ENVIRONMENTAL CONCERN: A CULTURE OF TRUST

Thomas Bassetti, Filippo Pavesi, Massimo Scotti

Abstract. In this paper, we test the hypothesis that participation in cultural associations improves social capital, and more specifically generalized trust, which in turn fosters environmental concern. Using a dataset combining two large cross-national socioeconomic surveys and an instrumental variable mediation approach, we find that a measure of generalized trust fully mediates the relationship between people's participation in cultural organizations and their environmental concerns. This result suggests that governments can increase citizens' environmental concern – a prerequisite for pro-environmental behaviors – by encouraging their participation in cultural associations.

1. Introduction

The 2005 Faro Convention and the EU Green Deal recognize the importance of cultural heritage and cultural activities in promoting sustainable development and environmental protection. A growing body of research underscores the role of cultural capital, specifically individual engagement in cultural activities, in fostering social capital and civic engagement (Hutter, 1996; Stolle and Rochon, 1998; Sacco et al., 2012; Campagna et al., 2020). Social capital, in turn, has been shown to influence pro-environmental behaviors (Macias and Williams, 2016).

Furthermore, recent studies suggest that cultural consumption can drive specific pro-environmental actions. Crociata *et al.* (2015) found a significant positive relationship between consuming cultural goods and following waste recycling instructions, as well as between social capital and recycling attitudes. Agovino *et al.* (2017) showed that the positive impact of cultural participation on organic food consumption increases with the social orientation of cultural activities. Quaglione *et al.* (2017) found that socially oriented cultural activities lead to reduced electricity consumption, while solipsistic cultural goods consumption increases it.

Despite this growing interest, there is limited understanding of the mechanisms through which participation in cultural activities affects environmental concerns and behaviors. This paper aims to analyze the relationship between cultural capital, social capital, and environmental outcomes. It hypothesizes that the impact of cultural

participation on environmental outcomes is mediated by social capital, specifically generalized trust.[1]

Using two large-scale cross-national repeated surveys, we estimate a model where social capital (namely generalized trust) mediates the relationship between cultural participation and environmental concern. To address potential endogeneity, we use the single instrumental variable (IV) mediation approach proposed by Dippel *et al.* (2020). More precisely, we instrument participation in cultural activities with the level of importance respondents place on cultivating children's imagination. The importance of nurturing children's imagination reflects the concerted cultivation approach: a parenting strategy in which children participate in a wide range of family activities characterized by a wide breadth of cultural activities (Lareau 2003; Doepke and Zilibotti 2017; Wheeler, 2018; Borra and Sevilla 2019). Our findings suggest that this IV is not only relevant but also conditionally exogenous in terms of environmental concerns.

Our results indicate that both the relationship between participation in cultural organizations and generalized trust, as well as the relationship between cultural participation and environmental concern are endogenous. When accounting for endogeneity, a strong mediation effect of generalized trust emerges, fully mediating the impact of cultural participation on environmental concern.

Our study adds to the literature by explicitly investigating the mediating role of social capital in the relationship between cultural capital and environmental concern, disentangling the direct effect from the mediated one.

Our findings suggest that promoting civic engagement in cultural activities enhances environmental concern through the development of generalized trust thereby providing valuable insights for policies aimed at fostering environmental sustainability and social cohesion.

2. Data and Methodology

2.1. Data

Our data derive from a joint project involving two large-scale cross-national survey research programs: the European Value Study (EVS) and the World Value Survey (WVS). These two repeated surveys were initiated in the 1980s to measure human beliefs and values including occupational, social, political, moral, and family values. The EVS surveyed people living in European countries, while the WVS surveyed people living outside of Europe. Five European countries took part in both

[1] Generalized trust can be defined as the trust accorded to individuals we do not know (Bac, 2009). According to the existing literature, generalized trust is one of the main components of social capital (see, e.g., Durlauf, 2002).

Table 1 – *Descriptive Statistics (41,160 obs.)*

Variable	Mean	SD	1st quartile	Median	3rd quartile	Min	Max
Dependent Variable							
Environmental concern	0.634	0.296	0.564	0.564	0.846	0	1.128
Main Explanatory Variables							
Social capital	0.000	0.918	-0.545	-0.039	0.703	-2.320	2.648
Culture	0.247	0.431	0	0	0	0	1
Control Variables							
Age	43.275	16.380	29	41	56	16	82
Female	0.503	0.500	0	1	1	0	1
Religious	1.519	0.670	1	2	2	0	2
Republican leaning	5.675	2.470	4	5	7	1	10
Competition	5.935	2.674	4	6	8	0	9
Demonstrations	0.738	0.729	0	1	1	0	2
Happiness	2.164	0.699	2	2	3	0	3
Health status	2.824	0.847	2	3	3	0	4
Education	3.674	1.997	2	3	6	0	8
Self-reported income	4.918	2.080	4	5	6	1	10
Mills	0.067	0.031	0.045	0.062	0.084	0.006	0.250
Excluded Instrument							
Imagination	0.225	0.418	0	0	0	0	1

surveys: Germany, Romania, Russia, Serbia, and Ukraine. In this study, we utilize the first joint dataset covering the period 2017-2022 (EVS/WVS, 2024).

Table 1 provides the main descriptive statistics for the variables entering our study.[2] Our final sample consists of 41,160 observations with non-missing values in the dependent and independent variables.

We use Item Response Theory (IRT) to construct our dependent variable, the *Environmental Concern*. In particular, *Environmental Concern* is the latent variable obtained from a graded response model (GRM) in which categories are not constrained to be the same across items (Samejima, 1969). Moreover, the strength of the relationship between an item and the measured construct (i.e., the

[2] A description of the variables entering the analysis can be found in the online supplementary material.

discrimination parameter) may differ across items. This variable captures the subject's concerns regarding environmental protection and trust in environmental protection movements.[3]

The graded response model is also employed to create the variable *Social Capital* which is meant to capture generalized trust. Indeed, this variable is constructed using several items indicating whether the respondent trusts most people, family, neighbors, acquaintances, strangers, people of another religion, or people of another nationality.[4]

The variable *Culture* measures cultural capital. Broadly defined, cultural capital includes art and literature, as well as lifestyles, community-building practices, value systems, traditions, and beliefs (UNESCO, 2001). Despite the broad academic and political acceptance of this definition, operational challenges (Romainville, 2015) have led influential empirical research to adopt a more practical approach based on participation in cultural activities. Following this approach, we operationalize cultural capital through involvement in voluntary organizations that promote education, arts, and music. Accordingly, *Culture* is a binary variable, assigned a value of 1 if the respondent is a member of such organizations. Table 1 indicates that about 25 percent of respondents belong to a cultural organization.

Following Stern (2000), we control for socio-demographic characteristics such as age, gender, religiosity, political preferences, education, and self-reported income.

Wright et al. (2003) report a negative association between age and some sustainability concerns. Zelezny *et al*. (2000) show that more educated individuals and women are more likely to exhibit pro-environmental behaviors. Although the empirical literature on the relationship between income and environmental concern is mixed, some studies suggest that high-income individuals are more likely to participate in green electricity programs (Clark et al., 2003). Therefore, we control for self-declared income status. In line with Aldy et al. (2012) and Emiru and Waktola (2018), we consider political preferences and religiosity to account for ideological positions on ecological issues. For the same reason, we include subjects' attitudes towards competition and their propensity to attend lawful demonstrations. We also account for whether the subject felt happy and healthy during the interview, as depressed or sick individuals may be less concerned with social aspects like

[3] The two questions entering the construction of the dependent variable are: i) what is more important: protecting the environment or economic growth? 1=protecting the environment, 2=economic growth, creating jobs, and other answers; ii) how much confidence you have in the Environmental Protection Movement (EPM)? 0=a great deal, 1= quite a lot, 2= not very much, 3= none. The dataset also contained a third question about the subject's participation in environmental organizations. However, we preferred to exclude it because of potential omitted factors influencing the decision to participate in many social groups, including cultural ones.

[4] The coefficients of the graded response models as well as the item information functions associated with *Environmental Concern* and *Social Capital* can be found in the Supplementary Material available online.

environmental quality. Furthermore, to address self-selection issues in answering environmental questions, we computed the Mills' ratio.

Finally, *Imagination* is the variable that we use to instrument participation in cultural activities. This variable measures the level of importance respondents place on cultivating children's imagination. We expect *Imagination* to be highly correlated with respondents' likelihood to participate in cultural activities (relevance of the instrument). Indeed, according to the existing literature, this variable is indicative of the concerted cultivation approach (Lareau 2003, Doepke and Zilibotti 2017; Borra and Sevilla, 2019). This parenting strategy consists of involving children in a broad range of family activities characterized by a wide breadth of cultural activities (Wheeler, 2018). Thus, individuals who place a greater emphasis on children's imagination are also more likely to participate in cultural activities. At the same time, there are no apparent reasons to believe there will be a correlation between beliefs regarding the importance of imagination and concerns about environmental protection (instrument's conditional exogeneity). Nevertheless, we conduct a test and a sensitivity analysis to determine the validity of the exclusion restriction.

2.2. Methodology

To test the hypothesis that social capital mediates the relationship between participation in cultural activities and environmental concern, we first conduct a mediation analysis à la Baron and Kenny (1986), and then we use an instrumental variable (IV) approach to address potential endogeneity issues related to participation in cultural activities. More precisely, we adopt the methodology proposed in Dippel *et al.* (2020) to identify the causal chain between intermediate and final outcomes in a standard IV model without disregarding the endogeneity of cultural participation with respect to social capital and environmental concern.

Based on Baron and Kenny (1986), we separately estimate the following equations:

$$S = \beta_0 + \beta_S^C C + \sum_{i=1}^{n} \delta_i W_i + \varepsilon_S, \quad (1)$$

$$E = \beta_1 + \beta_E^S S + \beta_E^C C + \sum_{i=1}^{n} \rho_i W_i + \varepsilon_E, \quad (2)$$

where *C* denotes the treatment variable (*Culture*), *S* is the mediator (*Soc. capital*), *E* is the final outcome (*Env. concern*), W_i for *i=1,…,n* is a set of individual socio-demographic characteristics and country fixed effects, and ε are the error terms. Therefore, we can estimate the indirect effect of *Culture* on *Env. concern* by simply multiplying β_S^C with β_E^S, whereas the direct impact corresponds to coefficient β_E^C. Notice that, if we exclude the mediator (*S*) from Equation (2), the coefficient of *C* will represent the total impact of *Culture* on *Env. concern*.

However, traditional mediation analysis does not consider the possibility that both treatment and mediator may be endogenous. We must therefore change our identification strategy to address this important issue and claim a causal mediation effect of social capital. Dippel *et al.* (2020) show that a single instrumental variable suffices to identify both the direct and the indirect effects when the same unobserved confounders jointly influence the relationship between *C* and *S* and the relationship between *C* and *E*. This is the only identifying assumption that is needed to apply their methodology.

Keeping the linearity assumption and given the availability of an instrument Ω, we can estimate a causal mediation model by using the following procedure:

1) Considering that *C* is a binary variable, parameter β_S^C can be identified through the following system:

$$Z = \Phi(b\Omega + W\omega), \tag{3}$$
$$C = \alpha_0 + \alpha_1 \mathrm{Z} + \sum_{i=1}^{n} \delta_i W_i + \varepsilon_C, \tag{4}$$
$$S = \beta_0 + \beta_S^{\hat{C}} \hat{C} + \sum_{i=1}^{n} \rho_i W_i + \varepsilon_S, \tag{5}$$

where $Z \equiv \Pr(C = 1|W, \Omega)$ and $\Phi(.)$ is the cumulative distribution function of the standard normal distribution.[5]

2) We then exploit the fact that the identifying assumption implies a new exclusion restriction (Dippel *et al.*, 2020), using *Z* as an IV for *S* when conditioned on *C*. Formally, we compute parameter β_E^S as follows:

$$S = \beta_0 + \gamma_S^C C + \gamma_S^Z Z + \sum_{i=1}^{n} \delta_i W_i + \epsilon_S, \tag{6}$$
$$E = \beta_1 + \beta_E^S \hat{S} + \beta_E^C C + \sum_{i=1}^{n} \rho_i W_i + \varepsilon_E. \tag{7}$$

We test the exclusion of *Z* in Equations (4)-(5) and (6)-(7) by using the methodology described in D'Haultfoeuille *et al.* (2021).[6]

By denoting with *X* the potentially endogenous variable and with *Y* the outcome, we can write the exclusion restriction as $Y = g(X, Z, \varepsilon) = g(X, \varepsilon)$.[7] D'Haultfoeuille *et al.* (2021) demonstrate that if there exists a point (x^*, z, z') such that $F_{X|Z}(x^*|z) = F_{X|Z}(x^*|z') \in (0, 1)$, where $F_{X|Z}$ is the conditional distribution of X, then we can

[5] Following Wooldridge (2010), given the binary nature of our cultural variable, we first estimated a Probit model for Culture, using as excluded instrument the dummy variable indicating whether respondents consider imagination an important dimension for children's education, and then we used the predicted treatment probability as instrument in a linear two-stage least square estimator. As a robustness check, we repeat the analysis by considering the two variables entering our environmental score separately. Results can be found in the online supplementary material.

[6] Because in Equation (7) it is crucial to control for *Culture*, we first partial out the effects of our controls and then apply the test procedure proposed by D'Haultfoeuille *et al.* (2021).

[7] Notice that D'Haultfoeuille *et al.* (2021) keep the outcome function as general as possible, since their test relies on a control function method.

test the following exclusion restriction: $Y(x^*, z, \varepsilon) = Y(x^*, z', \varepsilon)$. The null hypothesis can be written as:

$$H_0: F_{Y|X,Z}(\cdot\,|x^*, 0) = F_{Y|X,Z}(\cdot\,|x^*, 1), \tag{8}$$

where the conditional distribution of *Y* (i.e., $F_{Y|X,Z}$) is estimated using a kernel function approach and a bandwidth parameter. D'Haultfoeuille *et al.* (2021) prove that the Kolmogorov–Smirnov statistic is a powerful test against a fixed alternative hypothesis of the form: $F_{Y|X,Z}(y|x^*, 0) \neq F_{Y|X,Z}(y|x^*, 1)$ for some *y*.

Finally, we also conduct a sensitivity analysis aiming to relax the assumption that our instrument is correctly excluded from the mediation equation (5) and the outcome equation (7) (i.e., $Z \perp \varepsilon_C, \varepsilon_S$ and $Z \perp \epsilon_S, \varepsilon_E$). More precisely, following Conley *et al.* (2012), we construct a confidence region for any possible correlation level between the excluded instrument and the error terms. This allows us to assess the robustness of our results with respect to violations of the exclusion restrictions.[8]

3. Results

Table 2 shows the estimates of Equations (1) and (2) with and without the inclusion of social capital. According to Baron and Kenny (1986), the coefficient of *Culture* reported in Column 1 represents the total effect of participating in cultural activities on the environmental concern. This effect explains approximately 10 percent of the standard deviation of the environmental concern. Columns 2 and 3 allow us to distinguish between the direct and indirect effects of cultural activities on the environmental concern. Column 3 provides the direct effect of Culture on Env. concern, which is about 86 percent of the total effect (i.e., 0.032 out of 0.037). Therefore, the mediation effect only accounts for a small part of the total effect. Indeed, we can compute the impact of Culture on Env. concern passing through Soc. capital by multiplying the coefficient of Culture in Column 2 with that of Soc. capital in Column 3.

According to our findings, those who participate in cultural activities are more likely to trust other people. At the same time, those who have a higher level of trust in other people are also more concerned about the environment. This supports the hypothesis that, since environmental quality is a common good that requires coordination to be maintained and participation in cultural activities facilitates the development of generalized trust, individuals who participate in cultural activities may be more prone to concern about the environment if they feel that coordination is easier because they can trust others.

[8] The results of both the test and the sensitivity analysis for the exclusion restriction are reported in the online supplementary material.

Table 2 – *Environmental Concern (41,160 obs.). This table reports the linear regression coefficients of our mediation model, including country fixed effects.*

	Env. concern	Soc. capital	Env. concern
	(1)	(2)	(3)
Culture	0.033***	0.091***	0.027***
	(0.006)	(0.025)	(0.006)
Soc. capital			0.064***
			(0.004)
Age	-0.001***	0.005***	-0.001***
	(0.000)	(0.001)	(0.000)
Female	0.022**	-0.035*	0.024***
	(0.009)	(0.020)	(0.008)
Religious	0.006	0.053***	0.002
	(0.007)	(0.019)	(0.007)
Republican leaning	-0.011**	-0.015**	-0.010*
	(0.005)	(0.006)	(0.005)
Competition	0.002	0.011***	0.001
	(0.001)	(0.004)	(0.001)
Demonstrations	0.049***	0.111***	0.042***
	(0.009)	(0.017)	(0.008)
Happiness	0.030***	0.099***	0.024***
	(0.004)	(0.014)	(0.004)
Health	0.008*	0.058***	0.004
	(0.004)	(0.011)	(0.005)
Education	-0.001	0.020***	-0.003
	(0.002)	(0.007)	(0.002)
Self-reported income	-0.002	0.013**	-0.003
	(0.002)	(0.006)	(0.002)
Mills	-0.370	-1.149	-0.297
	(0.334)	(0.870)	(0.342)
Constant	0.611***	-0.808***	0.663***
	(0.057)	(0.111)	(0.062)
Country FE	Yes	Yes	Yes
R-sq (within)	0.036	0.046	0.067
R-sq (between)	0.103	0.293	0.107

Notes: Robust standard errors in parentheses. Significance: *p<10%, **p<5%, ***p<1%.

Table 3 – *Causal mediation analysis for linear IV models (41,160 obs.). This table reports the estimates of Equations (5) and (7), as well as the computation of the total, direct, and indirect effects of culture on the environmental concern.*

A.	Regression Coefficients		
		Social Capital	Env. Concern
	Culture (C)	1.992***	0.007
		(0.300)	(0.006)
	Social Capital (S)		0.285***
			(0.047)
B.	Effects of culture on the environmental concern		
	Total		0.574***
			(0.097)
	Direct		0.007
			(0.006)
	Indirect		0.567***
			(0.126)
	Additional controls	Yes	Yes
	Country FE	Yes	Yes
	First stage F-statistic (C on Z) =81.161		
	First stage F-statistic (S on Z|C) =80.060		

Notes: Standard errors in parentheses. Significance: *p<10%, **p<5%, ***p<1%.

In Table 3, we re-estimated our mediation model controlling for endogeneity. The estimates of Equations (5) and (7) are presented in Panel A, whereas the corresponding direct effect, indirect (i.e., mediated) effect and total effect of Culture on the Environmental concern are presented in Panel B The direct effect is statistically insignificant and numerically negligible, whereas the indirect effect is positive and statistically significant. Thus, once we account for the possibility of omitted variables confounding the relationship between Culture and (intermediate and final) outcomes, the positive relationship between Culture and the Environmental concern is fully mediated by Social capital. Multiplying $\beta_S^{\hat{C}} = 1.992$ with $\beta_E^S = 0.285$ gives us the indirect effect.

The reason why IV coefficients (in Table 3) are larger than the OLS coefficients (in Table 2) is that the former capture a local average treatment effect (LATE). Specifically, whereas the OLS refers to the average impact of a unitary increase in cultural participation on environmental concern across the entire population, the IV

captures the average impact of a unitary increase in cultural participation on environmental concern for only those who consider imagination important to children. Therefore, the IV estimates are larger given the heterogeneous population we are considering. In other words, the full mediation result only applies to individuals who indicated that imagination is an important quality for children. Since they represent 22.54 percent of the sample, a partial mediation effect can be observed among individuals who do not view imagination as being so important but who participate in cultural activities.

More importantly, the IV estimates demonstrate a causal relationship between cultural participation and environmental concern passing through social capital.

4. Conclusions

This paper examines the relationship between participation in voluntary cultural associations and environmental concerns, focusing on whether generalized trust, a key component of social capital (Putnam, 1995), mediates this relationship. While a traditional mediation model found only a small partial mediation effect, an IV approach revealed that social capital fully mediates the impact of cultural participation on environmental concerns. Thus, public policies promoting cultural activities can enhance environmental concern and other socio-economic dimensions related to social capital.

The study has two key limitations for future research to address. First, it lacks variables capturing environmental behaviors like energy conservation or recycling. According to Bamberg (2003), an environmental concern resulting from a situation-specific cognition may influence certain pro-environmental behaviors without affecting others. Second, the dataset does not account for informal and unstructured cultural activities that contribute to cultural capital. Future research could also use social reforms promoting cultural activities to further explore this mediation analysis.

References

AGOVINO M., CROCIATA A., QUAGLIONE D., SACCO P., SARRA A. 2017. Good taste tastes good. Cultural capital as a determinant of organic food purchase by Italian consumers: Evidence and policy implications. *Ecological Economics*, 141, 66-75.

ALDY J. E., KOTCHEN M. J., LEISEROWITZ A. A. 2012. Willingness to pay and political support for a US national clean energy standard. *Nature Climate Change*, Vol. 2, No.8, pp. 596-599.

BAC M. 2009. Generalized trust and wealth. *International Review of Law and Economics*, Vol. 29, No.1, pp. 46-56.

BAMBERG, S. 2003. How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of environmental psychology*, Vol. 23, No. 1, pp. 21-32.

BARON R. M., KENNY, D. A. 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, Vol. 51, No. 6, pp. 1173-1182.

BORRA C., SEVILLA A. 2019. Competition for university places and parental time investments: Evidence from the United Kingdom. *Economic Inquiry*, Vol. 57, No. 3, pp. 1460-1479.

CAMPAGNA D., CAPERNA G., MONTALTO V. 2020. Does culture make a better citizen? Exploring the relationship between cultural and civic participation in Italy. *Social Indicators Research*, Vol. 149, No. 2, pp. 657-686.

CLARK C. F., KOTCHEN M. J., MOORE M. R. 2003. Internal and external influences on pro-environmental behavior: Participation in a green electricity program. *Journal of environmental psychology*, Vol. 23, No. 3, pp. 237-246.

CONLEY T. G., HANSEN C. B., ROSSI P. E. 2012. Plausibly Exogenous. *The Review of Economics and Statistics*, Vol. 94, No. 1, pp. 260-272.

CROCIATA A., AGOVINO M., SACCO P. L. 2015. Recycling waste: Does culture matter?. *Journal of Behavioral and Experimental Economics*, 55, pp. 40-47.

D'HAULTFŒUILLE X., HODERLEIN S., SASAKI Y. 2021. Testing and relaxing the exclusion restriction in the control function approach. *Journal of Econometrics*, Vol. 24, No. 2.

DIPPEL C., FERRARA A., HEBLICH S. 2020. Causal mediation analysis in instrumental-variables regressions. *The Stata Journal*, Vol. 20, No.3, pp. 613-626.

DOEPKE M., ZILIBOTTI M. 2017. Parenting with Style: Altruism and Paternalism in Intergenerational Preference Transmission. *Econometrica*, Vol. 85, No. 5, pp. 1331–1371.

DURLAUF S. N. 2002. On the empirics of social capital. *The Economic Journal*, Vol. 112, No. 483, pp. 459-479.

EMIRU T. S., WAKTOLA D. K. 2018. The environmental awareness of higher education students and the implications for the Paris Climate Agreement: empirical evidences from Ethiopia and USA. *International Research in Geographical and Environmental Education*, Vol. 27, No. 3, pp. 216-233.

EVS/WVS (2024). Joint EVS/WVS 2017-2022 Dataset (Joint EVS/WVS). *GESIS, Cologne. ZA7505 Data file Version 5.0.0, https://doi.org/10.4232/1.14320.*

HUTTER M., 1996. The impact of cultural economics on economic theory. *Journal of Cultural Economics*, 20, pp. 263–268.

LAREAU A. 2003. *Unequal Childhoods*. Berkeley: University of California Press.

MACIAS T., WILLIAMS K. 2016. Know your neighbors, save the planet: Social capital and the widening wedge of pro-environmental outcomes. *Environment and Behavior*, Vol. 48, No. 3, pp. 391-420.

PUTNAM R. D. 1995. Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political science & politics*, Vol. 28, No. 4, pp. 664-683.

QUAGLIONE D., CASSETTA E., CROCIATA A., SARRA A. 2017. Exploring additional determinants of energy-saving behaviour: The influence of individuals' participation in cultural activities. *Energy Policy*, 108, pp. 503-511.

SACCO P.L, FERILLI G., TAVANO BLESSI G. 2012. Culture 3.0: A new perspective for the EU active citizenship and social and economic cohesion policy. In: EUROPEAN HOUSE FOR CULTURE (Ed.) *The cultural component of citizenship: An inventory of challenge*, Access to the culture platform pp.195–213.

SAMEJIMA, F. (1969). Estimation of latent ability using a response pattern of graded scores. *Psychometrika monograph supplement*, Vol. 34, No. 4, Pt. 2, 100.

STOLLE D., ROCHON T. R. 1998. Are all associations alike? Member diversity, associational type, and the creation of social capital. *American Behavioral Scientist*, Vol. 42, No.1, pp. 47-65.

UNESCO 2001. UNESCO Universal Declaration on Cultural Diversity. Paris: UNESCO.

WHEELER S. 2018. 'Essential assistance' versus 'concerted cultivation': theorising class-based patterns of parenting in Britain. *Pedagogy, Culture & Society*, 26.3, pp. 327-344.

WOOLDRIDGE J. M. 2010. *Econometric analysis of cross section and panel data*. The MIT press.

WRIGHT S. D., CASERTA M., LUND D. A. 2003. Older adults' attitudes, concerns, and support for environmental issues in the "new West". *The International Journal of Aging and Human Development*, Vol. 57, No. 2, pp. 151-179.

ZELEZNY L. C., CHUA P. P., ALDRICH C. 2000. Elaborating on gender differences in environmentalism. *Journal of Social issues*, Vol. 56, No. 3, pp. 443-458.

Thomas BASSETTI, Department of Economics and Management, University of Padua, thomas.bassetti@unipd.it

Filippo PAVESI, School of Economics and Management, LIUC (Carlo Cattaneo University), Stevens Institute of Technology, School of Business, Hoboken, New Jersey, USA, fpavesi@liuc.it;

Massimo SCOTTI, School of Economics and Management, LIUC (Carlo Cattaneo University), mscotti@liuc.it