikely to receive much direct training in any given cultural form. Nonetheless, absent direct training, Social sciences, along with subjects like philosophy and the Arts can increase the capacity to interpret and enjoy various cultural forms because these capacities are more explicitly valued in these programmes (de Werfhorst and Hofstede 2007). Students pursuing these programmes are also therefore more likely to be exposed to peers and lecturers who have an active interest in culture and the arts.

Of course, acculturation does not explain why these individuals become more likely to enjoy highbrow forms of art. Humanities courses may reward cultural competence to a far greater extent than professional courses, thereby motivating students to become more proficient. This may be explicit in Arts-related degrees but it is less clear how it might influence success in Social science degrees. Instead, by valuing highbrow culture and the arts the Humanities may establish a normative expectation that privileges elite tastes, an expectation that is not felt by those entering professional degree schemes. Recent evidence within one elite university in England suggests cultural tastes (specifically musical) function as a 'system of distinction' by facilitating the development of strong ties through shared non-consumption along with shared consumption (Edelmann and Vaisey 2014). The implication is that where highbrow preferences are normative, fitting in might require the development of such highbrow tastes. Professional degrees (compared with Humanities), for example, may not offer direct training in particular cultural forms nor provide a normative expectation that such tastes are highly valued, a norm that shapes social networks. In short, Professional graduates may not become more likely than non-graduates to develop such tastes.

A second, potential complementary explanation is that these differing preferences are driven by a process of selection. People who choose to pursue and then complete courses in the Humanities, Arts, and Social Sciences are more likely to have a pre-existing interest in the arts, likely somewhat derived from parental influence (Sullivan 2001, Sullivan 2007). Parents increase the knowledge of highbrow culture among their children and also increase the likelihood of omnivory. Selection may also occur at the point of admission to university. Elite universities and arts-focused degree schemes are more likely to admit students who have greater cultural knowledge, thereby increasing the likelihood that Arts (and potentially Humanities) graduates will be arts participants later in life (Zimdars, Sullivan and Heath 2009).

These selection effects are supported by our analysis. Our results show that accounting for parental educational attainment (not by degree type) and university type (e.g., Russell group or not) attenuates the difference between Humanities graduates and the other groups. However, it does not eliminate the association, suggesting that this selection effect does not entirely explain our findings. Additionally, we also find that Humanities graduates are more likely to have parents with university degrees than Science or Professional graduates (see Web Appendix 4). What explains why individuals from more privileged backgrounds are more likely to pursue Humanities degrees than those from less privileged backgrounds? From a Bourdieusian (Bourdieu 1984) perspective, elite tastes are, in part, the product of material advantage because the absence of material (e.g., financial) concerns facilitates the cultivation of elite tastes. This advantage is manifest in preferences for degree schemes that are abstracted from specific career goals (for example, a preference for studying English literature over engineering or accounting). Using admissions data from the University of Oxford between 2011 and 2013 we find that 39% of applications to ‘Arts’ degrees were from state schools while 47% of applications to ‘Science’ degrees were from state schools. Examining specific programmes, 45% of applications to study Medicine were from state schools while only 24% of applications to study Classics were from state schools. While drawing strong conclusions from such data is difficult, there is some evidence that, even at an ‘elite’ university, children from less privileged backgrounds are less likely to select Arts degrees compared with science degrees (University of Oxford 2013).

Conclusion

Compared to non-graduates, Arts, Humanities, and Social Science students are more likely to enjoy highbrow directors and artists, and are more likely to be cultural omnivores; while graduates from other subjects are not clearly or consistently distinguishable from non-graduates in their cultural preferences. These findings are inconsistent with a strong interpretation of the information processing hypothesis. This does not completely eliminate the possibility that information processing abilities have some influence on cultural participation patterns (e.g. by increasing the ability to enjoy complex or subtle forms of art). Indeed, previous research suggests that information processing likely plays some role. However, these results do suggest that information processing abilities may not be the main driver of cultural preferences, or of the educational gradient in cultural participation.

Our study has some limitations which should be noted. First, due to a limited sample size in each particular degree scheme (e.g. Arts) the majority of this analysis has relied on combining different schemes together. It is therefore potentially possible that our results are strongly driven by our particular categorisation choices (e.g. choosing to classify Social Science together with Arts and Humanities). However, disaggregating these categories yields results largely consistent with our original models.

A second limitation is that, due to our methodology (dictated by the nature of the data) we were unable to directly test the independent effects of information processing and acculturation on cultural preferences. We were therefore unable to directly estimate the proportion the social gradient in cultural participation which is explained by acculturation as opposed to information processing. However, our results consistently show that the cultural participation patterns of some graduates are broadly similar to those of non-graduates, whereas other graduates show the expected pattern of increased highbrow and omnivorous

participation. This suggests that whatever the effect of information processing, it is likely smaller than the effect of other factors.

A third limitation is that our data has not allowed us to test whether there are differences in information-processing capacity across those who graduate from humanities, sciences, and professional degrees. It is possible that differences across these groups may partially explain our findings.

The final limitation is that, due to the cross-sectional nature of the data, we were unable to account for the role of selection in explaining our results. Future research will need to examine this issue more closely.

Future research may build on these findings by attempting to distinguish between the likely complementary mechanisms driving patterns of cultural participation. To what extent are these patterns driven by direct training, socialisation, or selection? To what extent are cultural and degree preferences shaped by parental influence? For example, disaggregating the impact of parents from information processing could be tested using a longitudinal youth survey. Child development studies suggest information processing would conceivably increase for all children across the teenage years and so this increase could be used to examine changing cultural tastes given different family backgrounds. More work is also needed to understand how these results relate to the social gradient in cultural participation. For example, omnivory is more likely among those with higher incomes, but Humanities graduates tend to have lower incomes than those who graduated from professional degrees.

Education as a predictor of cultural preferences and participation has often been treated as a black-box. While it is clearly a strong predictor of patterns of cultural engagement, very little has been done to understand how having a degree exerts such a large influence on cultural engagement. These results move this debate forward by trying to disaggregate the effect of different types of university degree on cultural preferences and cultural participation. We find that information processing alone is unlikely to explain educational differences in cultural participation patterns. Instead these differences are likely to reflect both selection effects and a process of acculturation, with the university experience reflecting an immersion in a particular cultural world, where students become familiar with certain modes of cultural expression and interpretation.

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Figures and Tables

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Figure 2: Predicted probabilities of being a lowbrow omnivore concert participant given degree type and social status

Figure 3: Predicted probabilities of being a highbrow omnivore given degree type and social status

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Table 7: Goodness-of-fit for latent class models

Table 8: Association (Odds Ratios) between degree-type and odds of being in the Lowbrow Omnivore or Highbrow Omnivore vs. the None category

Figure 1: Conditional probabilities of cultural participation for each latent class

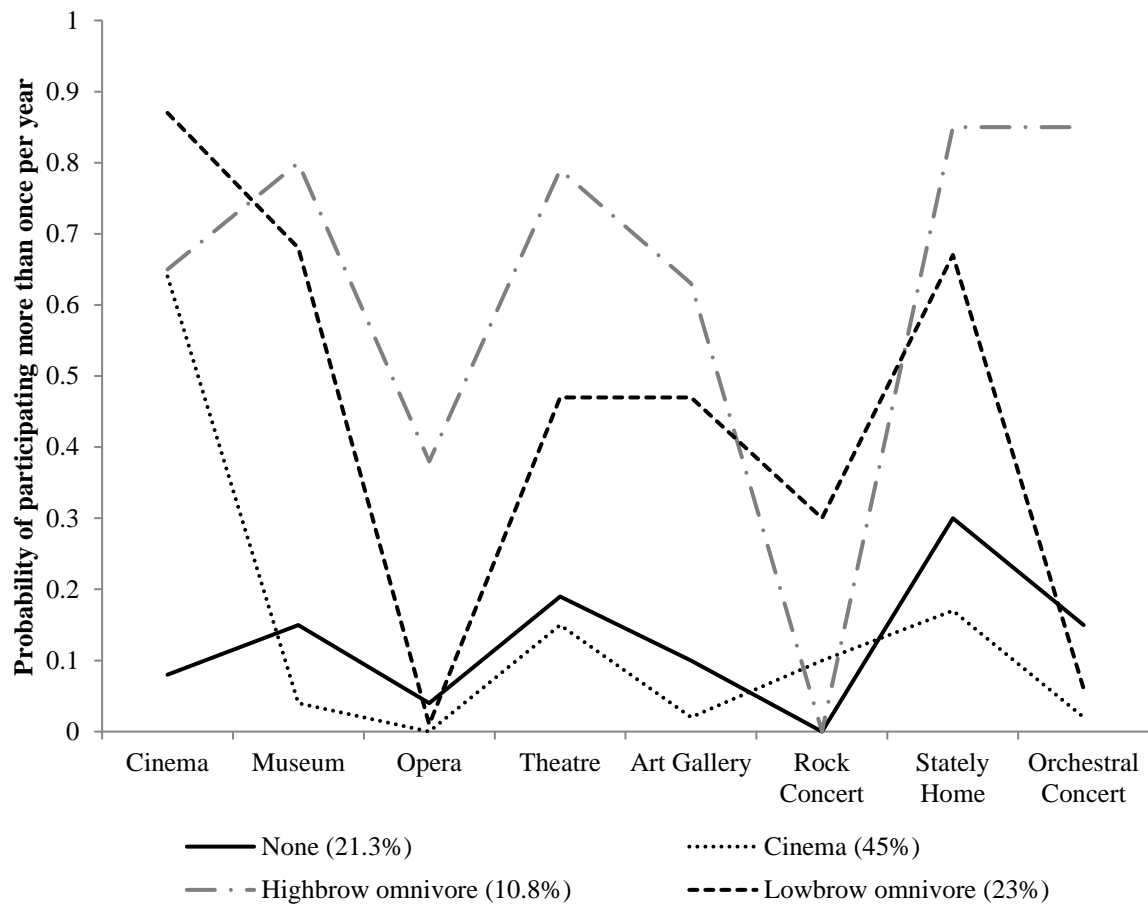


Figure 2: Predicted probabilities of being a lowbrow omnivore concert participant given degree type and social status

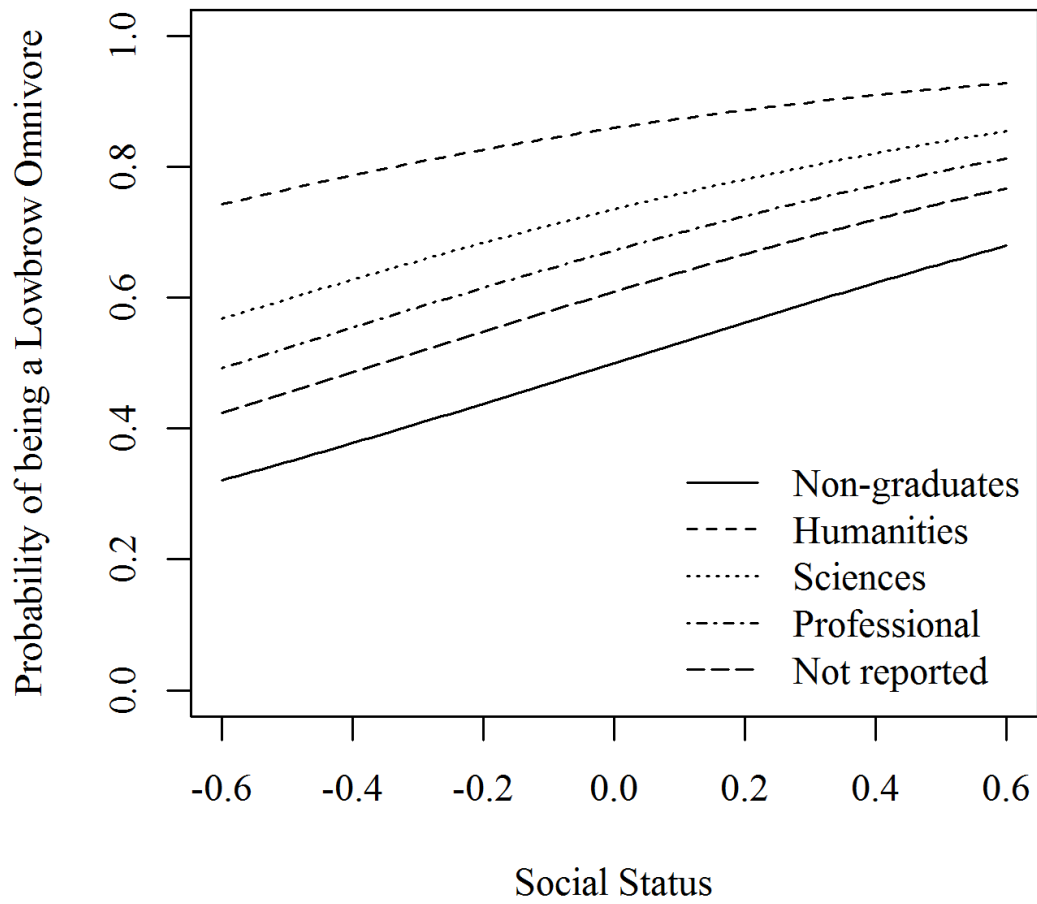


Figure 3: Predicted probabilities of being a highbrow omnivore given degree type and social status

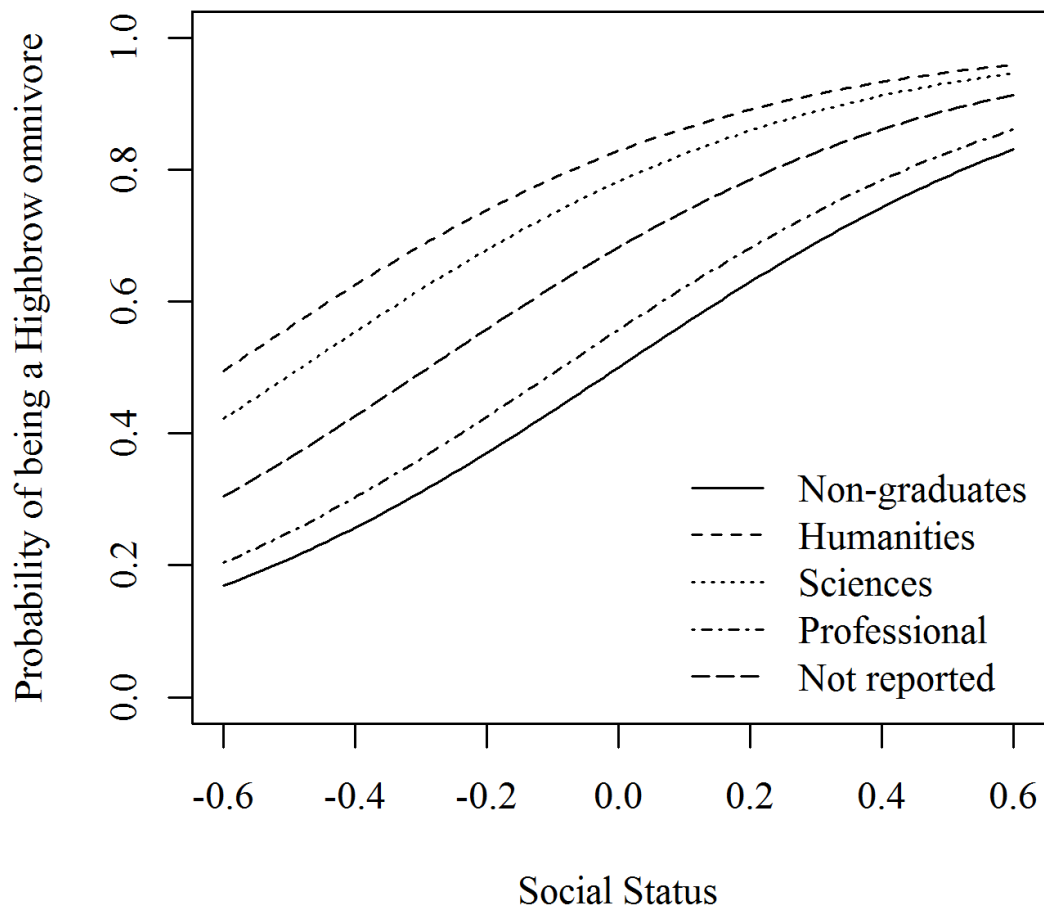


Table 1: Descriptive statistics

Variable	Obs	Mean	SD	Min	Max
Age	1005	45.76	15.50	22	95
Sex = Female	1005	0.556	0.497	0	1
Education = 5 A*-C GCSEs	1005	0.653	0.476	0	1
Education = Humanities degree	1005	0.076	0.265	0	1
Education = Sciences degree	1005	0.068	0.251	0	1
Education = Professional degree	1005	0.058	0.233	0	1
Education = Degree not reported	1005	0.146	0.354	0	1
University = Russell group	1005	0.164	0.371	0	1
Father = graduate	997	0.204	0.403	0	1
Social status	1005	0.046	0.357	-0.59791	0.564341
Directors					
Heard of = Spielberg	1004	0.978	0.146	0	1
Heard of = Hitchcock	1005	0.976	0.153	0	1
Heard of = Almodovar	1004	0.101	0.301	0	1
Heard of = Bergman	1000	0.635	0.482	0	1
Heard of = Campion	1003	0.192	0.394	0	1
Heard of = Rathnam	1003	0.055	0.228	0	1
Would watch = Spielberg	982	0.441	0.497	0	1
Would watch = Hitchcock	981	0.319	0.466	0	1
Would watch = Almodovar	101	0.327	0.471	0	1
Would watch = Bergman	635	0.101	0.301	0	1
Would watch = Campion	193	0.145	0.353	0	1
Would watch = Rathnam	55	0.145	0.356	0	1
Artists					
Heard of = Van Gogh	1001	0.976	0.153	0	1
Heard of = Picasso	1001	0.967	0.179	0	1
Heard of = Kahlo	1005	0.121	0.327	0	1
Heard of = Turner	1002	0.787	0.409	0	1
Heard of = Emin	1004	0.342	0.474	0	1
Heard of = Warhol	1003	0.807	0.395	0	1
Heard of = Lowry	1004	0.829	0.377	0	1
Seen and liked = Van Gogh	977	0.772	0.420	0	1
Seen and liked = Picasso	968	0.575	0.495	0	1
Seen and liked = Kahlo	122	0.352	0.480	0	1
Seen and liked = Turner	789	0.739	0.440	0	1
Seen and liked = Emin	343	0.082	0.274	0	1
Seen and liked = Warhol	809	0.337	0.473	0	1
Seen and liked = Lowry	832	0.732	0.443	0	1
Cultural activities (More than once per year)					
Cinema	1005	0.574	0.495	0	1
Museum	1005	0.293	0.455	0	1
Rock concert	1005	0.115	0.320	0	1

Opera	1005	0.053	0.224	0	1
Orchestral concert	1005	0.150	0.357	0	1
Stately home	1005	0.384	0.487	0	1
Bingo	1005	0.069	0.253	0	1
Theatre	1005	0.302	0.460	0	1
Art gallery	1005	0.208	0.406	0	1
Nightclub	1005	0.234	0.423	0	1
Musical	1005	0.042	0.200	0	1

Table 2: Associations (logit regression coefficients) between degree type and familiarity with film directors

Heard of	Spielberg (1)	Hitchcock (2)	Almodovar (3)	Bergman (4)	Campion (5)	Rathnam (6)
Baseline = 5 GCSEs or above						
Humanities	§	-0.071 (1.04)	2.25** (0.37)	0.82* (0.37)	1.28** (0.33)	1.04* (0.51)
Sciences	-0.010 (0.82)	§	1.89** (0.42)	0.56 (0.37)	1.03** (0.39)	0.99 (0.59)
Professional	-0.65 (0.77)	-1.10* (0.56)	0.047 (0.59)	0.15 (0.33)	-0.12 (0.41)	0.53 (0.64)
Not reported	0.81 (0.67)	0.61 (0.61)	0.56 (0.35)	0.79** (0.23)	0.56* (0.27)	0.72 (0.42)
Observations	941	885	1017	1013	1016	1016

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* $p < 0.05$, ** $p < 0.01$

§ - In these cells, all people who have these degree types have heard of the respective director. For example, all respondents with a humanities degree have heard of Spielberg, so they were omitted from the analysis.

Table 3: Associations (logit regression coefficients) between degree type and preference for film directors

Would make a point of watching	Spielberg (1)	Hitchcock (2)	Almodovar (3)	Bergman (4)	Campion (5)
Baseline = 5 GCSEs or above					
Humanities	-1.06** (0.36)	-0.79 (0.44)	1.00 (0.68)	0.95 (0.49)	1.74* (0.71)
Sciences	0.099 (0.34)	-0.16 (0.40)	1.14 (0.73)	0.16 (0.65)	0.75 (1.14)
Professional	-0.71* (0.33)	-0.71 (0.41)	0.30 (1.16)	-1.56 (1.02)	0.22 (1.42)
Not reported	-0.57** (0.21)	-0.18 (0.22)	-0.40 (0.92)	-0.24 (0.42)	-0.32 (0.70)
Observations	991	990	101	640	193

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* $p < 0.05$, ** $p < 0.01$

We exclude data on Rathnam as no respondents in our analytic sample would make a point of watching one of their films.

Table 4: Associations (logit regression coefficients) between degree type and familiarity with visual artists

Heard of	Van Gogh (1)	Picasso (2)	Kahlo (3)	Turner (4)	Emin (5)	Warhol (6)	Lowry (7)
Baseline = 5 GCSEs or above							
Humanities	0.47 (1.05)	§	2.13** (0.36)	1.40* (0.65)	1.61** (0.32)	0.45 (0.55)	0.29 (0.55)
Sciences	§	§	1.58** (0.41)	0.94 (0.49)	1.17** (0.35)	0.67 (0.48)	-0.32 (0.45)
Professional	-0.66 (0.70)	-0.29 (0.64)	0.31 (0.51)	0.87* (0.44)	0.60 (0.33)	0.55 (0.42)	0.63 (0.42)
Not reported	0.21 (0.58)	0.011 (0.68)	0.56 (0.31)	0.97** (0.31)	0.74** (0.21)	0.40 (0.28)	0.51 (0.33)
Observations	880	848	1018	1015	1017	1016	1017

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample.

* $p < 0.05$, ** $p < 0.01$

§ - In these cells, all people who have these degree types have heard of the respective artist. For example, all respondents with a humanities degree have heard of Picasso, so they were omitted from the analysis.

Table 5: Associations (logit regression coefficients) between degree type and preferences for visual artists

Have seen works by him/her and liked	Van Gogh (1)	Picasso (2)	Kahlo (3)	Turner (4)	Emin (5)	Warhol (6)	Lowry (7)
Baseline = 5 GCSEs or above							
Humanities	1.85** (0.68)	1.47** (0.37)	1.65* (0.68)	0.25 (0.38)	1.47* (0.65)	0.99** (0.34)	-0.34 (0.36)
Sciences	0.57 (0.40)	0.55 (0.34)	0.87 (0.92)	0.60 (0.44)	1.89** (0.69)	0.93** (0.35)	-0.041 (0.41)
Professional	0.81 (0.46)	0.75* (0.37)	-	0.42 (0.39)	0.75 (0.78)	0.43 (0.36)	0.29 (0.40)
Not reported	0.64* (0.30)	0.75** (0.21)	1.27* (0.56)	0.91** (0.28)	-0.090 (0.75)	0.24 (0.24)	0.15 (0.25)
Observations	985	976	118	794	344	813	838

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* $p < 0.05$, ** $p < 0.01$

- There were no respondents with a professional degree who reported having seen and liked a Kahlo painting.

Table 6: Associations (logit regression coefficients) between degree type and participation in cultural activities

More than once per year	Cinema (1)	Museum (2)	Rock concert (3)	Opera (4)	Orchestral concert (5)	Stately Home (6)	Bingo (7)	Theatre (8)	Art gallery (9)	Club (10)	Musical (11)
Humanities	1.14** (0.38)	1.47** (0.33)	1.16** (0.36)	1.41* (0.60)	0.96 (0.49)	0.74* (0.33)	-	0.86* (0.34)	1.88** (0.34)	-0.23 (0.39)	-2.05 (1.08)
Sciences	1.01* (0.41)	1.15** (0.36)	0.50 (0.45)	0.80 (0.65)	0.75 (0.42)	0.69* (0.33)	-2.35** (0.76)	0.55 (0.39)	1.31** (0.38)	0.37 (0.36)	-0.76 (0.95)
Professional	0.55 (0.39)	0.73* (0.33)	0.52 (0.45)	1.34* (0.58)	0.79 (0.43)	0.82** (0.31)	-2.66* (1.33)	0.89** (0.32)	0.88* (0.37)	-0.23 (0.36)	-0.54 (1.38)
Not reported	0.55** (0.21)	0.93** (0.22)	0.54 (0.32)	0.98* (0.49)	1.23** (0.27)	0.83** (0.21)	-0.83 (0.52)	1.01** (0.22)	1.05** (0.25)	-0.24 (0.28)	-0.14 (0.45)
Observations	1018	1018	1018	1018	1017	1018	919	1018	1018	1018	1018

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* $p < 0.05$, ** $p < 0.01$

- There were no respondents with a Humanities degree who reported going to the Bingo more than once per year.

Table 7: Goodness-of-fit for latent class models

Model	N	L ²	AIC	BIC	χ^2	df	p-value
1-class	1049	1190.44	8526.89	8566.53	11805.31	247	<0.01
2-class	1049	412.85	7767.3	7851.54	548.75	238	<0.01
3-class	1049	287.63	7660.07	7788.92	331.31	229	<0.01
4-class	1049	220.91	7611.36	7784.81	252.33	220	0.47
5-class	1049	164.2	7572.64	7790.69	182.36	211	0.99

Notes: Each model was re-estimated 20 times to ensure stability. L² were used to estimate p-values of the goodness-of-fit.

Table 8: Association (Odds Ratios) between degree-type and odds of being in the Lowbrow Omnivore or Highbrow Omnivore vs. the None category

Variables	Lowbrow omnivore vs None (SE)	Highbrow omnivore vs None (SE)
	(1)	(2)
Degree type ¹		
Humanities	5.93* (2.32)	4.53* (2.05)
Sciences	2.64 (2.34)	3.29 (1.95)
Professional	2.41 (3.60)	1.34 (3.25)
Not reported	1.58 (1.68)	2.14 (1.55)
Observations	1005	

Notes: Models adjusted gender, age, social status, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported. Contrast between Cinema and None category is because none of the degree categories were significant.

* p < 0.05, ** p < 0.01

1 – Baseline = 5 GCSEs or above

Web Appendix

Web Appendix 1: Odds ratio of being in the Lowbrow Omnivore or Highbrow omnivore rather than the None category using a three-step approach

Web Appendix 2: Odds ratio of being in the Lowbrow Omnivore or Highbrow omnivore rather than the None category with father's education

Web Appendix 3: Associations (logit regression coefficients) between degree type and familiarity with Kahlo and Emin compared with Picasso or Van Gogh

Web Appendix 4: Influence of parental education on the probability of pursuing a particular degree scheme

Web Appendix 1: Odds ratio of being in the Lowbrow Omnivore or Highbrow omnivore rather than the None category using a three-step approach

Variables	Lowbrow Omnivore vs None (SE)	Highbrow Omnivore vs None (SE)
	(1)	(2)
Degree type ¹		
Humanities	7.20** (5.18)	9.41* (6.79)
Sciences	4.38 (3.83)	3.84 (3.25)
Professional	2.88 (2.03)	2.50 (1.51)
Not reported	2.61 (1.00)	1.43 (0.56)
Observations	1005	

Notes: Models adjusted gender, age, social status, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* p < 0.05, ** p < 0.01

1 – Baseline = GCSE or above

Web Appendix 2: Odds ratio of being in the Lowbrow Omnivore or Highbrow omnivore rather than the None category with father's education

Variables	Lowbrow Omnivore vs None (SE)	Highbrow Omnivore vs None (SE)
	(1)	(2)
Degree type ¹		
Humanities	5.29** (2.15)	5.43* (2.23)
Sciences	3.11 (1.71)	2.06 (2.26)
Professional	3.62 (1.83)	2.77 (2.57)
Not reported	2.65 (1.55)	2.77 (1.95)
Observations	563	

Notes: Models adjusted female, age, father's education, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample. Constant estimated but not reported.

* p < 0.05, ** p < 0.01

1 – Baseline = GCSE or above

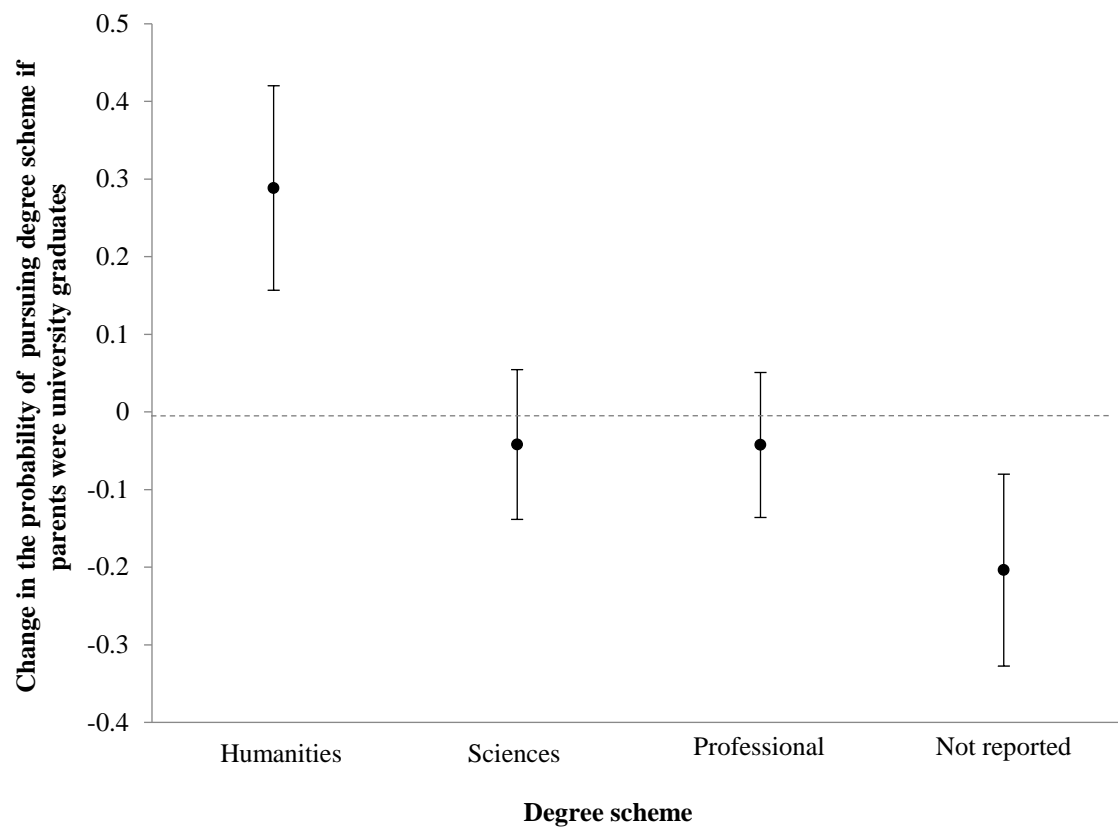
Web Appendix 3: Associations (logit regression coefficients) between degree type and familiarity with Kahlo and Emin compared with Picasso or Van Gogh

	Heard of Kahlo or Emin versus heard of Picasso or Van Gogh (but not Kahlo and Emin) (1)	Liked Kahlo or Emin versus liked Picasso or Van Gogh (but not Kahlo and Emin) (2)
Baseline = 5 GCSEs or above		
Humanities	1.71** (0.32)	2.40** (0.46)
Sciences	1.17** (0.35)	1.87** (0.52)
Professional	0.69* (0.32)	-0.034 (0.69)
Not reported	0.84** (0.21)	0.83 (0.44)
Observations	1000	808

Notes: All models are weighted and adjust for age, gender, and university type. Standard errors in parentheses. Only respondents aged 22 or above are included in the sample.

* p < 0.05, ** p < 0.01

Web Appendix 4: Influence of parental education on the probability of pursuing a particular degree scheme



Notes: Results from a multinomial logistic regression model predicting degree scheme. Control variables include age, sex, and maternal level of education.