Self-assembly of single-crystal ZnO nanorod arrays on flexible activated carbon fibers substrates and the superior photocatalytic degradation activity

Luo, Sha; Liu, Chunwei; Wan, Yang; Li, Wei; Ma, Chunhui; Liu, Shouxin; Heeres, Hero Jan; Zheng, Weiqing; Seshan, Kulathuiyer; He, Songbo

Published in:
Applied Surface Science

DOI:
10.1016/j.apsusc.2020.145878

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2020

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):
https://doi.org/10.1016/j.apsusc.2020.145878

Copyright
Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the “Taverne” license. More information can be found on the University of Groningen website: https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment.

Take-down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): http://www.rug.nl/research/portal. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.
Talking Politics? Educational Category Salience Reinforces Differences in People’s Willingness to Participate in Deliberative Initiatives

Bram Spruyt  
*Vrije Universiteit Brussel, Belgium*

Toon Kuppens  
*University of Groningen, The Netherlands*

Russell Spears  
*University of Groningen, The Netherlands*

Jochem van Noord  
*Vrije Universiteit Brussel, Belgium*

Against the background of an ever-growing body of literature that documents educational differentials in different forms of political participation, scholars have started to study whether education itself becomes the object of intergroup behavior. Informed by social identity theory and self-categorization theory, we examine whether making educational categories and the associated status differences salient affects people’s prospective political participation. Two large survey experiments carried out in samples from Flanders (Belgium; \(N = 1,097\)) and the United States (\(N = 629\)) were used to assess categorization effects of education on people’s willingness to participate in deliberative political-participation initiatives. In general, our results indicated that rendering educational categories salient increased educational differentials in prospective political participation in a way that is disadvantageous to the less educated. We elaborate on the implications of our findings.

**KEY WORDS:** deliberative initiatives, education, political interest, political participation, self-categorization theory, survey experiments

Ever since scholars started to study citizens’ political participation, they have found substantial educational differentials (Verba, Schlozman, & Brady, 2001). Whether it concerns voter turnout (e.g., Persson, 2013), intellectual engagement with politics (e.g., Easterbrook, Kuppens, & Manstead, 2016), membership of a political party (e.g., Scarrow & Gezgor, 2010), participation in political discussions (e.g., Bovens & Wille, 2017), or political engagement in general (e.g., Hillygus, 2005), less educated people are less inclined to participate compared to the higher educated. Many different explanations have been proposed for this pattern, but relatively little attention has been paid to the role of status. The exception is the relative education model (Nie, Junn, & Stehlik-Barry, 1996; Persson,
Spruyt et al. (2011), which argues that education guides people to high-status positions from which they are more easily recruited and encouraged to become politically active. While social status certainly affects people’s network position and consequently their political participation, status is likely to have other effects as well. We argue that when compared to other status-related characteristics (e.g., income, job titles) education-based status in particular is relevant to political participation because it has become a source of identity and entitlement through processes of educationalization (see below).

Against that background and informed by social identity theory (Tajfel & Turner, 1986) and self-categorization theory (Turner, 1982; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), the central argument we put forward and test empirically is that in contemporary western societies educational categories function as status markers and that rendering these categories salient affects people’s willingness to be politically active in such a way that educational differentials in political participation are reinforced. To that end, we conducted two survey experiments to assess how making educational categories (and their associated status differences) salient (what we refer to as “categorization effects”) impacts on people’s willingness to participate in deliberative initiatives.

Theoretical Background

The central argument of this article rests upon two propositions: (1) Rendering salient status markers can be an independent source of differences in political participation, and in contemporary western societies, educational credentials are an institutionally guaranteed form of social status (and associated feelings of entitlement); and (2) status effects depend on the characteristics of the situation in which encounters take place so that by manipulating these characteristics in an experimental setting we may see education-based status effects at work. In the next sections, we elaborate on these two propositions.

Status, Political Participation, and Education

To understand the possible link between the activation of (education-based) social status (categories) and political participation, we have to take into account that in order to become politically active it does not suffice to be interested in politics, to be informed about politics, and to have formal opportunities to participate. Participating in politics—particularly if it involves face-to-face interaction and/or competition—is also a social action that requires first and foremost a feeling of entitlement (Bourdieu, 1984, p. 409; Gest, 2016, p. 34; Sennett & Cobb, 1973, p. 39). Feelings of entitlement go beyond the traditional concepts such as (political) knowledge, sophistication, and feelings of efficacy that all focus on relatively stable individualistic properties. Feelings of entitlement have not so much to do with the questions, “Can I? Am I able to?” (i.e., technical competence). They rather pertain to questions like “Should I? Is it up to me to participate in politics, to articulate an opinion in public, etc.?” (i.e., perceived entitlement or social competence; Bourdieu, 1984, p. 399). The latter feelings are part of a more general tacit awareness of one’s place in society that manifests itself in emotions such as self-confidence, shame, anxiety, and so on. Lacking a feeling of entitlement is thought to fuel a practical recognition that leads to avoidance and self-exclusion (Hooghe, 2001). Strong feelings of entitlement result in an inclination to live up to the norms (e.g., being an active and engaged citizen) and expectations (e.g., to have an opinion on all kinds of societal issues) associated with particular categories (noblesse oblige).

The latter arguments conjure up the idea that rendering status-related categories salient will affect people’s prospective political behavior. Before discussing the psychological mechanism that potentially explains such an effect, we justify our focus on education-based categories in particular. Whereas education is clearly one indicator of people’s more general position in the social hierarchy or class system, this article draws attention to three particularities of education-based status and their relationship with the political domain.
First, social status is someone’s public recognition of worth and competence (Jasso, 2001). Status is not an attribute of high-status groups themselves but relies on the recognition by others. The distinguishing feature of educational credentials when compared to other sources of status such as income and even occupation, then, is that they are “objectified” (Bourdieu, 1998, pp. 50–51). Educational credentials are (1) awarded and guaranteed by an external institutional authority—the state—and (2) a long period of testing and ranking (often including intelligence testing that “naturalize” educational outcomes). For this reason, Sennett and Cobb (1973), in their seminal study on the hidden injuries of social class, call educational credentials “badges of ability” that are a “perfect tool to legitimize power” (p. 77). People are likely to be aware of education-based status differences, because (1) educational credentials act as official gatekeepers (Tannock, 2008) and (2) compared to other forms of capital, education credentials and degrees introduce sharp distinctions rather than mere gradients between groups (Sayer, 2005, p. 79). Education-based categories as objectified status markers are likely to be relevant in the political domain, as politicized contexts—that is, contexts in which people talk about politics and societal questions—are known to be contexts where group-based labels are often used, and social distinctions are easily accessible (Devine, 1992).

Second, people are not only likely to be aware of education-based categories, the latter are also likely to have a particular meaning. Indeed, building on the institutionalized nature of credentials, the importance and centrality of education is further strengthened by what people have called “the educationalization” of society, including politics (Baker, 2014, Chapter 10; Kamens, 2009; Labaree, 2008; Meyer, 1977), that is, the tendency in public discourse to represent education as a “universal solution” for all kinds of societal and personal problems. The building and promotion of this educationalization of society is deeply ingrained in the social machinery of current Western societies including political science. Philip Converse (1972), for example, stated that education “is everywhere the universal solvent, and the relationship is always in the same direction. The higher the education, the greater the ‘good’ values of the variable” (p. 324). And while in the meantime the causal relationship between education and many different outcomes has been the object of much scholarly debate, a recent study by Zhang (2018) bluntly claims that “an increase of about 3% in the proportion of British adults accessing to higher education in England and Wales could have reversed the referendum result in the UK.” (p. 304).

The educationalization of social problems is often much more explicit in politicians’ discourse (for reasons discussed by Labaree, 2008). As former U.K. Prime Minister Tony Blair put it: “Ask me my three main priorities for government and I tell you education, education, and education.” Not surprisingly, then, such belief has also been identified in concrete policies and policy documents. Labaree (2008) shows how countries have displayed an almost ritualistic and strong tendency over the years for educationalizing social problems, even though education has repeatedly proven to be no panacea. One outcome of the educationalization of social problems is that, today “everybody knows and everybody else knows that education rules in modern society” (Kingston, Hubbard, Lapp, Schroeder, & Wilson, 2003, p. 55; our emphasis). Moreover, in societies that put such heavy emphasis on the importance of education, the label “less educated” carries social stigma.

Third, educationalizing social problems is not only a very common strategy in current Western societies, it is also a very appealing strategy for the higher educated because: (1) It confirms and legitimizes education’s centrality in general and that of the higher educated in particular and (2) does that in an essentially nonconflict, loaded way. Indeed, content analysis of 824 articles from two Flemish Newspapers revealed that education-based categories (i.e., the higher and less educated) are not only regularly used to discuss social problems (Spruyt, 2012) but also that (1) people’s educational position was presented as “a non-definite state” (the concept of so-called lifelong learning), and (2) the quest for a more educated population was framed in terms of unavoidable globalization processes (the war on talent, innovation as the key resource of Western economics, etc.), whereas

1See https://www.youtube.com/watch?v=yRloeL9Zpt8.
class relations were more framed as within-state problems and zero-sum games. In short, educationalization offers the higher educated a way to talk openly about social differences without immediately hinting towards an intergroup conflict. This leads to an additional reason to expect that especially in the political sphere, education-based categories will be regularly used. Indeed, over the last few decades the average education level of the members of the political executive and legislative branch has increased at a much sharper rate when compared to the evolution of the educational attainment of the population, creating so-called “diploma democracies” (Bovens & Wille, 2017) characterized by a strong domination of the higher educated (Hakhverdian, 2015).

**Educational Categories at Work**

The preceding arguments suggest that in contemporary societies educational labels relate to status-based expectations and that the mere activation of these expectations by making educational differentials salient could affect people’s prospective political behavior. Self-categorization and social identity theory help us to formulate more specific hypotheses about the exact outcomes.

Social categories enable people to locate themselves in social contexts. Self-categorization theory holds that people represent these social groups/categories in terms of prototypes, that is, a (subjective) set of defining attributes of a social category that describe how the people belonging to that category will and ought to behave (Turner, 1982). When a category is rendered salient, people tend to see themselves (and other category members) less as individuals and more as interchangeable exemplars of the group prototype. This process of “depersonalization” means that when social categories are salient (especially if one feels committed to these categories) individuals tend to define themselves and behave in terms of the relevant normative social characteristics (self-stereotyping). In this way, categorizing people based on social groups leads to an accentuation of both intragroup similarities and intergroup differences and stereotype-consistent attitudes and behavior (Oakes, Haslam, & Turner, 1994; Turner et al., 1987). The crucial test to demonstrate the existence of education-based status effects, then, is finding a *categorization effect* that increases educational differences in political participation in line with the existing group stereotypes.

We know from sociological and political research that in addition to the fact that political participation is higher among higher educated people, (1) being higher educated is associated with competence-related stereotypes (Spruyt & Kuppens, 2015), and (2) higher educated people are more inclined to consider including (active) forms of political participation in their definition of being “a good citizen” (Dalton, 2008). Therefore, we expect that increasing the salience of educational categories causes the higher educated to “live up” to the social definition of the higher educated as a politically active group and thus increases their willingness to participate in the proposed initiative.

Among less educated people we expect that salient educational categories render them less willing to participate. What we expect to find among the less educated resembles a stereotype threat effect (Croizet & Claire, 1998; Steele, 2010). If less educated people have a relatively good idea of what others think about them, about the group to which they are categorized by others and the associated stereotypes, we expect the less educated to expect that their behavior is stereotype confirming, which may make them less willing to be politically active. The legitimate aspect of education-based status can be seen as a hierarchy-enhancing legitimizing myth that strengthens group-based inequality (see also Kuppens, Spears, Manstead, Spruyt, & Easterbrook, 2018; Sidanius, Pratto, Van Laar, & Levin, 2004) and prevents the less educated from demanding social change.

To sum up, we expect that because people are tacitly aware of educational hierarchies and their personal educational position, subtle manipulations of the salience of “education-based labels” or the awareness of the educational composition of a context generate a categorization effect that increases the educational differences in political participation. As feeling strongly committed to a group often moderates categorization effects on a range of measures (Ellemers, Spears, & Doosje, 2002), we also expect that these predicted categorization effects are stronger among people who strongly identify with their education.
Citizens Meetings as Outcome Variable

Although our argument applies more broadly, two reasons made us focus on people’s willingness to participate in deliberative initiatives. First, deliberative initiatives are one democratic innovation that aims to increase legitimacy beliefs regarding political decision-making (della Porta, 2013). They are one of the answers to the low turnout rates, high level of political dissatisfaction, or the success of populist parties as documented for many western countries. As such, on face value, they should ostensibly help to include and involve those predominantly excluded, such as the less educated. Second, a distinguishing feature of deliberative initiatives is that they are explicitly aimed at interaction. Deliberative initiatives entail social interaction, and the active engagement of participants in reasoned political discussion aimed at persuading others and opinion formation. However, these are exactly the conditions under which categorization effects are most likely to occur (Holdo, 2015; Sanders, 1997). This study’s central argument is that these processes not only play out during the interaction. People may anticipate the interaction and adapt their willingness to participate if educational categories are salient.

The existing literature on citizen’s willingness to deliberate delivers some tentative support for the latter claim. Among people who did not want to participate in a deliberative forum, educational groups differed in how they justified nonparticipation (Neblo, Esterling, Kennedy, Lazer, & Sokhey, 2010). Among noncollege graduates who did not want to participate, 35% cited “not knowing enough,” whereas college graduates only cited it 16% of the time (personal communication). In other research, less educated people were less willing to discuss their vote choices than were higher educated people, a difference that was mediated by the feeling of confidence in one’s political capabilities (Gerber, Huber, Doherty, Dowling, & Gill, 2013). These are exactly the patterns predicted by literature that considers education a form of institutionalized symbolic capital. What is needed is experimental research that demonstrates the causal process behind these observations.

The Present Research

STUDY 1

Method

Participants and design. The first experiment was implemented in a large survey in Flanders (the Dutch-speaking part of Belgium). Data were gathered in the Fall of 2013 by way of a mail questionnaire sent to a simple random sample (drawn from the National Register) of the Flemish population aged 18–75 year (response rate: 42%). In order to work with a homogeneous sample in terms of educational experiences, we excluded the small number of students in our sample (N = 75). After deletion of cases that had missing values on the relevant questions, we ended with a sample of 1,097 respondents (585 female, M_age = 47.9, SD = 14.0).

The study had a 2 (Salience: high vs. low) × 3 (Education: no secondary, secondary, tertiary) between-participants design. Participants were randomly allocated to one of the Salience conditions, whereas Education was a measured variable.

The survey covered a broad range of topics comparable with surveys like the European Social Survey (ESS). Besides the question on political participation, respondents were surveyed about their general political preferences (e.g., voting behavior) and opinions (e.g., ethnic prejudice, political interest, and efficacy). The question on political participation (our dependent variable) was separated

---

2Scholars disagree on the importance of decision-making in deliberative forms of politics. It should also be clear that there exist many different specific forms of deliberation. What matters for our current purpose is the idea that whatever form deliberative initiatives take, they always entail interaction between participants.

3Replication materials are provided at https://osf.io/zcj27/ and in the online supporting information.
from these questions by questions on people’s health and body. The standard demographic questions (including educational attainment) and the question that tapped into education-based identity were put at the end of the questionnaire.

Education. Respondents were asked to indicate the highest level they had achieved. We distinguish between three groups: no secondary diploma (11.9%), secondary education (37.3%), and higher (tertiary) education (50.8%).

Identification. Identification with education-based groups was measured with four items adapted from Leach et al. (2008), for example, “I feel a bond with people who followed the same education” and “My education is an important part of my identity” (α = 0.815). In line with earlier research, less educated people were less likely to identify with their education (M = 4.680) when compared to the highest educated (M = 5.610; η² = 0.063; p < 0.001) (e.g., Kuppens et al., 2018; Stubager, 2009).

Manipulation of salience of educational differences in political participation and dependent variable. We included a manipulation of the salience of educational differences in political participation (salience of education). Respondents were asked to rate (0: No, definitely not to 10: Yes, definitively; M = 5.927; SD = 2.775) their willingness to participate in a citizens’ meeting to discuss about societal issues and problems. The question was introduced via the following text: “Some people think that citizens should be more involved in politics. Therefore, some people argue that important societal themes and issues should be discussed in citizens’ meetings. In these citizens’ meetings, ordinary citizens come together, discuss societal issues and try to find solutions. [Manipulation: Research shows that, in general, higher educated people are more inclined to participate in such meetings]. “Self-evidently participation is free of charge and all possible transportation costs are reimbursed. Would you be willing to participate in such a meeting?” In half of the sample, people were made aware that research had shown that, in general, higher educated people were more likely to participate in these initiatives (see text above between square brackets). We deliberately opted to start with a rather blatant stimulus.

Control variables. We included age, gender, and three indicators that are well-known predictors of political participation as control variables. Lack of external political efficacy was measured with four items (α = 0.707, example item: “Voting has no sense, the parties do whatever they want”). Political interest (α = 0.806, example item: “I’m not interested in politics” [reversed coded]) and self-perceived political competence (α = 0.760; example item: “I know more about politics than most people”) were each measured with three items. All control variables came in the questionnaire before and clearly separated from the dependent variable.

Results

Analytic Strategy. We conducted a univariate ANOVA model, where willingness to participate in the citizens’ meeting was modeled as a function of the manipulation and respondent’s education level and educational identification. To put our theory to the strictest empirical test, we also included age, gender, political efficacy, political interest, and political competence as control variables.

Willingness to participate in citizens’ meetings. First, we investigated the relationship between participants’ education and their intentions to participate in the citizens’ meetings. The effect of education was tested in an ANOVA model including age and gender as fixed factors. Both participants in the “secondary education” (B = −0.666, Cohen’s d = 0.240, p < 0.001) and “not finished secondary education” (B = −1.060, Cohen’s d = 0.382, p < 0.001) categories were less likely to participate in citizens’ meeting than participants who finished tertiary education (M = 6.331).

This formulation was inspired by an initiative that was organized in Belgium in 2011 (Caluwaerts & Reuschamps, 2018, p. 46) which aimed to bring together 1,000 people in a “G1000 citizens’ meeting” (minipublic). Interestingly, although much effort was invested to reach a heterogeneous group, the higher educated were almost twice as strongly represented in the G1000 when compared to their share in the population (55.2 vs. 28.5%).

Unstandardized mean differences between groups are reported with B. Standardized differences are reported with η² (continuous and multicategorical predictors) and Cohen’s d (dichotomous predictor).
Next, we added the salience of education to the above model. This revealed a significant interaction between education and the salience of education ($\eta^2 = 0.009, p = 0.008$). Simple effects indicated that there was only a significant effect among the higher educated showing that when educational differences were salient, they were more willing to participate ($B = 0.659$, Cohen's $d = 0.237, p = 0.004$). No simple effects of the manipulation were found among the middle and less educated ($p > 0.134$).

Because there are only a few studies that study people’s willingness to participate in citizens’ meetings, the effects of the control variables are interesting. Regarding the sociodemographics, no gender differences ($B = -0.115$, Cohen's $d = 0.041, p = 0.474$) were found, but older people were less willing to participate ($\eta^2 <0.017, p = 0.000$). People who felt less politically competent ($\eta^2 = 0.037, p < 0.001$) or lacked political interest ($\eta^2 = 0.026, p < 0.001$) were less willing to participate. No main effect was found for lack of external political efficacy ($\eta^2 = 0.001, p = 0.388$). Exploratory analyses indicated that this model could be further improved by specifying two interaction terms. The effect of self-assessed political competence ($\eta^2 = 0.004, p = 0.045$) was stronger, and political interest ($\eta^2 = 0.004; p = 0.028$) was weaker in the group where educational differences were made salient. The interaction effects were, however, small, and including them did not substantially change the interaction effect between education and the salience of educational differences ($\eta^2 = 0.012, p = 0.002$) on which we focus here.

In the final step, we added educational identification to the previous model. The three-way interaction between educational salience, education, and educational identification was only significant at the 10% level ($\eta^2 = 0.005, p = 0.082$). Because we know that the distribution of respondents over the educational categories was unequal, and we also had a specific hypothesis in this context (i.e., that the effects are stronger for high identifiers), we estimated the interaction between educational salience and education for two different levels of identification ($-1SD, +1SD$; Figure 1).

**Figure 1.** Effects of the salience manipulations on people’s willingness to participate in a citizens’ meeting for participants with low education (no secondary diploma) and high education (tertiary diploma) who are low ($-1SD$) versus high ($+1SD$) in identification.
This revealed that higher educated who scored high (+1SD) \((B + 1SD\text{ identifiers} = 0.867, \text{Cohen's } d = 0.312; \ p = 0.001)\) in identification were more willing to participate in a citizens’ meeting when education was made salient. However, among the less educated who were high in identification, rendering education salient decreased respondents’ willingness to participate in a citizens’ meeting \((B + 1SD\text{ identifiers} = -1.554, \text{Cohen's } d = 0.560, \ p = 0.032)\). The latter difference was more than 1.5 times as large when compared to the effect found for the higher educated. Among the less educated, no effect of the manipulation was found when identification with one’s education was low \((p > 0.502)\). The pattern found that among the medium-educated people resembled that of the less educated, but it was much smaller and not significant \((B + 1SD\text{ identifiers} = 0.664; \text{Cohen's } d = 0.239, \ p = 0.104)\).

**Discussion**

Rendering educational differences in political participation salient affects people’s willingness to participate in citizens’ meetings, especially among people whose education is an important part of their social identity. Salient educational categories bear the potential to reinforce educational differences in political participation. Indeed, in line with sociological insights on education as “objectified” and institutionally guaranteed capital, this study showed that among the less educated, people were less willing to participate in a citizens’ meeting when education was made salient. Among the higher educated, we found the exact opposite pattern. These general conclusions should, however, be qualified in two important ways.

First, it is clear that the effect identified here is most general among the higher educated. We only found a simple effect of education’s salience among people who obtained a higher educational degree. No such general effects were found among the middle and less educated. Second, but related to the first element, education-based identification/identity clearly mattered and moderated the impact of the salience of education. In line with the social identity perspective, we found both among higher and less educated that the education-based categorization effect was strongest among the high identifiers. In fact, for the less educated, the effect of education’s salience on people’s willingness to participate was only present among the high identifiers. In this group of higher-identified, less educated people, the effect of educational categorization was 1.5 times stronger when compared to higher educated people whose education was an important part of their social identity.

The combination of both elements suggests that whereas among the higher educated the generality of the effect (i.e., the extent to which this effect becomes apparent regardless of other characteristics such as identification) of educational categorization is highest, the potential strength of such categorization effect is largest among the less educated.

**Limitations**

This first experiment was exploratory and aimed to show what can occur when educational categories become salient. The manipulation of educational salience was rather blatant. No one will ever explicitly mention which groups are likely to participate in deliberative initiatives when trying to convince people to participate in such a meeting. Therefore, a second experiment was set up that builds on Study 1. Our objective was twofold. First, we aimed to replicate the core finding of Study 1—that is, increasing the salience of educational categories affects people’s prospective political behavior—in a different context (i.e., United States). Second, we sought to assess whether subtler manipulations that are more likely to resemble daily experiences also lead to identifiable adaptations of prospective political behavior.

**STUDY 2**

In Study 2, we again manipulated the salience of educational differences in political participation. The main difference with Study 1 is that we also independently manipulated the salience
of participants’ own education level. This is a subtler and more indirect way of making education salient, and it is more similar to how education could be made salient in daily life.

We also measured a series of self-reported reasons why participants wanted to participate in the citizens’ meeting (or not). We wanted to explore which reasons for (not) participating differ between higher and lower educated people and whether these can explain the education effect. The reasons we measured relate to beliefs about the efficacy of citizens’ meetings, expectations of the interaction with others, deference to others, and the perception that similar others would participate as well.

**Method**

**Participants and design.** We recruited participants through Amazon Mechanical Turk, and 614 U.S. participants filled out the survey. MTurk samples cannot be considered representative of the population, but they have been shown to be better than convenience samples (Berinsky, Huber, & Lenz, 2012) and as representative as random-digit calling (Simons & Chabris, 2012). Because there were only 13.5% lower-educated participants (people with only a high school diploma or less), we decided to recruit additional lower-educated participants ($n = 82$). Of the 696 participants, 44 were still in education and were therefore excluded. Twenty-three additional participants failed one or more attention check questions and were removed before analyses, and 629 participants (315/50% female, $M_{age} = 36.9, SD = 12.50$) remained.

The study had a 2 (Salience of education differences: yes or no) × 2 (Salience of own education: yes or not) × 3 (Education: high school, some college, four-year degree) between-participants design. Education was a measured variable, and participants were randomly allocated to one of the four experimental conditions.

**Education.** Participants’ highest educational qualifications were divided in three groups: high school diploma or less ($N = 151$), some college or two-year degree ($N = 211$), and four-year college degree ($N = 266$).

**Identification.** Education-based identification was measured with 14 items adapted from Leach et al. (2008) ($\alpha = 0.935$). It included the four items of Study 1.

**Manipulations**

**Salience of participants’ education.** We manipulated the salience of participants’ educational level by asking the questions about their level of education, the field of their highest qualification, and their education-based identification either at the beginning or at the end of the study. If the education-related questions came at the beginning, we assume that participants’ educational level was salient to them while they answered the rest of the questions.

**Salience of educational differences in political participation.** Similar to Study 1, we included a manipulation of the salience of educational differences in political participation. The following text was either shown to participants (educational differences salient condition) or not (educational differences not salient condition): “This study investigates educational differences in political participation. The reason for this study is that people who have had less formal education participate much less in politics than those with higher levels of formal education.” There were some changes to this manipulation compared to Study 1. First, the text about educational differences now came before rather than after the explanation of the citizens’ meetings. Second, whereas in Study 1 the text focused on the higher participation of the higher educated in citizens’ meetings, in Study 2 the manipulation focused on educational differences in political participation more generally (which is the same type of manipulation as in Study 1 and the logical complement in terms of exact wording)

---

6These categories slightly differ from those used in Study 1. First, in Flanders a two-year college education does not exist (advanced vocational education is considered secondary education). Higher education in Flanders takes at least three years (Bachelor’s degree). Second, due to the difficulties in recruiting less educated respondents in the United States, the less educated group in the United States is slightly higher educated when compared to their Flemish counterparts.
and had a slight focus on the lower participation of the less educated (as this group was mentioned before the higher educated were).

**Dependent variable: Participation in citizens’ meetings.** The dependent variable in this study was identical to the one used in Study 1.

**Reasons for (not) participating.** We measured a series of self-reported reasons for participation in a citizens’ meeting. We introduced this block of questions by asking: “What are the reasons that you do or do not want to participate?” All items were answered on a 7-point scale anchored at “Disagree strongly” and “Agree strongly.” Four items measured cynicism about the possible success of citizens’ meetings ($\alpha = 0.843$, example item: “I don’t think this initiative will change anything”). Three items measured deference to others more knowledgeable or better placed ($\alpha = 0.902$, example item: “I prefer to leave participation in these meetings to others who are better placed than me to take part”). Four items measured negative expectations about interactions with other participants ($\alpha = 0.616$, example item: “I would hope for positive reactions of other participants,” reversed), but given that the positively worded items had much lower item-total correlations, we created a scale with only the two negatively worded items ($r = 0.576$, $\alpha = 0.730$, example item: “I would be worried about negative reactions of other participants”), and we used this two-item scale in the analyses. Two items measured whether participants thought that other participants would welcome people like them in citizens’ meetings ($r = 0.360$, $\alpha = 0.515$), but given the low correlation we decided to use these items separately in the analyses (“People like me would not be welcomed by other participants” and “Other participants would be happy with the participation of people like me”). Two items measured whether participants thought that people like them tended to participate in such meetings or not ($r = 0.671$, $\alpha = 0.800$, example item: “People like me tend to participate in such events”).

We included measures of political interest (four items, $\alpha = 0.890$, example item: “I often read about politics”) and lack of external political efficacy (five items, $\alpha = 0.790$, example item: “Political parties are only interested in people’s votes, not in their opinions”).

Participants first filled out some demographics questions. Then came the information about educational differences in political participation (depending on condition) and the education-related questions (again depending on condition). This was followed by the questions about the citizens’ meeting and the reasons for (not) participating. Finally, there were questions about participants’ voting behavior in the last presidential election, feelings of closeness to participants’ preferred political party, political interest, lack of external political efficacy, and 13 items about participants’ political participation in the last 12 months.

**Results**

**The education effect.** First, we investigated the relation between participants’ education and their intentions to participate in the citizens’ meetings. The effect of education was tested in a regression model controlling for age and gender. Education was added in the form of two dummy variables for “high school” and “some college,” “four-year degree” being the reference category. The “high school” variable was significant, $B = -0.731$, $p = 0.020$, Cohen’s $d = 0.235$, indicating that participants with a high school diploma or less ($M = 4.951$) reported weaker intentions to participate in citizens’ meetings compared to participants with a four-year college degree ($M = 5.685$). Participants with “some college” ($M = 5.605$) did not differ from participants with a four-year degree, $B = -0.080$, $p = 0.780$, Cohen’s $d = 0.026$.

Next, we analyzed whether the education effect was mediated by any of the reasons for (not) participating that we measured. In a regression model with age, gender, and education, all six reasons were entered simultaneously, and they were all related to participation intentions (all $ps < 0.01$). Adding these six reasons to the model decreased the effect of the “high school” dummy variable from $-0.731$ (see above) to $-0.256$. We calculated indirect effects of the high school dummy, through
the six reasons, on intentions to participate (see Table 1). Only the higher scores on deference, lower scores on “other participants would be happy with the participation of people like me,” and lower scores on “people like me tend to participate” among the less educated had significant indirect effects on intentions to participate. The two largest indirect effects were through participants’ perception that others like them were likely to participate and through deference (see Table 1). The two largest indirect effects are thus related to self-exclusion among the lower educated.

**Effects of education salience manipulations.** In order to analyze the effects of the education salience manipulations, we used specific orthogonal contrasts based on our predictions (Hardy, 1993). The first was the “salience” contrast. It distinguished the “no salience” condition (coded −0.75) from the three conditions in which education had been made salient (coded 0.25). The “salience” contrast therefore tests whether (any form of) education salience affects participation intentions. The “combination” contrast distinguished the condition that combined the two forms of education salience (coded 0.67) from the conditions in which only one form of education salience was present (coded −0.33). This “combination” contrast tests whether there is an additional effect of adding a second form of education salience when education is already salient in one way. Finally, the “salience type” contrast tested the difference between the “educational differences salient” (coded 0.5) and the “participant education salient” condition (coded −0.5), to test whether the two salience manipulations had a different effect. We use these contrasts as predictors in regression analyses, as this allows for a straightforward interpretation of the regression coefficients (Hardy, 1993).

We entered the three orthogonal contrast in a regression model with education, age, and gender, and we added all interaction terms between education and the education salience contrasts (a total of six interaction terms because there are two education dummy variables and three education salience contrasts). As in Study 1, we expected education salience to have different effects on lower- versus higher-educated participants. There was indeed a marginally significant interaction between the “high school” variable and the “salience” contrast, $B = −1.294, p = 0.072$, suggesting that the effect of salience on participation was more negative among the lower educated compared to the higher educated. Furthermore, there was an interaction between the “some college” variable and the “salience type” contrast, $B = 1.930, p = 0.016$, suggesting that the two salience manipulations had different effects on participants with some college versus those with a four-year college degree. We therefore estimated simple effects for the three educational categories separately.

Among the less educated (high school diploma or less), the salience contrast was significant, $B = −1.346, p = 0.021$ (Figure 2). In all conditions where education was salient, either by mentioning

**Table 1.** Regression Coefficients and Indirect Effects of Education (“high school or lower” versus “college degree”) on Intention to Participate in a Citizens’ Meeting

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Education to Mediator (SE)</th>
<th>Mediator to Intention to Participate (SE)</th>
<th>Indirect Effect and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynicism</td>
<td>0.07 (0.13)</td>
<td>−0.95 (0.08)</td>
<td>−0.07 [−0.31, 0.18]</td>
</tr>
<tr>
<td>Deference</td>
<td>0.39 (0.17)</td>
<td>−0.50 (0.06)</td>
<td>$−0.20$ [−0.38, −0.03]</td>
</tr>
<tr>
<td>Negative expectations</td>
<td>0.30 (0.17)</td>
<td>0.22 (0.06)</td>
<td>0.07 [−0.01, 0.16]</td>
</tr>
<tr>
<td>People like me would not be welcomed</td>
<td>0.25 (0.17)</td>
<td>0.16 (0.06)</td>
<td>0.04 [−0.01, 0.12]</td>
</tr>
<tr>
<td>Others would be happy with people like me</td>
<td>−0.33 (0.13)</td>
<td>0.29 (0.09)</td>
<td>$−0.10$ [−0.20, −0.02]</td>
</tr>
<tr>
<td>People like me tend to participate</td>
<td>−0.57 (0.16)</td>
<td>0.39 (0.08)</td>
<td>$−0.23$ [−0.39, −0.09]</td>
</tr>
</tbody>
</table>

**Note.** Bold indirect effects are significant at $p < 0.05$. 
the educational differences in political participation \( (M = 4.70) \), or by asking the identification questions before the dependent variable \( (M = 4.71) \), or by the combination of these \( (M = 4.50) \), intended participation was lower than in the control condition where educational differences and participants’ education were not made salient \( (M = 5.98) \). Thus, among the less educated, education salience decreased the intention to participate. The combination contrast, \( B = -0.210, p = 0.720 \), and the salience type contrast, \( B = -0.003, p = 0.997 \), were not significant.

Among the higher educated (four-year college degree or more), a different pattern emerged (Figure 2). Highest participation intentions were found among higher-educated people whose own education was made salient but where educational differences in political participation were not salient. The salience contrast, \( B = -0.053, p = 0.901 \), and the combination contrast, \( B = -0.622, p = 0.198 \), were not significant. However, the salience type contrast was marginally significant, \( B = -0.961, p = 0.072 \). People with a four-year degree had marginally lower intentions to participate when educational differences in political participation had been made salient, compared to when their own educational level had been made salient. This might be for two reasons: First, making higher-educated people’s educational level salient might have increased their intention to participate, in line with predictions. Second, the manipulation of salience of educational differences in political participation was more focused on the low participation of the less educated and asserted the existence of educational differences more clearly. Higher-educated participants might have felt that this initiative was not something for them or even feel guilty about asserting themselves if they know the lower-educated feel less comfortable to contribute. One should bear in mind that this interpretation is based on a marginally significant interaction and a marginally significant simple effect in a single study and that more data is needed to know how reliable the effect is.

Among the middle educated (some college or a two-year degree), none of the salience contrasts were significant (all \( ps > 0.10 \)).

Figure 2. Effects of salience manipulations (educational differences and participants’ own education) on people’s willingness to participate in a citizen’s meeting for less educated (high school or less) and higher educated (four-year college degree or more) in a citizens’ meeting.
Just as the education effect was mediated by several reasons to participate, it could also be the case that the effects of educational salience were mediated by any specific reason to participate. However, the data did not show support for this idea. The salience contrast did not predict any of the reasons among lower-educated participants (all \( p_s > 0.111 \)), and the salience type contrast did not predict any of the reasons among higher-educated participants (all \( p_s > 0.186 \)). These effects were therefore not mediated by the reasons for participating that we measured in this experiment.

Finally, we tested whether education-based identity moderated any of these results. Although identification had a main effect on participation, \( B = 0.446, p < 0.001 \), it did not moderate the effect of education (\( p_s > 0.36 \)) or salience (\( p_s > 0.27 \)), and there was no three-way interaction between education, salience, and identification (\( p_s > 0.19 \)). However, as in Study 1, the pattern of means suggested that the effects we found were stronger among high identifiers. The salience contrast among the less educated indicated a larger effect for high identifiers (+1SD above mean), \( B = -2.259 \), Cohen’s \( d = 0.725 \), \( p = 0.050 \) than for low identifiers (−1SD), \( B = -0.774 \), Cohen’s \( d = 0.249 \), \( p = 0.248 \).

Discussion

The lower intention of less educated people (compared to their higher-educated counterparts) to participate in citizens’ meetings is mediated by their perception that people like them are less likely to participate, by their deference to others, and to a lesser extent by their lower perception that others would be happy with their participation. In other words, the lower participation of the less educated is mainly explained by factors that are related to their own thoughts and feelings. The less educated exclude themselves by saying that others like them tend to not take part in these meetings, and that others are better placed.

Regarding the manipulation of education salience, Study 2 replicates the main finding of Study 1: Rendering education(al) differences salient can affect people’s prospective political behavior, and it reinforces educational differentials in political participation. Educational categorization made the less educated less willing to participate in citizen meetings. Among the higher educated, there were no statistically significant effects, but making participants’ own education salient seemed to lead to higher intentions to participate than making educational differences in political participation salient.

There were also important differences between the results of Study 1 and Study 2. In Study 1, the predicted effect was stronger for the higher educated, while in Study 2, it was stronger for the less educated. This could be the consequence of the change in the manipulation. The text of the more blatant manipulation of education differences in political participation focused on the lower participation of the less educated and mentioned that there were strong educational differences in political participation. This might have led the higher educated to think that they should make way for the less educated to participate.

In contrast with Study 1, there was no statistically significant moderation by identification with one’s educational group, although the pattern of means was consistent with a stronger effect among high identifiers. Future research will have to determine how strong and reliable the moderation by identification is.

General Discussion and Conclusion

In this article, we assessed the impact of educational categorization on people’s willingness to participate in a citizens’ meeting. Starting from the idea that in contemporary “schooled societies” citizens have a practical understanding of (1) the education hierarchy and (2) socially recognized and approved education-based authority, we reasoned that educational self-categorization would cause the higher educated to live up to the norm of being politically active and engaged. Among the less educated, the tacit awareness of education’s authority in current Western societies combined with the
centrality of education in political discussions concerning solutions for societal issues was expected to lead them to self-exclude.

First, in both studies we found that the higher educated were more inclined to participate than the less educated. Moreover, Study 2 revealed that these educational differences were to a large extent mediated by reasons (i.e., deference and the perception that similar others would participate) that are directly related to feelings of entitlement. This corresponds to findings of Neblo et al. (2010) and underscores the importance of social processes (i.e., intergroup relations) rather than purely individualistic properties (i.e., technical competences and knowledge) in explaining the low political participation of the less educated.

Second, the experimental manipulations in both surveys revealed that rendering education differences in political participation salient indeed deepens educational differentials in prospective political participation. The studies, however, differed slightly in the specific simple effects that contributed to this general pattern. In Study 1, educational salience increased the interest in political participation among the higher educated. This general effect of educational salience was, however, moderated by educational identification. Among highly identified less educated people, educational salience decreased people’s willingness to participate in the citizens’ meeting. Among the highly identified higher educated, the reversed pattern was observed. In Study 2, the less educated decreased their prospective political participation in response to two different forms of educational salience. Interestingly, among less educated people the subtle manipulation yielded the same effect as the more blatant manipulation, and a double manipulation had no additional effect. Indeed, if our analyses demonstrate one thing it is that people have a remarkably sensitive “education antennae.” That finding underscores the importance of the mechanism to which this article points because it seems plausible that the elements that increase the salience of categories in a subtle way occur far more often in real life. Results among the higher educated were less clear in Study 2 than in Study 1, and there were no statistically significant effects.

Implications

In the recent literature on political participation, much discussion remains about the causal origins of educational differentials (Berinsky & Lenz, 2011; Kam & Palmer, 2008; Mayer, 2011; Persson, 2015). Such discussions are important because education is one of the means through which governments attempt to increase the level of political participation and involvement. Our findings contribute to this discussion in two ways that both argue for a broadening of the scope of the discussion. First, by showing that simply manipulating the salience of one’s own educational position causes (some) people to adapt their prospective behavior, we demonstrate that the effects of education may exceed the educational experience itself. Indeed, the mere activation of educational distinctions can be an independent source of education differences in political participation. To some extent, this insight was already present in the long-established literature on social desirability bias in surveys (Jackman & Muha, 1984). But whereas research on social desirability bias has principally focused on demonstrating how the higher educated adapt their reported attitudes and behavior towards the dominant societal role (for a recent application, see Kuppens & Spears, 2014), the research reported here showed how the salience of educational categories themselves—rather than the attitudes associated with educational categories—also impact on the less educated. Within the conventional framework for studying educational differentials in political participation (Persson, 2015), there is not much space for this type of causal effects. Indeed, categorization effects for education imply that the mere salience of educational labels themselves—rather than the well-theorized selection, allocation, or socialization effects they represent—contribute to the reproduction of educational differentials.

A second way in which our results contribute to the debate about education and political participation is that we showed that educational differentials are not static but vary according to the
specific circumstances under which they are assessed. Our results suggest that an important challenge for the literature on political participation concerns not so much studying these differences in general (that is, in a static and decontextualized way), but studying these differences in varying concrete situations. This becomes all the more important because many democratic innovations that are currently being proposed exactly focus on increasing interaction among citizens. Taken together, these two elements pave the road for a more dynamic analysis of educational differentials in political behavior which links macrosocietal practices and representations in public discourse to individual-level behavior. That is exactly what political psychologists have called for (Huddy, 2001).

Against this background and in combination with the idea that education is the “sorting machine” par excellence in contemporary societies (Domina, Penner, & Penner, 2017), it is remarkable that political psychologists have devoted so little attention (especially when compared to other social categories like gender or ethnicity) to education as a basis for intergroup behavior (see also Kuppens et al., 2018). In political science, education is the usual suspect to act as a control variable and explains variation in almost any outcome of interest but has seldom been seen as a basis for group processes. While there are a few studies that studied the occurrence and distribution of education-based group identity, this is one of the first studies that actually uses conventional psychological methods to study the consequences of education-based categorization and identity.

The need for more research on this topic is illustrated by the concern about the consequences of the dominance of the well-educated in the political executive and legislative branch (a tendency referred to as the growth of “diploma democracies”). Bovens and Wille (2017) suggest a relationship between the steep increase of the average educational level of political representatives over time and the low level of political participation of the less educated and interpret the latter as a reaction to the former. Rather than genuine disinterest, saying one is not interested in politics can also be a means to channel in a socially accepted way the discomfort one feels with the political domain.

At this point, there are clear indications that people’s awareness concerning educational differences in the field are far more developed than assumed thus far. Relying on survey experiments concerning the cues people use to prefer a political candidate, Campbell and Cowley (2014), for example, showed that respondents preferred a less educated candidate over a higher educated. Combined with our findings, these elements suggest that the often-found lack of interest among the less educated should not be taken at face value. Moreover, Spruyt (2014) showed that people who perceive large differences and even conflicts between the higher and less educated and who think the higher educated have too much to say in current societies are more likely to support populism. Taken together, these findings underscore Bovens and Wille’s (2017) concern regarding the dominance of the higher educated in all facets of political participation (see also Hakhverdian, 2015). Although for the reasons explained earlier it seems unlikely that these frustrations will ultimately add up to an educational conflict and raised educational consciousness, these categorization effects deserve more attention in empirical research than they have received so far.

These findings align with research showing that people who are less involved in politics are also less willing to deliberate (Neblo et al., 2010). This of course does not imply that deliberative initiatives bear no potential to reach a broader audience than more conventional forms of political participation, but what it does imply is that this potential will not be realized automatically and argues against self-selection as a way of recruiting participants for such initiatives. The type of citizen meeting that we used in these experiments is but one of the many different forms such meeting can take. Respondents knew that the social composition of the public would be heterogeneous. An interesting question for future research is whether these categorization effects are moderated by the social composition and type of heterogeneity of the group one focuses on. Moreover, further research should explore to what extent the salience of education affects other forms of political behavior. A clear hypothesis that can be derived from theory of the relative education model is that status effects—which include the self-categorization effect that we studied here—will be stronger for activities that involve
interpersonal interaction (e.g., initiating petitions or participating in demonstrations) and strongest when this interaction is competitive (e.g., debates). The degree of competition is also a dimension along which different deliberative initiatives themselves vary (e.g., open-ended citizens meetings versus initiatives where one strives for finding consensus clear policy recommendations).

The main objective of this article was to show that categorization effects are likely to occur in a way that actually reinforces educational differences. Finding such a general pattern in regions as diverse as the United States and Flanders suggests these effects are general, but further research in other countries and contexts is also necessary. The great irony, and main message of our findings, is that the deliberative initiatives designed as key political innovations to overcome the democratic malaise and increase involvement of the excluded (della Porta, 2013) are undermined by the self-exclusion of the very people to whom they are targeted. Whereas much effort is being invested in the development of techniques to optimize the deliberation process itself, our results suggest that overcoming barriers to accessing these initiatives may not be enough. Even when the access problem is solved, the problem of self-exclusion remains. Ideology, critically defined (Thompson, 1984), and the practices of power are seldom more effective than when they implicate people in their own oppression (Foucault, 1984). We have provided concrete empirical evidence that the task of including the lower educated may be a challenge for these well-meant initiatives, but more optimistically, we hope our research spotlights the nature of the barriers still to be overcome.

ACKNOWLEDGMENTS

This research was supported by a grant of the Flemish Research Foundation (Fonds Wetenschappelijk Onderzoek). Correspondence concerning this article should be addressed to Bram Spruyt, Vrije Universiteit Brussel, Sociology Department, Pleinlaan 2, 1050 Brussels, Belgium. Email: bram.spruyt@vub.be

REFERENCES


Kuppens, T., & Spears, R. (2014). You don’t have to be well-educated to be an aversive racist, but it helps. Social Science Research, 45(May), 211–223.


**Supporting Information**

Additional supporting information may be found in the online version of this article at the publisher’s web site:

**Exact Item Wordings and Descriptives for Attitude Scales**

**Flemish Sample**

**Table S1.** Frequency Distribution Items Different Attitude Scales

**U.S. Sample**

**Table S2.** Frequency Distribution Items Tapping Into Education-Based Identity

**Table S3.** Frequency Distribution Items Tapping Into Reasons for Not Participating in Citizens’ Meetings