

Cultural Capital and the the Spiral of Silence: A Forgotten Link?

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Abstract

Despite having been introduced as early as 1974, the spiral of silence theory has received inconsistent attention within its field and often relied on the same set of predictors. The present thesis attempts to bridge the gap between communication science and sociology by offering a novel path to the spiral of silence in the form of cultural capital. We first revive the modern debate between cultural capital scholars to determine its role among American Millennials. We then posit that through the inclusion of political culture, in the form of political efficacy, cultural capital can ultimately help predict one's willingness to speak out. The model was developed using an explorative structural equation modeling approach with R and the Lavaan package. Through continuous respecification of the model, a satisfying fit was attained that could offer some answers to the current debate within the fields of cultural capital and the spiral of silence.

Cultural Capital and the the Spiral of Silence: A Forgotten Link?

As we enter a world of “post-truths” and “alternative facts”, where the distinction between facts and fabrications becomes increasingly difficult to make, it is crucial to understand the impact these new discourses have on public opinion. Noelle-Neumann (1995) warned that public opinion could be used as a form of social control, and it appears that the newly elected Trump administration plans on making use of such techniques. Noelle-Neumann developed the spiral of silence theory, which evaluates people’s willingness to speak out and posits that certain groups of people might prefer to remain silent when confronted with hostile environments. Such situations have increasingly occurred with the emergence of online communication. We now entered an era in which journalism does not disseminate information vertically but instead provides active users with an agenda that they can engage with and discuss with their peers. In such a context, emotional cues have become the norm to trigger user engagement (Suiter, 2016).

I attempt to tackle and clarify this new trend by offering an innovative causal path to one’s willingness to speak out that bridges contributions from sociology and communication. While the spiral of silence received considerable attention during the last four decades, very little research focused on intercultural differences (Scheufle & Moy, 2000). In addition, most of the existing research ignores cultural factors and tends to focus on traditional socio-demographic variables such as education to predict the presence of the spiral of silence.

Cultural capital as conceptualized by Bourdieu (1977a) is the set of dispositions, habits and know-how that people develop in terms of cultural activities. This concept may explain the growing stratification of American society. Cultural assets, whether social, economic or political, might provide distinction between American citizens. These cultural differences might in turn influence specific subgroups to feel more or less involved in the polity and to choose to communicate openly about it or instead to abstain from speaking out altogether.

Throughout this thesis, I aim to revive the concept of cultural capital in a modern

context, identify its potential to trigger a spiral of silence and ultimately determine whether cultural distinction can contribute to the conception of a more accurate set of social background variables that predict willingness to speak out.

Some critics have long accused Noelle-Neumann of having paid scarce attention to the importance of what constitutes filter bubbles, namely reference groups (e.g. Pariser, 2011; Price & Allen, 1990; Sheehan, 2015). The sustained distinction separating such cultural groups from one another, which is attempted to be demonstrated by Bourdieu with cultural capital, might be a key element in providing valuable insights about the presumable sociopolitical exclusion of some of those groups. While traditional social background variables such as education and gender have long been established as solid predictors of the spiral of silence, there has been little investigation in the potential existence of external indicators, especially cultural ones. This thesis posits that cultural capital can be included in a model that better predicts willingness to speak out.

Theoretical background

Cultural capital

Central to his vision of society, Bourdieu observed the interplay of different forms of capital in human interactions. “Capital is accumulated labor which, when appropriated on a private basis by agents or groups of agents, enables them to appropriate social energy in the form of reified or living labor” (Bourdieu, 1986, p. 241). The main types of capital identified by Bourdieu are economic capital, which can be converted into money and takes the form of property rights, social capital, which broadly represents one’s existing connections or network and their ability to make use of it, and cultural capital, a set of personal taste and habits that can take multiple forms. Bourdieu also added a fourth form, symbolic capital or prestige, described as the reputation that one has gathered when applying one of the three types of capital to be accepted by others as legitimate (Bourdieu, 1986; De Nooy, 2003).

Cultural capital can be observed in three distinct forms: embodied, objectified or institutionalized. Embodied cultural capital is the manifestation of cultural

competence, the acquisition of a “know-how” or “good taste” (Prieur, Rosenlund, & Skjott-Larsen, 2008, p. 47), a process that occurs, according to Bourdieu, throughout a “hereditary transmission which is always heavily disguised, or even invisible (...) It thus manages to combine the prestige of innate property with the merits of acquisition” (Bourdieu, 1986, p. 245). In short, one accumulates embodied cultural capital throughout their youth by being exposed to it daily. This is heavily dependent on socialization and therefore the level of cultural capital that parents possess and on the time that they have to share it with their children. “Embodied cultural capital, if properly activated, provides the basis for the acquisition of additional embodied, objectified, and institutional cultural capital” (Kisida, Greene, & Bowen, 2014, p. 182). Objectified cultural capital consists of material transmission, objects that symbolize cultural capital, such as paintings, books, instruments etc. This form of capital is the easiest to convert from economic capital. Lastly, institutionalized capital takes the form of an academic degree, a societal recognition of one’s competence conferred to its holder by the authority of the state.

Interestingly enough, Bourdieu does not offer any definition of cultural capital after his seminal work in “Cultural Reproduction and Social Reproduction” (1972). Later research used the term in different, sometimes extrapolative ways and it took a meta analysis of the existing work in the field by Lareau and Lamont (1988, p. 158) to define cultural capital as “institutionalized, i.e., widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviors, goods and credentials) used for social and cultural exclusion”.

Socialization and inheritance. According to Bourdieu, children inherit their cultural capital from their parents at an early age (Bourdieu, 1977b; Yaish & Katz-Gerro, 2012). This unique, unconsciously amassed heritage is maintained throughout the later stages of one’s life and can be considered an “interpersonal identifier of social ranking”, only recognized by the cultural elite (Lareau & Lamont, 1988, p. 158). In sum, within Bourdieu’s paradigm of “cultural reproduction”, cultural capital is transmissible across generations in a vertical way through the shaping of the

habitus – a set of internal dispositions and attitudes derived from social class that provide an orientation to the world and ultimately shape one’s expectations and aspirations (Bourdieu, 1984), while at the same time those who inherited from a weaker capital struggle and inequalities subsist. “Those who occupy dominated positions in the social space are also situated in dominated positions in the field of symbolic production” (Bourdieu & Thompson, 1991, p. 244). Bourdieu terms this structured societal exclusion “symbolic violence”, a central concept to understand distinction (Lareau & Lamont, 1988, p. 159).

Evolution and criticism. Since the elaboration of cultural capital, many academics have attempted to apply a concept initially conceived to make sense of the French society of the 1970’s onto different contexts and through different means (Lareau & Lamont, 1988). The existing literature about cultural capital is chaotic as it is constituted from a multitude of sometimes diverging interpretations of the term rather than a clearly conceptualized definition (Prieur & Savage, 2011).

Cultural mobility. At the heart of the modern academic discussion about cultural capital, we find a distinction between the traditional notion of “cultural reproduction” inherited from Bourdieu and that of “cultural mobility” advanced by DiMaggio (1982). DiMaggio revisited the claim that parental socialization was the sole driver of cultural capital and advanced that while there were indeed social inequalities between the types of cultural capital, those could only truly be discerned when taking socioeconomic status into account, noting that a difference best appeared within low economic status groups (Andersen & Jæger, 2015; De Graaf, De Graaf, & Kraaykamp, 2000; DiMaggio, 1982). He asserted that secondary socialization, which takes place while an individual interacts with his milieu at a later stage of life, such as during university or within their workplace, has a defining impact on people’s cultural capital, partly through the adherence to cultural organizations (Ostrower, 1998). Some might therefore gather embodied capital at work to assert a certain economic status that they achieved. DiMaggio also noted that female respondents possessed a slightly higher level of cultural capital than their male counterparts (DiMaggio, 1982), but such finding was

not supported by later studies, which attributed it to the societal context of the 1970's gender inequality (Aschaffenburg & Maas, 1997, p. 586).

Omnivorousness. While it is clear that the societal traits of France in the 1970's differ from today's reality, it is important to note the specific changes that occurred culturally. Bourdieu's original indicators of cultural capital included respondents' proximity with high arts such as classical music, painting, theater or opera. This led to a classification of "highbrow" taste that was central to his own measurement of cultural capital. The following decades showed a changing environment however, and the traditional "snobbishness" of higher classes was challenged by scholars such as Peterson and Kern (1996) who believed that highbrow taste had become more inclusive of middlebrow and lowbrow cultural forms, or omnivorous. Since then, "the exclusive respect traditionally accorded to 'highbrow' cultural pursuits has largely dissolved, at least in some English-language countries" (De Graaf et al., 2000; Lareau & Weininger, 2003; Prieur & Savage, 2011, p. 580). In order to make sense of this changing environment, later studies also included some indicators of popular culture, such as sports and blockbuster movies within their operationalization, which are widely believed to be more representative of the youth's cultural habits (López-Sintas & Katz-Gerro, 2005; Van Eijck & Knulst, 2005), particularly so in the United States. Some argued that the following decades were symbolized by a blurring of the line between "highbrow" and "lowbrow" culture (Yaish & Katz-Gerro, 2012). In turn, it led to an omnivorous model of cultural capital, within which even the cultural elite would consume popular culture due to its wide availability and central aspect in contemporary capitalist societies. Recent studies have voiced out concerns about this "omnivorousness" model however, as it seems that the cultural elite "simultaneously avoids or marks distance to popular expressions of taste" (Prieur et al., 2008) while at the same time, a group characterized by a strong affinity to "lowbrow" or popular culture remains strongly disinterested in the more prestigious cultural indicators (Van Eijck & Knulst, 2005).

Taste and participation. At a more methodological level, the past decades of research focusing on cultural capital have recurrently struggled to establish a clear

measurement scheme to determine cultural capital. Often, researchers failed to properly position the concept between cultural taste and cultural participation (Yaish & Katz-Gerro, 2012, p. 169). While taste is generally inherited from primary socialization, participation habits are derived from primary socialization, cultural taste but also secondary socialization and later life events that might lead the respondent to behave in one way or another. At the heart of the debate, some have advocated for taste because it is a directly inherited measure of cultural values, while participation can be crippled by the lack of resources or accessibility to certain activities or simply the lack of will to participate in person (Peterson, 2005; Silva, 2006). A jazz enthusiast might value the music but prefer to listen to it at home to avoid the social setting of a live concert. Others believe participation is the reasonable choice for sound measurement because only it can account for the emergence of omnivorous cultural consumers that blur the distinctions between highbrow and lowbrow taste (Holt, 1997; Ostrower, 1998). A third group of researchers favors the idea that participation occurs only after a general taste for the particular activity has previously been developed (Rössel, 2008; Yaish & Katz-Gerro, 2012).

Cross-cultural nuances. Lastly, one must keep in mind that Bourdieu conducted the large majority of his research in France. Throughout the 20th century, many defining social, cultural and political events shaped French society (e.g. May 68, Algerian war). As a sociologist, Bourdieu was aware of the critical impact of French culture on his vision and understanding of society as a whole and he has always advocated for researchers to make themselves aware of such a particularity by acknowledging their own bias (Prieur et al., 2008, p. 46). In addition, he warned that his work was not easily applicable to different contexts. Many have tried to replicate his findings in different settings nonetheless (e.g. DiMaggio, 1982; Yaish & Katz-Gerro, 2012). Contemporary research has emphasized national societal differences as important predictors of observed outcomes (De Graaf et al., 2000). It is therefore of the utmost importance not to generalize results that occur in one sociocultural environment as representative of separate contexts. In terms of cross-cultural differences for instance,

“high-status culture in the United States is more loosely organized and has less to do with participation in high-culture form” (Aschaffenburg & Maas, 1997, p. 586). While it is rather clear that the existing literature on cultural capital has evolved in all sorts of directions, the only certain finding seems to be that it is relative in nature (De Nooy, 2003; Lareau & Weininger, 2003; Prieur et al., 2008).

Political efficacy. While most of the indicators that constitute cultural capital encompass traditional activities that are related to the arts, another crucial elemental of one’s upbringing is characterized by the proximity an individual has towards the polity. Political culture, which can be understood as the set of political skills and knowledge that one gathers through socialization, is a key element of one’s upbringing and it influences their inclination to cultivate such political culture. As previous research supported that cultural taste influences cultural participation (Rössel, 2008; Yaish & Katz-Gerro, 2012), it seems reasonable to presume that such predispositions might also influence one’s internal and external efficacy. Indeed, those growing up in a family in which a certain culture predominates might develop an affinity with the polity, which itself predominantly consists of politicians who are often themselves highbrow cultural consumers. On the other hand, the increasingly abundant use of populist communication techniques might empower lowbrow cultural consumers to think that they have a say in a distant political system. In sum, it is argued that political efficacy is a prolongation of traditional cultural capital.

Political efficacy is defined as “the feeling that one is capable of influencing the decision-making process” (Goel, 1980, p. 127). Inside this broad concept, we first find internal efficacy, the “confidence in one’s ability to influence the political process” (Brady, Verba, & Lehman Schlozman, 1995; Pasek, Feldman, Romer, & Jamieson, 2008), followed by external efficacy, the “beliefs and trust in government’s responsiveness to its citizens’ demands”. Internal efficacy was recently considered to be lacking among American youth and such observation constitutes a real threat to democracy, as the youth, and those originating from minority groups, have increasingly showed signs of disengagement (Delli Carpini, 2000; Glasford, 2008; Putnam, 1995,

p. 348).

Intergenerational transmission of political inequality is a known issue that surprisingly received relatively little attention (Hays, 2015). This transmission is not only due to economic resources but also to cultural know-hows and more precisely communication styles (Castillo, Miranda, Bonhomme, Cox, & Bascopé, 2015; Feezell, Conroy, & Guerrero, 2016, p. 31).

Spiral of silence

While Bourdieu paid particular attention to mechanisms of societal exclusion, he duly noted that cultural capital could foster systemic inequalities. He advanced that “to explain what may or may not be said in a group, one has to take into account not only the symbolic relations of power which become established within it and which deprive certain individuals (e.g. women) of the possibility of speaking or which oblige them to conquer that right through force, but also the laws of group formation themselves (e.g. the logic of conscious or unconscious exclusion) which function like a prior censorship” (Bourdieu & Thompson, 1991, p. 138).

Those benefiting from a certain embodiment of cultural capital might therefore possess a form of political capital, in the form of personal efficacy, that would enable them to “speak out” their mind about societal issues more often, and with the right communication skills, creating a virtuous circle of discussion. For instance, a person affiliated to an art gallery might encounter politicians during exhibitions and feel “closer” to governance. Such perception might, in turn, create a sense of internal political efficacy for that person, which will make them more comfortable to express their opinion in public. In the same vein, the lack of such cultural capital might hinder one’s confidence in their communication skills and lead to occasional self-censorship to avoid isolation.

Noelle-Neumann (1974) coined the term “spiral of silence” to encapsulate a new communication trend. She paid particular attention to the effects of exclusion that the fear of others’ judgments might have on one’s outspokenness. In that regard, she

conceptualized public opinion as rationality, which makes it “instrumental... in the process of opinion formation and decision making in a democracy” and as social control, where its role is to promote social integration and to ensure that there is a sufficient level of consensus on which actions and decisions may be based (Noelle-Neumann, 1995, p. 34). The first, one could argue, is intertwined with embodied and institutionalized cultural capital, that is the assets one has gathered to become capable of expressing her opinion in a way that constitutes democratic duties such as participation in the political process through family and school socialization and the certification she got in return to certify that symbolic capital. The second relates to symbolic violence in the sense that we can explore the definition the other way, as a means of social control purposefully set to exclude certain minorities and sub-classes who do not have access to the necessary cultural capital to fully participate in the political arena or to realize what is at stake.

Among the profusion of literature focusing on the multidimensional aspect of the spiral of silence, scores of potential predictors have emerged, leading way to a relatively chaotic academic debate (Scheufle & Moy, 2000). This thesis comprises some of the most solid of them, namely: “willingness to speak out”, “perceived opinion majority” and “fear of isolation”.

Fear of isolation, the general concern one has to find herself excluded from her network, did not receive extensive consideration within spiral of silence research during the 20th century, yet it became clear that it occupies a central role in the process (Moy, Domke, & Stamm, 2001, p. 16). It is indeed tightly related to one’s “willingness to speak out”, the likeliness one will voice her opinion within a group that seemingly holds an opposite view about a polarizing issue (e.g. gay marriage, federal elections). In short, if one perceives the majority opinion to be against her own, she might fear isolation from the perceived opinion majority and therefore decide not to speak out (Ho, Chen, & Sim, 2013, p. 126-127). The perceived opinion of one topic is also a relevant indicator of one’s willingness to speak out, as people generally monitor the polarization of viewpoints, “in order to see which opinions and modes will win the approval of society and which will lead to their isolation” (Noelle-Neumann, 1995, p. 42).

In her qualitative study consisting of interviews with young Swedes to assess their understanding of participation, Sveningsson (2015) realized that her respondents valued skills such as being knowledgeable and passionate about the polity, and being an intelligible and good orator to assert their status. This set of necessary skills identified by the young Swedes relates to the prestige that, according to Bourdieu, derives from one's cultural capital. The same group of young people believed that they "would not have what it takes" to express themselves in the same context (Sveningsson, 2015, p. 153). This abstract view of their lack of skills characterizes symbolic violence. Indeed, because of an understanding of the polity as elitist, those young people identified a form of skills that was unreachable to them, one that is inherited by a certain class of cultural elitists. Other scholars point at this intangible set of skills as "communication competence", the set of "media use, news consumption and interpersonal communication, in terms of discussion of public affairs and politics at home, in school, and among peers, in person, and online" (Lee, Shah, & McLeod, 2013, p. 672). This thesis attempts to demonstrate that such "communication competence" is in fact the form of cultural capital that certain privileged subgroups have had the opportunity to further develop, while others are alienated from the traditional polity.

Method

The data for this study was collected a week after the US presidential election day (November 15-20 2016) through an online survey in collaboration with TurkPrime, a crowdsourcing acquisition platform. In total, 506 American respondents aged 18-35 completed the survey in exchange of financial compensation through Amazon Mechanical Turk. A few respondents had to be removed because they were too old and others were deleted because their IP address appeared more than once, hinting at fraudulent behavior. This resulted in a slightly smaller sample ($N=498$). The general sample was well balanced in terms of gender (50.2% male) and age ($M=27.96$, $SD=4.01$). Their political affiliation was slightly more democrat than republican ($M=4.6$, $SD=1.61$, where 1= "strong republican" and 7= "strong democrat") and more

liberal than conservative ($M=4.76$, $SD=1.71$, where 1= “very conservative” and 7= “very liberal”). A majority of respondents had completed a bachelor degree in college. Lastly their median income was slightly lower than that of the population ($Med=$ “\$40,000 to \$49,999”).

Measures

Cultural taste. This variable was operationalized based on a study from Yaish and Katz-Gerro (2012) and comprised 23 elements that respondents could assess their personal taste for (1 – “Dislike very much”, 5 – “Like very much”). One significant strength of this scale is its reliance on both lowbrow and highbrow elements, as well as a wide set of cultural activities in terms of performance arts, cinema, and music. These items were initially used in our first CFA model and their specific distribution was assessed based on convergent validity. Two factors were isolated, the first consisting of three highbrow items (classical movies, classical music, and opera) while the second included two lowbrow items (standup comedy, comedy films). The highbrow factor retained a good reliability ($\alpha=0.81$, $M=4.23$, $SD=1.25$). The “lowbrow taste” also possessed satisfying reliability ($\alpha=0.79$, $M=5.43$, $SD=1.31$).

Cultural participation. The operationalization of this construct was derived from the same authors. It included a series of 17 activities and questioned the respondents’ frequency of attendance over the last 12 months (1 – “Never”, 2 – “Once or twice”, 3 – “Three or four times”, 4 – “Once in 2 months”, 5 – “At least once a month”). The set of activities regrouped themes such as eating out, social events, sports, various performances and visual arts. As for cultural taste, convergent validity of the CFA model isolated two factors. The first one contained four highbrow items (musical, theatre play, ballet/dance and classical concert/opera). The second factor contained four lowbrow items (football match, basketball match, baseball/softball match, and other sports events). The “highbrow participation” was reliable ($\alpha=0.81$, $M=1.53$, $SD=0.81$) and the “lowbrow participation” latent construct was also satisfying ($\alpha=0.83$, $M=1.39$, $SD=0.69$).

Political efficacy. This item was divided between “internal efficacy” and “external efficacy”. An existing measure from Pasek et al. (2008) asking respondents how much they approved of four statements (1 – “Completely disagree”, 7 – “Completely agree”) was used to create the two questions for each construct. Respondents showed similar scores for internal efficacy ($M=3.94$, $SD=1.85$) and external efficacy ($M=3.8$, $SD=1.44$).

Fear of isolation. An existing scale from Ho et al. (2013) consisting of five items was used to determine “fear of isolation”, in which respondents answered how often they could relate to such situations (1 – “Never”, 5 – “Always”). While the original scale did not show high reliability in their original study ($\alpha=0.53$), it worked significantly better within our sample ($\alpha=0.84$) after we removed the first two items based on convergent validity deriving from the CFA. Overall, respondents showed relatively high fear of isolation ($M=3.61$, $SD=0.97$).

Perceived opinion majority. Adapting the example of Liu and Fahmy (2011) to our context of the week following the presidential elections, respondents were asked to estimate the percentage of their close friends and family who shared their views about the best presidential candidate. On average, respondents estimated that a majority of their close friends and family shared their views ($M=0.62$, $SD=0.25$).

Willingness to speak out. Because of the crucial impact of the internet on public opinion and information processing on digital natives (Möller, De Vreese, Esser, & Kunz, 2014), “willingness to speak out” was conceptualized as two separate indicators capturing online and offline differences. The offline indicator was adapted from an existing question developed by Moy et al. (2001) by contextualizing the participants’ situation in the context of the presidential elections and asking them whether they would be likely to voice out their opinions about their favored presidential candidate while the majority of the group held the opposite view (1 – “Extremely unlikely”, 7 – “Extremely likely”). Its online equivalent was also adapted from the original by converting the offline setting to Facebook. Overall, respondents were more likely to speak out offline ($M=3.22$, $SD=1.89$) than online ($M=2.76$, $SD=1.83$). All of

the scales are presented in Table 6 with their initial questionnaire questions.

Hypothesized model

Based on the literature review outlined thus far, the structural model selected to test our various hypotheses can be described as follow. At its root, in order to revisit Bourdieu's cultural reproduction thesis (1977), parental education and income are defined as indicators of parental cultural capital, itself a predictor of respondent's cultural taste. Education was also presented as an independent variable capable of influencing cultural taste and participation to test the cultural mobility hypothesis of DiMaggio and Mukhtar (2004). Cultural participation is placed after cultural taste to test the hypothesis of Yaish and Katz-Gerro (2012). Lowbrow cultural taste is also positioned as an indicators of highbrow to examine the omnivorous hypothesis of Peterson and Kern (1996). The mediating role of political efficacy is then tested by placing internal and external efficacy between the cultural capital variables and willingness to speak out. The traditional indicators of the spiral of silence are independent from cultural capital in the model and online willingness to speak out is positioned prior to offline willingness to speak based on the premise that social pressure is lower for those who debate online. A full picture of the model will be presented later in Figure 2.

Analysis strategy

In order to account for the set of relationships that were previously developed, it is crucial to consider our general model as a single entity and therefore to evaluate its goodness of fit in a joined procedure. Structural Equation Modelling allows for such a manoeuver by enabling researchers to evaluate a general structural regression model consisting of various relationships at the same time.

Because of the presence of directly observed variables (e.g. age, education, willingness to speak out) and latent variables (e.g. highbrow participation, fear of online isolation) within the same model, our analysis requires a certain level of complexity that is handled by a semi-latent structural regression. In short, we must resort to two-step

modelling, as suggested by Anderson and Gerbing (1988) and the model at hand must first have its measurement model fitted to the data (CFA), before the actual effect paths can be added to investigate the relationships that coexist between our variables. Such an approach also allows us to reduce interpretational confounding, the fluctuation of the factor loadings based on the structural model (Kline, 2011, p.267).

The analysis was conducted with R¹, using the Lavaan package² for all of the analyses related to the structural equation model (Rosseel, 2012). This allows for complete transparency and reproducibility of the methodology used throughout this thesis. The visualization was created using the semPlot package³ (Epskamp, 2015).

Measurement model

Missing values imputation. Some duplicate cases were removed as mentioned before but some respondents still contained missing information for specific variables. When required to indicate their parents' level of education for instance, respondents were allowed to leave the field blank if they did not know and those missing values were considered missing at random. In order to conduct a robust and reliable analysis, those empty fields were replaced by values computed through a multiple imputation based on predictive mean (Van Buuren & Groothuis-Oudshoorn, 2011).

Normality assessment. Structural equation modelling traditionally requires all variables present in the model to have a normal distribution, which is a requirement of the traditional Maximum Likelihood estimation, the underlying analysis in SEM. A majority of the variables present in the dataset had an acceptable skewness and kurtosis, which usually oscillated lower than 1 or higher than -1. However, some of the cultural capital indicators, both for taste and participation, showed a strong left skew, which needed to be corrected. Despite applying a set of corrections, those problematic normality requirements could not be completely fixed. A descriptive table including the final values for skew and kurtosis can be observed in Table 1. In addition to this, the

¹R version 3.2.2 (2015-08-14); Running under: OS X 10.10.5 (Yosemite)

²V. 0.5-22

³V. 1.0.1

normalized multivariate kurtosis of our sample was very high (113.69), which is a cause for concern as this lack of multivariate normality entails that the asymptotic T may not be χ^2 -distributed (Holbert & Stephenson, 2002, p.536). These problems called for a robust estimation of standard errors throughout the analysis, which was accomplished using MLM estimation⁴. Lastly, it is advised that the highest variance in the model be smaller than ten times that of the smallest one. In order to make sure that this was the case, a few variables such as age, with substantive variance, were scaled down to satisfy this rule of thumb. Such transformation does not alter the model fit at all.

Overview of fit indices. While the χ^2 test is the most popular estimation of fit in SEM, its use received considerable criticism for larger samples. Indeed, as it is the case in this analysis, the impact of the sample size on the significance test is such that the null hypothesis is systematically rejected. However, other fit indices exist in order to compensate for this limitation. Among the most popular fit indices, MacCallum, Browne, and Sugawara (1996) indicated that an RMSEA value of .01 could be interpreted as perfect, a value of .05 could be considered “good”, while a higher .08 derived from a “mediocre” fit. Others recommended the lower bound of the 90% confidence interval not to fluctuate above .05 and the upper bound to remain under .10. Another popular measure in SEM is the Confirmatory Fit Index (CFI), which depends on the average correlations within the model. It is considered satisfying to have a CFI of at least .95 (Hu & Bentler, 1999)

Model specification and identification. An initial measurement model was specified based on the same scales as presented in the literature and with the entirety of their indicators. For the cultural capital variables, four scales were hypothesized based on the results of Yaish and Katz-Gerro (2012) and classified in highbrow vs. lowbrow taste and participation. The measurement model is identified at this point, as it is recursive.

Model estimation. The MLM estimation of our model did not converge to an acceptable solution in its first run. Negative variance was present for the second

⁴Maximum likelihood parameter estimates with standard errors and a mean-adjusted chi-square test statistic that are robust to non-normality.

indicator of internal efficacy and the standard errors could not be computed. The fit was mediocre, $\chi^2 (1657) = 3966.75$, $p < .001$; CFI=0.73; RMSEA=0.05, 90%CI[0.05, 0.05].

This indicated that there were a set of modifications to be undertaken in order to respecify the model to improve the fit.

Model respecification.

Convergent validity. One central criterion taken into account in order to improve the measurement model was its construct validity, more precisely the specific levels of convergent validity for each factor. As a rule of thumb, it is suggested to have indicators that correlate with their factor highly enough ($r \geq .70$, or $R^2 \geq .50$) (Kline, 2011, p.231). Based on this criterion, some of the indicators were isolated as problematic, particularly among the cultural capital scales, and new models needed to be computed (see Table 2). A number of badly fitting indicators that were supposed to account for the variance of pre-established factors could not be converted into new separate factors. In sum the model was purged of 17 indicators. Nine items from the cultural taste factors were removed, and three from cultural participation. Two items of parental cultural capital were deleted, two from the fear of isolation factor, and the second indicator of internal efficacy. The final four cultural capital indicators respectively accounted for highbrow cultural taste (classical), lowbrow cultural taste (comedy), highbrow cultural participation (opera) and lowbrow cultural participation (sports).

Discriminant validity. A second initial check consisted in assessing discriminant validity. None of the factors from the model showed correlations that were too high ($\geq .75$), which suggests that they explain different concepts. In addition, the factors present in this model derive from previous literature, which already established their validity. Since substantive considerations are of utmost importance in SEM, no exploratory factor structure was attempted further from replicating the additional scales from the existing literature as it could invalidate the theoretical ground upon which this thesis originates (Kline, 2011, p.240).

Modification indices. Some of the modification indices of the measurement model reported error covariances between the items of highbrow cultural participation (“attending musical” and “theatre play” on one hand and “attending ballet/dance” and “classical/opera” on the other). One error covariance was also suggested for lowbrow participation (“attending a football match” and “a basketball match”). Since those covariances take place within existing factors, and because they refer to the same type of items, they can be implemented without altering the meaning of the initial model.

After these various respecification steps, the new MLM estimation of our model converged to an acceptable solution. The fit was much better, $\chi^2(263)=346.08$, $p<.001$; CFI=0.98; RMSEA=0.03, 90%CI[0.02, 0.03]. In short, the measurement model attained a very reasonable fit. A majority of the unstandardized residuals had values below .10, which indicates that most of the existing relationships between the variables were correctly evaluated. The final measurement model can be observed in Figure 1.

Structural Equation Modelling

The second part of the model evaluation consisted in estimating the path model as reflecting the underlying hypothesis of this thesis, that cultural capital can influence political efficacy, which in turn influences willingness to speak out.

Model specification and identification. The specification of the structural equation model derives from the hypothesis that this thesis aims to test and entails that cultural capital derives from parental education and parental cultural capital. It is then converted into internal and external efficacy before influencing one’s willingness to speak out online and offline (see Figure 2).

Model estimation. The MLM estimation of our initial SEM model converged to an acceptable solution. The fit was average, $\chi^2(623)=1051.37$, $p<.001$; CFI=0.92; RMSEA=0.04, 90%CI[0.03, 0.04].

Model respecification.

Error covariances. Using modification indices as a reference, new error covariances were suggested between the two types of lectures in highbrow participation, as well as between concert attendance and both museum attendance and sports event

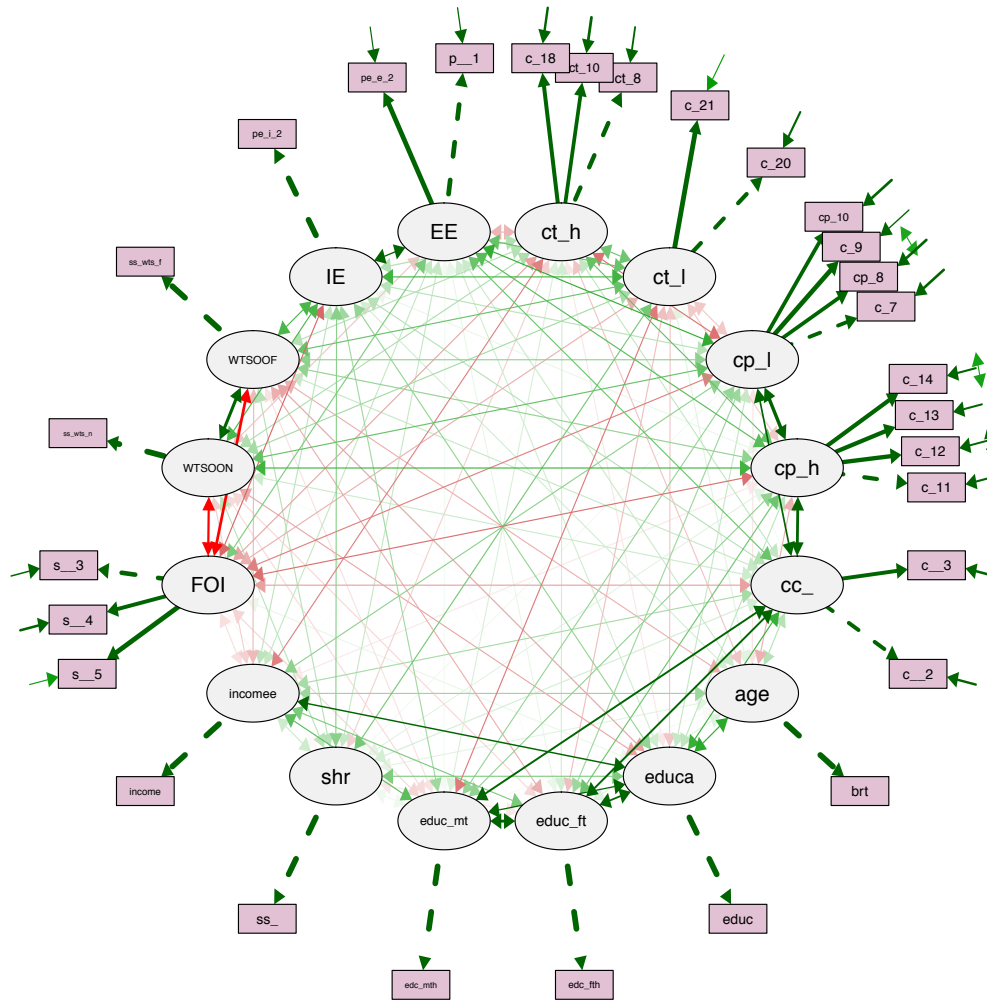


Figure 1. Measurement model.

Colored lines indicate positive (green) or negative (red) covariances. Dotted lines indicate parameters constrained to 1.

attendance. The age indicator was also expected to covary within itself while mother education covaried with father education. This second model with additional error covariances fitted the model much better, $\chi^2(337)=491.49$, $p<.001$; CFI=0.96; RMSEA=0.03, 90%CI[0.02, 0.04].

Path removal. The next step consisted in evaluating the parameter estimates, assessing their significance and testing alternative models with constrained effects. A large amount of estimated direct and indirect paths were insignificant in the model. Since their inclusion might decrease the fit of the model, it is useful to nest an alternative model with those effects constrained to 0 within the general model. By

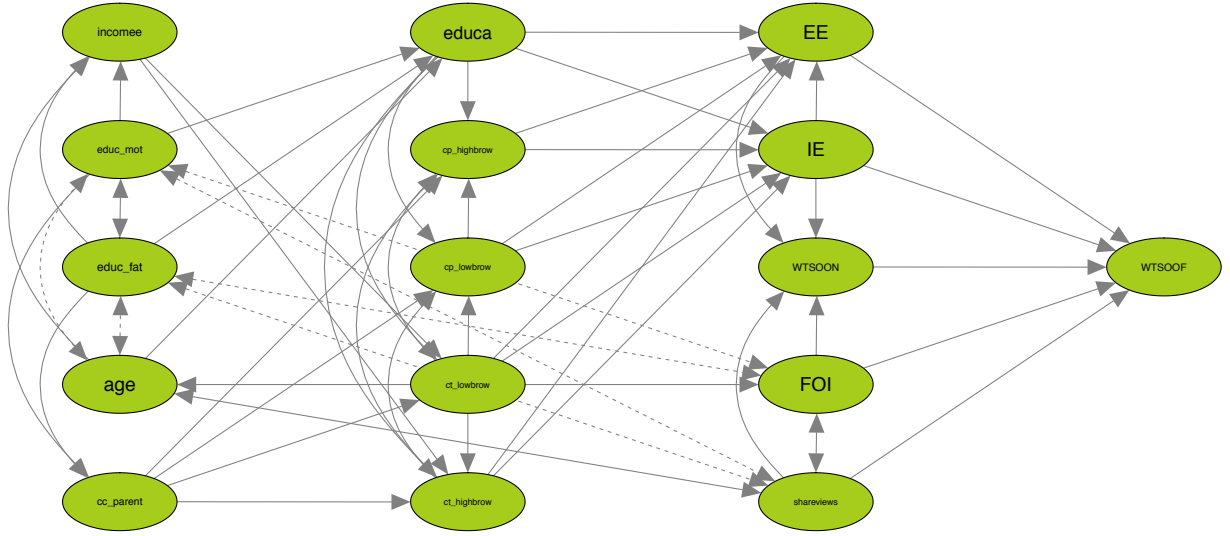


Figure 2. Structural model.

Single headed arrows represent direct effects, double headed arrows represent covariances and dotted lines represent unrelated variables (no covariance). Error terms of the endogenous variables were hidden for clarity.

observing the actual factor loadings, we see that there is a sort of pattern (see Table 3). Education did not seem to have a significant effect on cultural taste, both highbrow ($\beta=.02$, $p=.71$) and lowbrow ($\beta=-.07$, $p=.21$). The same goes for parents' cultural capital, again with highbrow ($\beta=.08$, $p=.21$) and lowbrow ($\beta=-.01$, $p=.92$). In the same vein, education does not provide any significant effect on highbrow cultural participation ($\beta=-.02$, $p=.62$) and lowbrow cultural participation ($\beta=-.02$, $p=.76$). We could therefore constrain the effect of education to 0 in an alternative model on all cultural capital variables and that of parental cultural capital on the cultural taste variables. In more substantive terms, this might indicate that education is placed too early in the model.

This resulted in another good fit, $\chi^2(346)=496.54$, $p<.001$; CFI=0.96; RMSEA=0.03, 90%CI[0.02, 0.03]. However, this last model did not significantly differ from the one without constrained paths, $\chi^2_{diff}(9)=4.03$, $p=.86$. This leaves room for interpretation as the fit increased only very slightly. The final model was nonetheless ultimately retained based on a lower Akaike Information Criterion (AIC), which indicates better fit.

	Model	Df	AIC	BIC	Chisq	Chisq diff	Df diff	Pr(>Chisq)
2	Intermediary model	337	26832.98	27367.73	575.14			
3	Final model	346	26819.93	27316.78	580.09	4.51	9	0.8744
1	Initial model	623	39228.81	39885.66	1300.68	571.06	277	0.0000

Residuals. As for the CFA model, the SEM residuals were scrutinized in order to make sure that they did not exceed .10 in absolute value, which would indicate that some variance could have been overlooked and underestimated by the proposed model. There were no alarming values, indicating that the majority of the variance between variables was accounted for in the model.

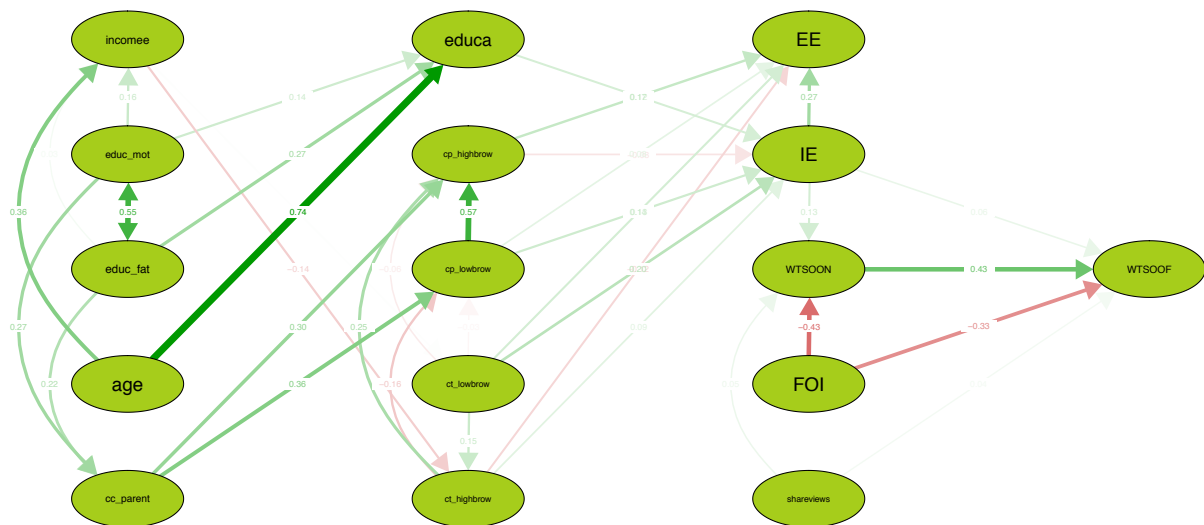
Direct effects.

Cultural capital. There were a lot of regressions in the model and a series of them brought valuable insights. All of those direct effects can be observed in Table 4. At the beginning of the structural part of the model, parental cultural capital was logically influenced both by the respondent's mother education ($\beta=.26, p<.001$) and father's education ($\beta=.22, p<.001$). In short, the more educated parents showed higher levels of appreciation for the arts. The next logical question aimed to determine whether it was directly transmitted to children or not. As mentioned in the model respecification above, education and parental cultural capital did not significantly impact children's cultural taste, yet it had an impact on lowbrow cultural participation ($\beta=.37, p<.001$) as well as highbrow participation ($\beta=.31, p<.001$). Interestingly, none of the predictors included within this model could predict lowbrow cultural taste yet income negatively influenced one's highbrow taste ($\beta=-.14, p<.001$). Lowbrow taste also predicted highbrow taste ($\beta=.15, p=.01$), which could indicate some kind of omnivorous pattern. Highbrow taste negatively impacted lowbrow participation ($\beta=-.17, p<.001$) yet lowbrow taste could not predict lowbrow participation ($\beta=-.03, p=.64$) nor highbrow participation ($\beta=-.06, p=.16$). Highbrow taste suggested highbrow participation ($\beta=.24, p<.001$) and lowbrow participation strongly predicted highbrow participation ($\beta=.56, p<.001$). Such a large effect might again call into mind the omnivorous argument.

Political efficacy. Internal efficacy was positively influenced by education ($\beta=.12, p=.01$), lowbrow taste ($\beta=.20, p<.001$) yet not lowbrow participation ($\beta=.14, p=.06$). Interestingly, the highbrow taste ($\beta=.09, p=.14$) and participation ($\beta=-.08, p=.34$) did not affect it. External efficacy was positively correlated with lowbrow taste ($\beta=.13, p=.042$) but negatively by highbrow taste ($\beta=-.12, p=.048$). Cultural participation could not be associated to it, whether lowbrow ($\beta=.08, p=.32$) or highbrow ($\beta=.17, p=.05$). Internal efficacy robustly predicted external efficacy ($\beta=.27, p<.001$).

Willingness to speak out. Online willingness to speak out was negatively associated with fear of isolation ($\beta=-.43, p<.001$) yet positively with internal political efficacy ($\beta=.13, p<.001$). The effect of external efficacy had already been constrained earlier in the model because it was insignificant and even more surprising, the theory based predictor of perceived majority opinion did not significantly predict online willingness to speak out ($\beta=.05, p=.17$). In regards to offline willingness to speak out, fear of isolation was one of the two main predictors ($\beta=-.33, p<.001$) alongside online willingness to speak out ($\beta=.43, p<.001$) while internal efficacy ($\beta=.06, p=.08$) and perceived majority opinion ($\beta=.04, p=.31$) also could not be associated with it. The model with direct effects can be observed in Figure 3.

Indirect and total effects. Alongside the direct effects present in our model, structural equation modelling allows us to estimate potential mediations in a simultaneous way, which is considered superior to running separate tests (Preacher & Hayes, 2008). Labels were assigned to each indirect effect in order to retrieve the specific estimates of indirect and total effects of relationships in the model. Although there were dozens of indirect effects in the model, very few were significant. First, the path to highbrow cultural participation from highbrow cultural taste, through lowbrow cultural participation was significant. Interestingly, although a person raised with highbrow taste for the arts would usually participate in the same highbrow cultural activities ($\beta_{direct}=.24, p<.001$), the mediation through sports participation, the lowbrow cultural activities, could inverse that effect ($\beta_{indirect}=-.09, p=.004$). Secondly, there was a significant indirect effect of lowbrow cultural participation on external political



The opacity of the trait is proportionate to the effect size. Weaker and insignificant effects are almost transparent.

Explained variance. It is insightful to assess the model's potential to explain the existing variance within the concepts that were included. We note that the lowbrow taste ($R^2=.00$) and participation ($R^2=.17$) variables had variance that could hardly be predicted. The highbrow taste ($R^2=.04$) and participation ($R^2=.55$) fared better. Internal efficacy ($R^2=.07$) only had 7% of its variance explained by the current model while external efficacy ($R^2=.16$) had 16%. More importantly, online willingness to

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speak out ($R^2=.20$) and offline willingness to speak out ($R^2=.42$) were more solidly explained in our model.

Discussion

The aims of this study were to a) revisit cultural capital theory in the United States to better understand its role, structure and implications, b) evaluate the impact of political efficacy as a form of political capital associated to cultural capital and c) assess the prevalence of cultural capital through political efficacy as a novel predictor of the spiral of silence.

Interpretation of results and implications

There are a variety of debates among cultural capital scholars. They relate to the original premise of cultural mobility vs. cultural reproduction (Andersen & Jæger, 2015; DiMaggio & Mukhtar, 2004), the relationship between taste and participation (Rössel, 2008; Yaish & Katz-Gerro, 2012) or the disappearance of distinction between highbrow and lowbrow tastes in an omnivorous structure (López-Sintas & Katz-Gerro, 2005; Peterson & Kern, 1996). Our results do not provide definite answers to those questions, yet they offer valuable insights.

First, we noted that parental cultural capital could predict cultural participation but not cultural taste. This does not fully support the original thesis of Bourdieu (1977a) that relies on parental transmission of cultural taste. However, it offers a nuanced explanation as respondents show a higher propensity of participating in cultural activities when their parents did so. In addition, education failed to predict cultural taste and participation. This might imply that secondary forms of socialization, triggered during schooling, might not ultimately affect one's taste or participation, unlike it was suggested by DiMaggio and Mukhtar (2004). However, more precise measures of cultural mobility should be included in future research to elaborate on this.

Secondly, there was a causal path from cultural taste to cultural participation, both highbrow and lowbrow. This supports the argument of Yaish and Katz-Gerro (2012), who insisted on the importance to understand the contrast between cultural

taste and cultural participation, two internal aspects of cultural capital that had previously been misused as interchangeable concepts in the literature. More research is nonetheless needed to confirm those observations.

Thirdly, the omnivorous model of cultural capital was clearly supported across our model, within our American sample. It appeared that lowbrow cultural taste could predict highbrow cultural taste as well as participation. The distinction between the traditionally elitist culture and the more mainstream forms of entertainment might indeed have vanished in the context of the United States, where the traditional elite still widely consumes entertainment culture (López-Sintas & Katz-Gerro, 2005). However, our model could not further examine the specific attitudes that certain cultural groups adapted in terms of distinctive patterns and cultural nuances such as evoked by Prieur et al. (2008) and those need to receive additional attention in future research.

Fourthly, the inclusion of political efficacy as a mediator between our cultural capital variables and the spiral of silence provides interesting insights. It appears that internal political efficacy, the belief that one possesses the skills and potential to have an impact on society, can derive from lowbrow cultural taste and participation. However, it cannot be predicted by highbrow forms for cultural capital. Further research is now needed to better position political culture within the general cultural capital debate.

Lastly, there was a small, significant effect between internal efficacy and online willingness to speak out ($\beta=.13$, $p<.001$), which supports the idea that cultural capital can ultimately improve the spiral of silence model. The fact that this effect only appeared online is intriguing and illustrates the divide that occurs in terms of communication competence online and offline. However, the indirect effects of the cultural capital variables on willingness to speak out, either online or offline were not significant. This might suggest that the specific position of political efficacy as a political culture indicator needs further sophistication before an actual model can be interpreted. Cross-validation of the cultural capital scales would be helpful before conclusions can be generalized from the present model.

Limitations

This study suffers from a series of limitations. First and foremost, respondents came from a diverse set of locations within the country but their size ($N=498$) does not provide a representative sample of the US population. This lack of representation, illustrated by a sample that identified as slightly more liberal and democrat than at a national level, might have biased some of the results in the structural equation model.

Secondly, the methodology used to assess cultural capital was previously used in a single study by Yaish and Katz-Gerro (2012), which focused on establishing the link between cultural taste and participation. However, a large number of the cultural items within their list proved irrelevant and did not constitute solid factors to be used in the structural equation model. Additionally, the severe non-normal distribution of some cultural indicators is concerning. More accurate methodology would improve the general validity of the construct. Future research needs to pay particular attention to this aspect by including exhaustive lists of activities that are likely to be relevant to the population. In our case, we missed political culture, which was then posited as political efficacy. More importance also needs to be given to internet culture for the upcoming generations.

Thirdly, the type of research that was accomplished throughout this thesis would benefit from a longitudinal design. Because of the central role of socialization in determining cultural capital, following a group of young adults across their education would shed some light on the specific time at which their cultural taste and participation are developed. Again, a more definite methodology to measure secondary socialization and cultural mobility would need to be developed in accordance with a changing society.

Conclusion

Classic theories of communication science such as the spiral of silence are widely used yet their roots are rarely revisited. Despite sounding the alarm fifteen years ago, the recommendations of Scheufle and Moy (2000) have not been widely applied to the

field and some contemporary researchers still incorporate outdated operationalizations of the concept in their research. This study bridged the gap between sociology and communication research by applying the concept of cultural capital to a major communication theory. It provides insights about the potential inclusion of cultural capital and political efficacy as novel indicators of the spiral of silence in the context of the United States and calls for more studies of this sort to advance the field as a whole. Despite an increasingly omnivorous pattern of cultural consumption, the unbalanced taste and consumption patterns of some specific cultural activities provide compelling insights about what divides an American society that appears increasingly stratified. In such tumultuous times, it is crucial for all Americans to voice out their opinions online and offline so that each and every member of society is included in the polity.

Acknowledgments

I believe that the consecration of a study program is to be able to produce a piece of work that one finds genuinely relevant and challenging. I am thankful to have found a way to incorporate cultural capital within my field of communication science to offer an innovative study, which contributes to the understanding of an ever more complex world. Throughout this journey, I want to thank my supervisor, Wouter de Nooy for his continuous critical implication in this project and his constructive feedback at times where I was struggling to find the right direction. I am also thankful for the financial aid provided by the Graduate School of Communication, which allowed me to launch a quality survey among a random sample of the US population. A special thanks also goes to my roommates, friends and family for their continuous support along the road.

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Appendix

Table 1

Descriptive statistics

	N	Mean	SD	Med	Min	Max	Skew	Kurtosis
ss_shareviews	498.00	0.62	0.25	0.68	0.00	1.00	-0.64	-0.38
ss_foi_1	498.00	2.17	0.99	2.00	1.00	5.00	0.57	-0.32
ss_foi_2	498.00	2.46	1.10	2.00	1.00	5.00	0.25	-0.80
ss_foi_3	498.00	1.24	0.38	1.33	0.33	1.67	-0.73	-0.20
ss_foi_4	498.00	1.14	0.37	1.33	0.33	1.67	-0.46	-0.43
ss_foi_5	498.00	1.23	0.37	1.33	0.33	1.67	-0.71	-0.13
ss_wtso_on	498.00	0.92	0.61	0.67	0.33	2.33	0.74	-0.72
ss_wtso_off	498.00	1.07	0.63	1.00	0.33	2.33	0.35	-1.19
pe_ie_1	498.00	4.81	1.69	5.00	1.00	7.00	-0.48	-0.86
pe_ie_2	498.00	1.31	0.62	1.33	0.33	2.33	0.10	-1.13
pe_ee_1	498.00	1.15	0.53	1.17	0.33	2.33	0.08	-0.96
pe_ee_2	498.00	1.39	0.50	1.33	0.33	2.33	-0.47	-0.46
ct_3	498.00	4.21	1.49	4.00	1.00	7.00	-0.18	-0.38
ct_7	498.00	5.82	1.34	6.00	1.00	7.00	-1.32	1.62
ct_8	498.00	4.71	1.64	5.00	1.00	7.00	-0.60	-0.30
ct_9	498.00	4.50	1.60	5.00	1.00	7.00	-0.37	-0.52
ct_10	498.00	3.42	1.63	3.00	1.00	7.00	0.24	-0.68
ct_12	498.00	5.08	1.57	5.00	1.00	7.00	-0.89	0.18
ct_15	498.00	4.84	1.82	5.00	1.00	7.00	-0.70	-0.56
ct_16	498.00	3.65	1.58	4.00	1.00	7.00	-0.08	-0.67
ct_17	498.00	2.99	1.94	2.00	1.00	7.00	0.59	-0.87
ct_18	498.00	4.58	1.55	5.00	1.00	7.00	-0.50	-0.13
ct_19	498.00	4.53	1.58	5.00	1.00	7.00	-0.42	-0.40
ct_20	498.00	5.61	1.43	6.00	1.00	7.00	-1.29	1.62
ct_21	498.00	5.25	1.46	5.00	1.00	7.00	-0.94	0.81
cp_1	498.00	3.91	1.27	4.00	1.00	5.00	-0.76	-0.75
cp_3	498.00	1.39	0.86	1.00	1.00	5.00	2.44	5.56
cp_4	498.00	1.39	0.81	1.00	1.00	5.00	2.33	5.23
cp_5	498.00	1.30	0.76	1.00	1.00	5.00	2.84	7.94
cp_6	498.00	1.38	0.88	1.00	1.00	5.00	2.71	7.08
cp_7	498.00	1.57	1.00	1.00	1.00	5.00	1.82	2.61
cp_8	498.00	1.53	0.97	1.00	1.00	5.00	1.97	3.27
cp_9	498.00	1.48	0.89	1.00	1.00	5.00	1.97	3.25

cp_10	498.00	1.53	0.94	1.00	1.00	5.00	1.95	3.27
cp_11	498.00	1.49	0.89	1.00	1.00	5.00	2.19	4.76
cp_12	498.00	1.53	0.86	1.00	1.00	5.00	1.76	2.88
cp_13	498.00	1.34	0.77	1.00	1.00	5.00	2.63	7.16
cp_14	498.00	1.30	0.76	1.00	1.00	5.00	2.79	7.85
cp_15	498.00	1.56	0.91	1.00	1.00	5.00	1.83	3.19
cp_16	498.00	2.56	1.33	2.00	1.00	5.00	0.36	-1.02
cp_17	498.00	1.43	0.87	1.00	1.00	5.00	2.35	5.41
cp_18	498.00	1.93	1.09	2.00	1.00	5.00	0.98	0.05
cp_19	498.00	1.72	1.00	1.00	1.00	5.00	1.40	1.30
cc_parent_1	498.00	1.47	0.69	1.00	1.00	3.00	1.13	-0.06
cc_parent_2	498.00	1.73	0.67	2.00	1.00	3.00	0.38	-0.82
cc_parent_3	498.00	1.69	0.70	2.00	1.00	3.00	0.52	-0.89
cc_parent_4	498.00	2.41	0.75	3.00	1.00	3.00	-0.82	-0.77
gender	498.00	0.50	0.50	1.00	0.00	1.00	-0.02	-2.00
educ	498.00	4.14	1.32	5.00	1.00	7.00	-0.16	-0.91
educ_father	498.00	1.23	0.58	1.00	0.33	2.33	0.23	-1.14
educ_mother	498.00	1.22	0.54	1.33	0.33	2.33	0.06	-1.16
income	498.00	0.56	0.31	0.50	0.10	1.20	0.50	-0.81
age	498.00	27.96	4.01	28.00	19.00	35.00	-0.21	-0.95

Table 2

Parameter estimates of intermediary CFA model

	Factor	Indicator	B	CI.l	CI.h	SE	Z	p	Beta
1	ct_highbrow	ct_3	1.00	1.00	1.00	0.00			0.65
2	ct_highbrow	ct_8	1.26	1.06	1.47	0.10	12.38	0.00	0.75
3	ct_highbrow	ct_9	1.03	0.86	1.21	0.09	11.63	0.00	0.62
4	ct_highbrow	ct_10	1.19	1.02	1.36	0.09	13.52	0.00	0.70
5	ct_highbrow	ct_16	0.91	0.73	1.08	0.09	10.37	0.00	0.55
6	ct_highbrow	ct_18	1.21	1.02	1.39	0.10	12.60	0.00	0.75
7	ct_highbrow	ct_19	0.92	0.73	1.12	0.10	9.27	0.00	0.56
8	ct_lowbrow	ct_7	1.00	1.00	1.00	0.00			0.54
9	ct_lowbrow	ct_20	1.56	1.17	1.94	0.20	7.95	0.00	0.79
10	ct_lowbrow	ct_21	1.61	1.22	2.00	0.20	8.03	0.00	0.81
11	ct_lowbrow	ct_12	0.64	0.39	0.90	0.13	4.94	0.00	0.30
12	ct_lowbrow	ct_15	0.83	0.54	1.13	0.15	5.53	0.00	0.33
13	cp_lowbrow	cp_6	1.00	1.00	1.00	0.00			0.64

14	cp_lowbrow	cp_7	1.34	1.09	1.58	0.13	10.52	0.00	0.75
15	cp_lowbrow	cp_8	1.28	0.99	1.57	0.15	8.68	0.00	0.75
16	cp_lowbrow	cp_9	1.26	1.01	1.51	0.13	10.02	0.00	0.80
17	cp_lowbrow	cp_10	1.11	0.80	1.42	0.16	7.10	0.00	0.66
18	cp_highbrow	cp_3	1.00	1.00	1.00	0.00			0.61
19	cp_highbrow	cp_4	1.04	0.83	1.25	0.11	9.68	0.00	0.67
20	cp_highbrow	cp_5	1.01	0.86	1.16	0.08	13.06	0.00	0.70
21	cp_highbrow	cp_11	1.32	1.04	1.61	0.15	9.11	0.00	0.77
22	cp_highbrow	cp_12	1.27	0.97	1.57	0.15	8.24	0.00	0.77
23	cp_highbrow	cp_13	1.13	0.87	1.39	0.13	8.49	0.00	0.77
24	cp_highbrow	cp_14	1.11	0.84	1.38	0.14	7.93	0.00	0.76
25	cp_highbrow	cp_15	1.03	0.79	1.28	0.12	8.34	0.00	0.59
26	cp_highbrow	cp_17	1.02	0.76	1.28	0.13	7.63	0.00	0.61
27	cp_highbrow	cp_18	1.14	0.84	1.43	0.15	7.56	0.00	0.55
28	cp_highbrow	cp_19	1.18	0.89	1.46	0.14	8.16	0.00	0.61
29	cc_parent	cc_parent_1	1.00	1.00	1.00	0.00			0.59
30	cc_parent	cc_parent_2	1.17	0.96	1.38	0.11	10.92	0.00	0.71
31	cc_parent	cc_parent_3	1.32	1.10	1.54	0.11	11.62	0.00	0.76
32	cc_parent	cc_parent_4	0.84	0.63	1.06	0.11	7.76	0.00	0.46
33	age	birthdate	1.00	1.00	1.00	0.00			1.00
34	educa	educ	1.00	1.00	1.00	0.00			1.00
35	educ_fat	educ_father	1.00	1.00	1.00	0.00			1.00
36	educ_mot	educ_mother	1.00	1.00	1.00	0.00			1.00
37	shareviews	ss_shareviews	1.00	1.00	1.00	0.00			1.00
38	income_lat	income	1.00	1.00	1.00	0.00			1.00
39	FOI	ss_foi_1	1.00	1.00	1.00	0.00			0.24
40	FOI	ss_foi_2	1.51	1.11	1.90	0.20	7.46	0.00	0.33
41	FOI	ss_foi_3	1.30	0.83	1.78	0.24	5.34	0.00	0.83
42	FOI	ss_foi_4	1.08	0.66	1.50	0.21	5.06	0.00	0.70
43	FOI	ss_foi_5	1.30	0.83	1.78	0.24	5.36	0.00	0.85
44	WTSOON	ss_wtso_on	1.00	1.00	1.00	0.00			1.00
45	WTSOOF	ss_wtso_off	1.00	1.00	1.00	0.00			1.00
46	IE	pe_ie_1	1.00	1.00	1.00	0.00			0.27
47	IE	pe_ie_2	1.61	0.15	3.06	0.74	2.16	0.03	1.21
48	EE	pe_ee_1	1.00	1.00	1.00	0.00			0.85
49	EE	pe_ee_2	0.94	0.78	1.10	0.08	11.64	0.00	0.84

Table 3

Parameter estimates of intermediary SEM model

	DV	IV	B	CI.l	CI.h	SE	Z	p	Beta
1	cc_parent	educ_fat	0.19	0.09	0.29	0.05	3.67	0.00	0.22
2	cc_parent	educ_mot	0.24	0.13	0.35	0.06	4.32	0.00	0.26
3	educa	age	8.31	1.55	15.07	3.45	2.41	0.02	0.74
4	educa	educ_fat	0.62	0.41	0.83	0.11	5.73	0.00	0.27
5	educa	educ_mot	0.35	0.13	0.56	0.11	3.13	0.00	0.14
6	incomee	age	0.93	0.51	1.35	0.21	4.37	0.00	0.36
7	incomee	educ_fat	0.01	-0.04	0.07	0.03	0.53	0.60	0.03
8	incomee	educ_mot	0.09	0.03	0.15	0.03	3.03	0.00	0.16
9	ct_lowbrow	educa	-0.06	-0.14	0.03	0.04	-1.26	0.21	-0.07
10	ct_lowbrow	cc_parent	-0.01	-0.29	0.27	0.14	-0.08	0.94	-0.00
11	ct_lowbrow	incomee	0.11	-0.25	0.46	0.18	0.59	0.55	0.03
12	ct_highbrow	educa	0.02	-0.09	0.12	0.05	0.34	0.73	0.02
13	ct_highbrow	cc_parent	0.23	-0.08	0.53	0.16	1.45	0.15	0.09
14	ct_highbrow	incomee	-0.65	-1.09	-0.22	0.22	-2.94	0.00	-0.16
15	ct_highbrow	ct_lowbrow	0.18	0.04	0.33	0.07	2.49	0.01	0.16
16	cp_lowbrow	educa	-0.01	-0.06	0.04	0.03	-0.36	0.72	-0.02
17	cp_lowbrow	cc_parent	0.55	0.36	0.75	0.10	5.62	0.00	0.39
18	cp_lowbrow	ct_highbrow	-0.10	-0.16	-0.04	0.03	-3.15	0.00	-0.18
19	cp_lowbrow	ct_lowbrow	-0.02	-0.09	0.06	0.04	-0.42	0.68	-0.03
20	cp_highbrow	educa	-0.01	-0.05	0.03	0.02	-0.46	0.64	-0.02
21	cp_highbrow	cc_parent	0.43	0.28	0.59	0.08	5.44	0.00	0.31
22	cp_highbrow	ct_highbrow	0.13	0.06	0.19	0.03	4.05	0.00	0.23
23	cp_highbrow	ct_lowbrow	-0.04	-0.09	0.01	0.03	-1.48	0.14	-0.06
24	cp_highbrow	cp_lowbrow	0.54	0.39	0.69	0.07	7.21	0.00	0.55
25	IE	educa	0.06	0.02	0.10	0.02	2.77	0.01	0.12
26	IE	ct_highbrow	0.04	-0.01	0.10	0.03	1.47	0.14	0.09
27	IE	ct_lowbrow	0.11	0.05	0.18	0.03	3.39	0.00	0.20
28	IE	cp_highbrow	-0.07	-0.22	0.08	0.07	-0.94	0.35	-0.08
29	IE	cp_lowbrow	0.12	-0.00	0.25	0.07	1.90	0.06	0.14
30	EE	educa	0.00	-0.03	0.03	0.02	0.12	0.91	0.01
31	EE	ct_highbrow	-0.05	-0.09	-0.00	0.02	-1.99	0.05	-0.12
32	EE	ct_lowbrow	0.06	0.00	0.11	0.03	2.04	0.04	0.13
33	EE	cp_highbrow	0.12	-0.01	0.24	0.06	1.82	0.07	0.17
34	EE	cp_lowbrow	0.06	-0.05	0.16	0.05	1.04	0.30	0.08
35	EE	IE	0.21	0.13	0.29	0.04	5.40	0.00	0.27

36	WTSOON	shareviews	0.13	-0.06	0.32	0.10	1.37	0.17	0.05
37	WTSOON	FOI	-0.82	-1.02	-0.63	0.10	-8.40	0.00	-0.42
38	WTSOON	IE	0.13	0.04	0.22	0.05	2.82	0.00	0.13
39	WTSOON	EE	-0.03	-0.15	0.10	0.06	-0.39	0.70	-0.02
40	WTSOOF	shareviews	0.09	-0.08	0.25	0.09	1.00	0.32	0.03
41	WTSOOF	FOI	-0.67	-0.85	-0.48	0.10	-6.90	0.00	-0.33
42	WTSOOF	IE	0.05	-0.02	0.13	0.04	1.43	0.15	0.05
43	WTSOOF	EE	0.04	-0.07	0.14	0.05	0.71	0.48	0.03
44	WTSOOF	WTSOON	0.44	0.35	0.53	0.05	9.76	0.00	0.43

Table 4

Direct effects of final SEM model.

	DV	IV	B	CI.l	CI.h	SE	Z	p	Beta
1	cc_parent	educ_fat	0.18	0.08	0.28	0.05	3.61	0.00	0.22
2	cc_parent	educ_mot	0.24	0.13	0.35	0.06	4.27	0.00	0.26
3	educa	age	8.31	1.55	15.07	3.45	2.41	0.02	0.74
4	educa	educ_fat	0.62	0.41	0.83	0.11	5.73	0.00	0.27
5	educa	educ_mot	0.35	0.13	0.56	0.11	3.13	0.00	0.14
6	incomee	age	0.93	0.51	1.35	0.21	4.37	0.00	0.36
7	incomee	educ_fat	0.01	-0.04	0.07	0.03	0.53	0.60	0.03
8	incomee	educ_mot	0.09	0.03	0.15	0.03	3.03	0.00	0.16
9	ct_lowbrow	educa	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
10	ct_lowbrow	cc_parent	0.00						0.00
11	ct_lowbrow	incomee	0.02	-0.33	0.37	0.18	0.12	0.91	0.01
12	ct_highbrow	educa	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
13	ct_highbrow	cc_parent	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
14	ct_highbrow	incomee	-0.60	-1.01	-0.19	0.21	-2.85	0.00	-0.14
15	ct_highbrow	ct_lowbrow	0.18	0.04	0.33	0.07	2.44	0.01	0.15
16	cp_lowbrow	educa	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
17	cp_lowbrow	cc_parent	0.55	0.36	0.73	0.10	5.64	0.00	0.38
18	cp_lowbrow	ct_highbrow	-0.09	-0.15	-0.03	0.03	-3.03	0.00	-0.17
19	cp_lowbrow	ct_lowbrow	-0.02	-0.09	0.06	0.04	-0.46	0.65	-0.03
20	cp_highbrow	educa	0.00						0.00
21	cp_highbrow	cc_parent	0.44	0.29	0.59	0.08	5.74	0.00	0.31
22	cp_highbrow	ct_highbrow	0.13	0.07	0.19	0.03	4.20	0.00	0.24
23	cp_highbrow	ct_lowbrow	-0.04	-0.09	0.02	0.03	-1.39	0.16	-0.06
24	cp_highbrow	cp_lowbrow	0.54	0.39	0.69	0.08	7.21	0.00	0.56

25	IE	educa	0.06	0.02	0.10	0.02	2.77	0.01	0.12
26	IE	ct_highbrow	0.04	-0.01	0.10	0.03	1.49	0.14	0.09
27	IE	ct_lowbrow	0.11	0.05	0.18	0.03	3.42	0.00	0.20
28	IE	cp_highbrow	-0.07	-0.21	0.07	0.07	-0.95	0.34	-0.08
29	IE	cp_lowbrow	0.12	-0.00	0.25	0.07	1.91	0.06	0.14
30	EE	educa	0.00						0.00
31	EE	ct_highbrow	-0.05	-0.09	-0.00	0.02	-1.97	0.05	-0.12
32	EE	ct_lowbrow	0.06	0.00	0.11	0.03	2.03	0.04	0.13
33	EE	cp_highbrow	0.12	-0.00	0.24	0.06	1.94	0.05	0.17
34	EE	cp_lowbrow	0.05	-0.05	0.16	0.05	0.99	0.32	0.08
35	EE	IE	0.21	0.14	0.29	0.04	5.55	0.00	0.27
36	WTSOON	shareviews	0.13	-0.06	0.32	0.10	1.36	0.17	0.05
37	WTSOON	FOI	-0.83	-1.02	-0.64	0.10	-8.45	0.00	-0.43
38	WTSOON	IE	0.12	0.04	0.21	0.04	2.97	0.00	0.13
39	WTSOON	EE	0.00						0.00
40	WTSOOF	shareviews	0.09	-0.08	0.25	0.09	1.02	0.31	0.04
41	WTSOOF	FOI	-0.66	-0.85	-0.47	0.10	-6.83	0.00	-0.33
42	WTSOOF	IE	0.06	-0.01	0.13	0.04	1.77	0.08	0.06
43	WTSOOF	EE	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
44	WTSOOF	WTSOON	0.44	0.35	0.53	0.05	9.75	0.00	0.43

Table 5

Indirect effects of final SEM model.

	DV	IV	B	CI.l	CI.h	se	Z	p	Beta
1	WTSON	IE	0.00						0.00
2	WTSON	IE	0.00	-0.00	0.00	0.00	0.00	1.00	0.00
3	WTSON	EE	0.00						0.00
4	IE	ct_lowbrow	-0.00	-0.01	0.01	0.00	-0.48	0.63	-0.00
5	EE	ct_lowbrow	-0.01	-0.02	0.01	0.01	-1.01	0.31	-0.01
6	IE	ct_highbrow	-0.02	-0.04	0.01	0.01	-1.38	0.17	-0.04
7	EE	ct_highbrow	0.00	-0.02	0.02	0.01	0.10	0.92	0.00
8	IE	cp_lowbrow	-0.04	-0.12	0.04	0.04	-0.95	0.34	-0.04
9	EE	cp_lowbrow	0.08	0.02	0.15	0.03	2.43	0.01	0.12
10	WTSON	cp_lowbrow	0.01	-0.00	0.02	0.01	1.63	0.10	0.01
11	WTSON	cp_lowbrow	0.01	-0.00	0.02	0.01	1.69	0.09	0.01
12	EE	cp_highbrow	-0.01	-0.05	0.02	0.02	-0.93	0.35	-0.02
13	WTSON	cp_highbrow	-0.01	-0.03	0.01	0.01	-0.92	0.36	-0.01

14	WTSOF	cp_highbrow	-0.01	-0.03	0.01	0.01	-0.90	0.37	-0.01
15	ct_highbrow	cc_parent	0.00						0.00
16	cp_lowbrow	cc_parent	-0.02	-0.06	0.03	0.02	-0.83	0.40	-0.02
17	cp_highbrow	cc_parent	-0.01	-0.04	0.02	0.02	-0.83	0.41	-0.01

Table 6

Variables reference.

Education, Education father, Education mother	Less than a high school degree High school graduate (high school diploma or equivalent including GED) Some college but no degree Associate degree in college (2-year) Bachelor's degree in college (4-year) Master's degree Doctoral degree Professional degree (JD, MD) Don't know / NA
Perceived majority opinion	
shareviews	Independent of how you personally feel about the presidential elections, what percentage of your close friends and family do you believe share your views about who the best presidential candidate is?
Fear of isolation	How often can you relate to the following statement? (1- Never 5- Always)
ss_foi_1	I worry about being isolated if people disagree with me
ss_foi_2	I avoid telling other people what I think when there's a risk they'll avoid me if they knew my opinion
ss_foi_3	I do not enjoy getting into arguments
ss_foi_4	I enjoy a good argument over a controversial issue
ss_foi_5	I try to avoid getting into arguments

Willingness to speak out	1- Extremely unlikely 7- Extremely likely
ss_wtso_on	Imagine that you're browsing Facebook. You find the post of a distant friend who expresses his support for the presidential candidate you did NOT vote for. From the discussion, you can tell that most people in the group agree with him and do not support your point of view. In this kind of situation, some people would express their opinion, while others would not. How likely would you be to express your opinion about the election on Facebook in a situation like this?
ss_wtso_off	Imagine that you're at some kind of social gathering where you don't know anyone. You're talking to a group of people when someone brings up the issue of the presidential election. From the discussion, you can tell that most people in the group do not support your preferred candidate. In this kind of situation, some people would express their opinions, while others would not. How likely would you be to express your opinion about the election in a situation like this?
Internal political efficacy	How much do you agree with the following statements? (1- Completely disagree 7- Completely agree)
pe_ie_1	National politics and government seem so complicated that I can't understand what is going on
pe_ie_2	I don't have any say about what the government does
External political efficacy	How much do you agree with the following statements? (1- Completely disagree 7- Completely agree)
pe_ee_1	Elected officials are working hard to represent our voices at the national level
pe_ee_2	The government attempts to create laws and policies that will improve the lives of its citizens
Cultural taste	How would you rate the following film genres: (1- Dislike a great deal 7- Like a great deal)
ct_1	Independent film
ct_2	Documentary

ct_3	Classical
ct_4	Action/horror/fantasy
ct_5	Drama
ct_6	Musical
ct_7	Comedy
	How would you rate the following music genres:
ct_8	Classical
ct_9	Blues/jazz
ct_10	Opera
ct_11	Dance/electronic
ct_12	Pop
ct_13	Country
ct_14	Rock/heavy metal
ct_15	Hip hop/rap
ct_16	Oriental/Mediterranean
ct_17	Religious
	How would you rate the following performance arts:
ct_18	Classical
ct_19	Dance/ballet
ct_20	Stand-up comedy
ct_21	Comedy theatre
Cultural participa- tion	
	Over the last 12 months how often have you attended or participated in the following activities? (1-Never 5-At least once a month)
cp_1	Fast food restaurant
cp_2	Pub or cafe
cp_3	Sing-a-long
cp_4	Lecture by novelist/artist
cp_5	Lecture on travel in exotic places
cp_6	Soccer match
cp_7	Football match
cp_8	Basketball match
cp_9	Baseball/Softball match
cp_10	Other sports events
cp_11	Musical
cp_12	Theatre play

cp_13	Ballet/dance
cp_14	Classical concert/opera
cp_15	Stand-up
cp_16	Blockbuster movie
cp_17	Art house movie
cp_18	Museum/gallery
cp_19	Rock/pop concert
Parental cultural capital	When you were a child, did your parents take part in the following activities? (1- Never 3-Often)
cc_parent_1	Listening to classical music or opera
cc_parent_2	Taking you to art museums or art galleries
cc_parent_3	Taking you to performances, such as plays, and dance or classical music performances
cc_parent_4	Encouraging you to read books not required for school or religious studies

Table 7

Covariance matrix of latent variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ct_highbrow	1.65															
ct_lowbrow	0.21	1.17														
cp_lowbrow	-0.16	-0.04	0.50													
cp_highbrow	0.12	-0.04	0.31	0.47												
cc_parent	-0.01	0.00	0.13	0.18	0.24											
age	-0.01	0.00	0.00	-0.00	0.00	0.01										
educa	-0.08	0.00	0.06	0.07	0.10	0.12	1.73									
educ_fat	-0.01	0.00	0.06	0.07	0.10	0.00	0.26	0.33								
educ_mot	-0.02	0.00	0.06	0.07	0.10	0.00	0.20	0.17	0.29							
shareviews	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06						
incomee	-0.06	0.00	0.01	0.00	0.01	0.01	0.13	0.02	0.03	0.00	0.10					
FOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10				
WTSOON	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.08	0.36			
WTSOOF	0.01	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	-0.10	0.22	0.39		
IE	0.06	0.14	0.03	0.01	0.01	0.01	0.10	0.02	0.01	0.00	0.01	0.00	0.05	0.04	0.38	
EE	-0.04	0.08	0.08	0.07	0.03	0.00	0.04	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.09	0.24