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ABSTRACT

Human Values and Selection into Supervisory Positions: Evidence from Nine European Countries*

Do employees with supervisory responsibilities differ from other workers in terms of human values, especially those potentially affecting the quality and efficiency of supervision? This paper uses data from rounds 7-9 of the European Social Survey to examine the selection of employees into supervisory positions in nine Baltic Sea region countries, focusing on ten basic values and four higher order values identified by Schwarz (1992). In eight out of nine countries considered, statistically significant association with supervisory responsibilities is found for three higher order values: positive for Openness to Change and Self-Enhancement but negative for Conservation. By contrast, Self-Transcendence (covering Benevolence and Universalism) is not significantly associated with supervision. In Estonia, Finland, Denmark and (to a smaller extent) Norway and Germany, we find evidence for adverse selection into supervisory jobs based on the Power value posing a risk of autocratic behaviour. When looking at the link between the supervisor's values and the number of subordinates, we find that values that make it easier or harder to become a supervisor tend to work the same way in supervising more workers.

JEL Classification: D91, J24, M51, P52

Keywords: supervisory responsibilities, human values, adverse selection, social trust

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1. Introduction

Workers with supervisory responsibilities organise and monitor the work of others and make critically important decisions at different levels of the organisational structure and across the sectors of the economy. The quality of supervision has, thus, a significant impact on a wide range of economic and social outcomes, from the quality of governance, quality of policymaking and population welfare at the state level to productivity, efficiency, social responsibility and working conditions at the level of organisation to job satisfaction and life satisfaction at the individual level. Part of the management quality is related to who the managers and supervisors are, including possibly the managers' and supervisors' values.[1]

Across such fields as psychology, labour economics, leadership, and management, the literature provides extensive evidence of the link between personality measures and labour market and social outcomes[2]. More specifically, in the context of this study, personality dimensions are strongly associated with successful leadership (see, e.g., surveys by Judge et al., 2002, Lord et al., 2017, and Oreg & Berson, 2018), with organisation-level outcomes (e.g. Berson et al., 2008), with attitudes and outcomes of subordinates (e.g., Abedi et al., 2017; Detlaff, 2005; Smith & Canger, 2004; Sverdlik et al., 2023), as well as with abusive supervision (Camps et al., 2016; Peltokorpi, 2017). Other studies suggest that supervisory responsibilities are associated with higher job meaning (Nikolova et al., 2021) and with higher job satisfaction (Jaakson and Ashyrov, 2022).

Bloom et al. (2012), using a survey among a large number of organisations across 20 countries, documented a substantial variation in management practices and the quality of management across the countries and sectors. That may also have significant consequences for the economic performance of organisations and whole countries: companies with better management are more productive and grow faster, and management is worse in lower-income countries, hampering economic growth. Moreover, firm performance could be improved by introducing better management practices (e.g. Bloom et al. 2013). As another example, Calvino et al. (2022) show that the lower level of digitalisation among Italian small and medium-sized companies is driven by lower management capabilities, possibly explaining Italy's lower economic performance in comparison to other OECD countries.

This study applies data from the 2014 – 2018 rounds of the European Social Survey (ESS hereafter) to shed light on the following questions:

- Are employees' human values significantly related to the probability of holding a supervisory position and/or to the number of supervised workers?
- Is the selection of human values positive, negative or neutral in terms of the potential impact on the quality and efficiency of supervision?
- Do substantial cross-country differences exist in terms of the role of human values in the selection of employees for supervisory jobs, and what are the common patterns that hold across the studied countries?

In answering these questions, we primarily rely on Schwartz's theory of the structure of basic human values (Schwartz 1992, 2006). Schwartz (1994) defines human values as guiding principles in the life of a person or other social entity. Values refer to "what people consider important" (Roccas et al. 2002, pp. 4) and guide an individual's distinction between desirable and not desirable behaviours. Schwartz (1992) identifies ten

[1] Regarding the focus of our study, it is important to stress that supervision is distinguished from managing employees by their employer, and the conditions for becoming an entrepreneur are substantially different from the conditions for becoming a wage-employed supervisor. See Nikolova et al. (2021) for a comparison of some outcomes related to managing employees and supervising of co-workers.

[2] See, e.g., Tett et al. (1991) on job performance; Heineck & Anger (2010), Nandi & Nicoletti (2014), Maczulskij & Viinikainen (2018), as well as a survey by Alderotti et al. (2023), on wages and earnings; Fletcher (2013) on employment status and wages; Heckman et al. (2006), Borghans et al. (2008), and Heckman & Kautz (2012) on a wider set of labour market and social outcomes.

distinct basic values (see Appendix 1 for details) and four broader groups - higher order values (HOVs hereafter): Openness to Change, Conservation, Self-Enhancement and Self-Transcendence.

While the gender dimension is not the main focus of our study, it also deserves special attention concerning the possible gender discrimination in promotion to / holding of supervisory positions (Adams & Funk 2012, Benson et al. 2023, Bertrand et al. 2019, Cassidy et al. 2016, Hillman et al. 2007, Goldin 2014, Ibarra et al. 2013, Koenig et al. 2011, Krause et al. 2022, Rothstein 2001, Wille et al. 2018). It might be more challenging for females (especially the ones with small children) to take up supervisory positions due to the temporal flexibility requirements, e.g. working long and unregular hours that are disproportionally rewarded, so-called "greedy jobs" (Goldin 2014). For instance, Masso and Vahter (2019) showed that the gender pay gap is especially large for female managers in multinational companies. Thus, we look into the following questions regarding the selection into supervisory positions: firstly, is the selection on human values gender-neutral, and secondly, is there evidence for gender discrimination after controlling for human values?

Our empirical study is restricted to the nine countries of the Baltic Sea region (hereinafter also BSR): three Baltic countries (Estonia, Latvia and Lithuania), four Nordic countries (Norway, Finland, Sweden and Denmark)[3], as well as Poland and Germany[4]. Despite geographical and (to a large extent) cultural proximity, this set of countries features substantial diversity in many respects (see Appendix 3 below for details). Such diversity across just nine countries allows for interesting cross-country comparisons while fully exploring country-specific models. For each of the nine Baltic Sea region countries considered in this study, we identify basic values and HOVs which, after controlling for employees' demographic characteristics and sector of employment, feature statistically and economically significant effects on the probability of supervising other employees (in the current or the last job).

Perhaps the most intriguing finding concerns Self-Transcendence (which includes, among others, motivations like understanding, tolerance and helpfulness). It appears that this group of values as a whole is not a statistically significant determinant of being a supervisor in eight out of nine countries considered, while in Germany, it is even negatively associated with holding a supervisory job. That finding is, in our opinion, somewhat related to the adverse selection on the Power value.

Furthermore, our findings suggest that Openness to Change and Self-Enhancement are positively associated with the probability of holding a supervisory job in all countries considered, excluding Latvia[5]. These effects stay almost unchanged when the models include both above-mentioned HOVs (the correlation between them is quite weak). The positive association between Openness to Change and supervisory status might sound good news. It is not so obvious for Self-Enhancement; however, in this case, the positive association is to be expected: individuals motivated by social status, prestige and personal success are more likely to become supervisors, other things being equal.

We find that Conservation (the set of values oriented at tradition, conformity and security) is negatively associated with the probability of being a supervisor. Moreover, according to the information criteria, Conservation performs better than Openness to Change and/or Self-Enhancement in explaining who is more likely to be a supervisor. When Self-Enhancement is included in the models in addition to Conservation, the effects of Conservation stay negative and strongly significant in all cases, while Self-Enhancement remains positive and significant only in Estonia, Poland and Germany.

Our findings suggest that the effects of Openness to Change, Self-Enhancement and Conservation HOVs are not only statistically significant but also economically meaningful in explaining the selection into

[3] Hereafter, the term "Nordic countries" refers only to the Nordic countries of the Baltic Sea region and excludes Iceland.

[4] Some background information on the Baltic Sea Region and relevant for this study country-specific descriptive statistics is provided in Appendix 3 and Appendix 4, respectively.

[5] In Latvia, the four higher order values and most basic values are not statistically significant in explaining who holds supervisory jobs. We come back to this in Conclusion.

supervisory positions in the countries of the Baltic Sea region. However, while the directions of these effects are similar across countries, the relative sizes of the effects (in comparison to the shares of employees in supervisory positions) are country-specific. Poland, Lithuania and Denmark feature the largest effects of Openness to Change, while Finland, Estonia and Lithuania top the list regarding the effects of Self-Enhancement. The effects of Conservation in Norway and Germany are much smaller than elsewhere. Finally, in each country, the effect of Conservation is of a larger size than the effects of the other HOVs.

In addition to the role of higher order values, we analyse how supervisory responsibilities are related to the ten basic human values, as well as to the underlying specific measures from the Portrait Value Questionnaire (PVQ-21), the instrument designed by Schwarz (2003) for the European Social Survey. We develop two sets of country-specific parsimonious models: one with three to four basic values per model and another with three to seven items from PVQ-21. These models substantially outperform the above-mentioned models with higher order values. Noteworthy, for seven out of nine countries, these models feature strongly significant positive effects of PVQ-21 items related to understanding (tolerance) and/or helpfulness – motivations associated with Universalism and Benevolence, the basic values belonging to the Self-Transcendence, the only HOV not significant in the HOV-level models.

Finally, we provide similar results regarding the link between the number of supervised workers (conditional on it being positive) and the supervisor's values. All estimated effects are both statistically significant and economically meaningful. For instance, an increase in a supervisor's Power value score by one standard deviation is associated with an increase in the predicted number of supervised workers by about 2 in Estonia, by more than 2 in Germany and by more than 4 in Finland.

Apart from the role of human values, we investigate the link between the individual level of social trust and the probability of supervising other employees. After controlling for demographic characteristics, sector of employment and human values, this link is positive in two countries and not significant in six countries; the results are similar also in the models not controlling for human values. Moreover, controlling for social trust does not change the effects of human values. Germany stands out as the only country in our sample where employees with high levels of social trust are less likely to hold supervisory jobs, other things equal[6]. Note that social trust is not a value but an attitude, which, in principle, might be endogenous to holding a supervisory position. Therefore, for the countries where social trust appears significant, we have tested its exogeneity using both the standard instrumental variable methodology and heteroskedasticity-based instruments (Lewbel, 2012, 2018; Baum & Schaffer, 2012); the exogeneity was not rejected.

Our study sheds light on matching between (heterogeneous) workers and supervisory jobs, thus contributing to labour economics and personnel economics (e.g. Lazear, 1998, 2000; Layard et al., 1993), particularly to the literature on compensating wage differentials (Viscusi, 1993) and hedonic wage theory (Kniesner and Leeth, 2010; Rosen, 1974). In this literature, workers less averse to some job disamenity *z* (e.g. stress or risk of injury) self-select into high *z* jobs offered by firms with high cost of reducing *z*. The equilibrium real wage rate equals the marginal cost of reducing *z* and increases with *z*. In our context, *z* is the presence and scope of supervisory responsibilities, which can be measured, e.g. by the number of supervised workers. In Appendix 4, we document a positive association between establishment size and the number of subordinates for supervisors in the upper part of their distributions. Other covariates of "intensity of supervision" include public visibility of the job and complexity of internal, horizontal and vertical coordination (in particular, the number of subordinated units and levels). It follows that supervision-intensive jobs are more likely to be

[6] One may wonder whether some of these differences are driven by the historical legacy, for instance, the lower level of trust in Germany in comparison to Scandinavia may be explained by differences in political stability (Svendsen et al. 2012). Still, the level of social trust in West Germany rose significantly after the 2nd World War, in line with the general pattern that richer and more democratic societies have higher levels of social trust (Delhey and Newton 2003), so that Germany can be said to have by now rather an average level of trust, still, the different correlations between trust and the take-up of supervisory jobs across the countries might be still partly driven by the historical legacies.

found in large organisations[7]. Our contribution is an explicit modelling of multidimensional unobserved heterogeneity of workers in terms of human values. Some of the basic human values are related to "aversion/willingness to supervise", and our results for selection on these values are in line with the predictions of the hedonic wage theory. Supervisory responsibilities are commonly associated with a wage premium, often in a performance pay framework. Hence, our paper is related to the literature on performance pay with unobservable worker types (Moen and Rosén, 2005). This literature argues that firms competing for scarce talent in equilibrium offer too strong incentives distorted by agency costs. As a result, high-productivity workers exert too much effort. Agency costs might take different forms; Moen and Rosen (2005) focus on effort misallocation across tasks: workers tend to neglect tasks not explicitly related to contracted performance. We contribute to performance pay literature by providing empirical evidence (with a theoretical explanation from the hedonic wage model) that supervisory jobs, as such, disregarding the contract design, bear a risk of adverse selection resulting in autocratic behaviour. This risk can be alleviated or strengthened by organisation-level norms and stereotypes (*leader schemas*, see e.g. Medvedeff & Lord 2007, van Quaquebeke et al. 2014), possibly related also to country-level cultural value orientations[8]. We find evidence for adverse selection into supervisory jobs in Estonia, Finland, Denmark, Norway and Germany.

The rest of the paper is structured as follows. Section 2 provides a conceptual framework on supervisory responsibilities and human values, as well as on the Baltic Sea region, and describes the related literature and places our paper in the context. Section 3 describes the data and methodology. Sections 4 and 5 present the main results in terms of higher order values and the ten basic human values, respectively. Section 6 concludes.

2. Conceptual framework

2.1. Supervisory responsibilities and human values

Supervisors organise the work of subordinated workers. This includes planning the tasks, assigning and explaining tasks and duties to employees, setting performance goals and deadlines, monitoring the productivity of team members, providing feedback and, if necessary, coaching. The supervisors ensure the exchange of information between their subordinates and upper management and maintain work-related contacts with other units within or outside the organisation. Supervising is a form of leadership; hence, an important (although often implicit) part of supervisory responsibilities concerns maintaining the team spirit, contributing to cooperative interpersonal relations within the team, and resolving problems and conflicts. Yet another facet of supervising is participation in human resource management, including hiring, promotion and firing decisions. For a more detailed discussion of supervisory responsibilities, see, e.g., Herrity (2023), MIT (2021), Workable (2023); for more academic sources, see, e.g. Rothstein (2001).

How do people become supervisors? There are, in principle, two main scenarios: contest and sponsorship (see Turner, 1960, p. 856); both concepts were integrated in the tournament mobility model (see Rosenbaum, 1979 and Connelly et al, 2014). In the former, one takes part in an open competition for a supervisory job (thus demonstrating proactive behaviour) and wins; in the latter, one receives an offer from the management and accepts it. In both cases, two conditions must be met – one on the demand side and one on the supply side. First, the decision-makers consider this person suitable for a supervisory position - *leader schema matching* occurs (Medvedeff & Lord 2007, van Quaquebeke et al. 2014, Crossley et al. 2023). Second, the person in question is willing to take up supervisory responsibilities.

[7] A related question (which we leave for future research) is whether the association of supervision with values is stronger in larger organizations.
[8] For details on cultural value orientations see Appendix 2.

On the supply side, the candidate considers the wage premium, enhanced work meaning, autonomy and better career perspectives, but also stress and difficult decision-making typically associated with a supervisory position[9]. The result of this cost-benefit calculation depends not only on the size of the wage premium and job attributes (including the sector, the number of subordinate workers and their demographic and professional profile, the type and the size of the organisation, etc.) but also on the personality of the candidate. Let us give a couple of examples. Other things equal, a person who highly values social status and prestige is likelier to accept a supervisory position than a person for whom social status is less important. By contrast, a person who prioritises security over achievements and tends to avoid risks is less likely to accept a supervisory job than a person with opposite priorities. Moreover, proactive behaviour necessary in the contest scenario correlates positively with some values but negatively with others. This is how *human values* enter the selection process on the supply side. Put another way, *the wage premium required by the workers to accept a supervisory position, as well as the effort the worker is willing to exert to become a supervisor, depends on the worker's values*. Needless to say, other worker's characteristics (gender, age, family status, etc.) also play a role and are included in our models, but the focus of this paper is on human values.

On the demand side, the recent level and trend of the candidates' job performance are, of course, considered (Alessandri et al. 2021), but the decision-makers (the management or the evaluation committee) analyse also the candidates' profiles, professional experience and, if available, position-specific ideas and plans. Moreover, based on work-related interactions in the past, on formal and informal references collected during the selection process, on interviews with the candidates, their motivation letters and publicly available information, the decision-makers derive (explicitly or not) some conclusions about candidates' personality, including their values (see Walumbwa et al. (2008) on importance of personal values for authentic leadership). While candidates' actual values are private information, their behaviour in different situations is guided by the relative importance of basic human values (Schwartz 1992); hence, it is fair to assume that *the perceived (by the decision-makers) personalities of the candidates reflect to some extent their actual values*. The decision-makers compare the perceived personalities of the candidates with the pre-defined organisation-specific stereotype of an "ideal leader/supervisor" (the leader schema, see Medvedeff & Lord 2007, De Cremer et al., 2010, Crossley et al. 2023). This is how human values enter the selection process on the demand side. Note that in terms of values, the leader schema might differ from the country-level cultural value orientation (this is likely to be the case in organisations prioritizing diversity, as well as in multinationals).

Our data source (ESS) understands supervision "in the sense of both monitoring and being responsible for the work of others" (European Social Survey 2018: 55). The question about supervisory responsibilities is not asked from respondents who are employers (or just self-employed)[10]. This way, supervision is distinguished from managing employees by their employer. Our paper strictly follows this distinction because the conditions for becoming an entrepreneur differ substantially from those for becoming a wage-employed supervisor. See Nikolova et al. (2021) for a comparison of some outcomes related to managing employees and supervising co-workers.

2.2. Related literature and derivation of hypotheses

Our study seeks to contribute to two inter-related strands of the literature: literature on values and labour economics literature. Individuals' values are related to effort, ability, and motivation, which are core concepts in the labour economics literature. For wider perspectives of values across the scientific disciplines, see Brosch and Sander (2016).

[9] See e.g. Nikolova et al. (2021: Tables 3 – 5) for the evidence on the positive association of supervisory reponsibilities with work meaning, work autonomy and wages, as well as with the level of stress at work.
[10] The EU Labour Force Survey questionnaire applies the same approach.

While our approach relies on worker heterogeneity, research on performance in labour economics has gained a renaissance with the introduction of heterogeneous workers with different abilities (e.g. Layard *et al.* 1993). This has extended the scope of labour economics from the competitive model with identical workers to models that include worker heterogeneity, imperfect competition, negotiated wages and rent sharing. When workers are heterogeneous, matching between workers and employers becomes important. Similarly, the allocation of workers to different occupations is of interest.

The quality of the match, as well as the resulting distribution of its value-added, depends, among others, on whether firm and worker characteristics are private or public knowledge. A case extensively discussed in the literature is firm hiring from a population of workers who generally differ in their ability, motivation or productivity (see for an overview Rogerson et al., 2005). If worker characteristics are private information, whether their work effort is observable or contractible becomes important. If not, classical principal-agent problems occur (Bolton and Dewatripon, 2005). The outcome, in this case, depends on the contract design. Fixed (hourly) wages likely result in lower productivity and lower effort relative to some performance pay. But performance pay often leads to rents for the most productive firms, and risk-averse workers may require higher average pay for income uncertainty. Firms will trade off the gains versus the losses for different contract designs (Moen and Rosén, 2005). For our study, the question is thus about the quality of the match between employees with heterogeneous values and the supervisory positions.

Contracts influence workers' productivity in a given job and the allocation of workers to different jobs. Lazear (2000) finds large and significant productivity effects of performance pay. An important part of this productivity effect is that productive workers self-select into jobs where their ability or effort has high returns. Moen and Rosén (2005) find that high-quality workers may be overcompensated for their performance. This is particularly so for positions involving supervision, leadership and management.

Below, we investigate the probability that individuals with different values are employed in positions that involve supervising other workers. Our ambition is mainly to produce descriptive empirical evidence about matching human values to such positions. We underline, however, that causal mechanisms are unclear. They will also vary according to the firm and worker characteristics, the degree of private information and contract design.

Many studies have investigated the link between personality and labour market outcomes[11]. However, to the best of our knowledge, this paper is the first to look at the *selection* into supervisory positions from the perspective of personal values. On the other hand, a number of studies address the question of how a supervisor's (or, more generally, leader 's, e.g. Liden et al. 2008) personality traits or human values affect the quality of supervision, the performance of those supervised and their job satisfaction (Abedi et al. 2017; Bloom et al. 2013, Boudreau et al. 2001, Camps et al. 2016, Detlaff 2005, Frederiksen et al. 2020, Peltokorpi 2017, Shahzad et al. 2021, Smith & Canger 2004).

Note that the above-mentioned findings regarding the impact of personality traits of supervisors or leaders can generate some hypotheses about the role of their human values, as there is evidence of causal links from personality traits to basic human values (Fischer, 2017; Grankvist & Kajonius, 2015; Roccas et al., 2002). In what follows, we briefly outline the literature on human values – only to the extent we apply it in our analysis. Schwarz pioneered research on human values (see the overview in Schwartz, 2012). The concept of human values has been used in research in most social sciences (see, e.g. Beilmann & Lilleoja 2015; Davidov et al., 2020; Jowell et al. 2007; Rudnev et al., 2018; Sortheix & Schwartz, 2017; Trapnell & Paulhus, 2012), but less so in economics and in particular in labour economics. Our paper partially fills this gap. Schwartz (1992) identifies ten distinct basic values (see Appendix 1 for details) and four broader groups

[11] See, e.g. Alderotti et al. (2023), Fletcher (2013), Heckman et al. (2006), Heckman & Kautz (2012), Maczulskij & Viinikainen (2018).

- higher order values (HOVs hereafter). The latter serve as the poles of two dimensions: *Openness to Change* is opposed to *Conservation,* and *Self-Enhancement* is opposed to *Self-Transcendence* (Figure 1)[12].

Importantly, both the basic values and the HOVs have been shown to be largely stable over the course of life and not affected by external shocks (Rokeach & Ball-Rokeach, 1989; Hooghe & Wilkenfeld, 2008; Reeskens & Vandecasteele, 2017). Furthermore, Schwartz (2006) describes two other bipolar axes in the human values' space. First, values belonging to the Openness to Change and Self-Enhancement categories are *person-focused* as they guide the expression of one's abilities and interests, while values belonging to Conservation and Self-Transcendence categories regulate one's interaction with social entities, thus being *social-focused*. Second, Conservation and Self-Enhancement HOVs can be described as *self-protecting* as they include values aiming at protecting oneself and avoiding anxiety. By contrast, Openness to Change and Self-Transcendence HOVs are responsible for *growth*, as they are associated with self-expansive motivations.

Figure 1 presents a simplified (but sufficient for our purposes) version of Schwartz's theoretical structure of basic human values. It features the ten basic values grouped by the four HOVs and the four bipolar axes mentioned above.

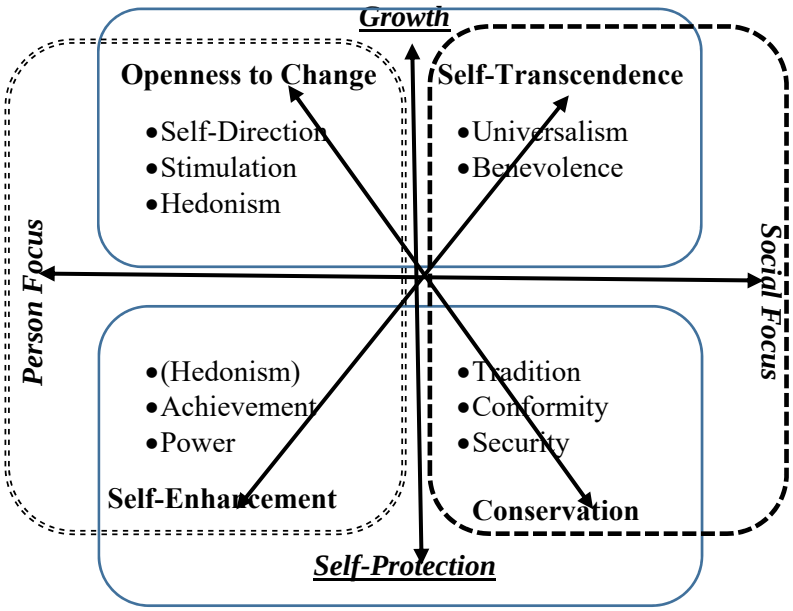

Figure 1 Simplified presentation of Schwartz's theoretical structure of basic human values.
Notes: The Figure ignores the circular structure of values (central to Schwartz's theory but not to our application). The circular sequence of the ten values, starting from Power and going clockwise, should be the same as listed in Appendix 1 (so that Security ends up next to Power)[13].
Source: Schwartz (1992, 2006).

Another perspective on values widely used in the literature is the distinction between *agentic* and *communal* values; the former is linked to self-advancement in social hierarchies, while the latter is to maintaining positive relationships (Trapnell and Paulhus 2012). The literature provides both conceptualisation and

[12] Table A6 (in Appendix 3) reports correlations between the HOVs for each of the countries considered.
[13] According to Schwartz (1992), "the closer any two values [in this circular sequence] the more positive *or less negative* the correlations between them; and the more distant the values, the more negative *or less positive* the correlations between them."

empirical evidence suggesting that the agentic values are predominantly masculine, while the communal values are predominantly feminine (Bakan 1966; Wiggins & Holzmuller, 1978; Trapnell and Paulhus 2012: Tables 2 and 4). It appears that person-focused values (those in the left part of Figure 1) are agentic, while the social-focused values (those in the right part of Figure 1) are communal (Trapnell and Paulhus 2012: Figure 1 and Table 2). Among the person-focused values, Power and Achievement values feature the strongest positive correlation with Agency, while Universalism and Benevolence are the most positively correlated with Communion among the social-focused values (Trapnell and Paulhus 2012: Table 2).

Some of the basic values can be seen as desirable for a supervisor, while others might have an adverse or ambiguous effect on the quality of supervision. Schwartz (2003, Table 5) provides evidence that "people who value power and achievement highly may engage in an exaggerated pursuit of power, success, and influence" which might lead to *autocratic behaviour* – definitely not a feature of a good supervisor[14]. Moreover, the Power value is positively correlated with aggressive behaviour (Knafo et al., 2008) and negatively with the motivation to be moral (Sverdlik & Rechter, 2020). One can thus conclude that Power as a value negatively affects the quality of supervision. However, the impact of Achievement value is ambiguous: the pursuit of professional achievements might outweigh the risk of autocratic behaviour. Hedonism and Self-Direction are also ambiguous: both correlate positively with autocratic behaviour, but also with Openness to Change, a feature desirable for a supervisor (Schwartz 2003, Table 5)[15]. Stimulation value, being a part of the Openness to Change HOV (Figure 1), is, in our view, ambiguous as well, as its motivational goals (excitement, novelty, and challenge in life) might conflict with professionally oriented goals.

A good supervisor should be open to changes and able to think and act independently rather than viewing discipline and obedience to authorities as the top priorities (at least in modern society). From this perspective, Conformity, Security, and Tradition values are not desirable, as they oppose Openness to Change (see Figure 1) and correlate positively with discipline and obedience to authorities (Schwartz 2003, Table 5).

There are several reasons why Universalism and Benevolence are desirable values for a supervisor. First, their underlying motivational goals (see Appendix 1) are consistent with "doing a good job" and avoiding negative impacts on people and the environment. Second, these motivations facilitate good interpersonal relationships with co-workers and reduce the risks of discrimination and favouritism. Helpful behaviours directed at co-workers, in turn, tend to improve organisational performance (Podsakoff et al. 2000). Moreover, Universalism and Benevolence correlate negatively with autocratic behaviour, as well as with obedience to authorities (Schwartz 2003, Table 5).

Figure 2 summarises the above considerations. Of the four HOVs, Self-Transcendence is likely to be a desirable set of values for a supervisor, while it is the other way around for Conservation. The two remaining HOVs, Self-Enhancement and Openness to Change, as well as most of their subordinate basic values, plausibly have an ambiguous impact on the quality of supervision. Recall from Figure 1 that the left part of Figure 2 features person-focused or agentic values, while the right part features social-focused or communal ones. It appears that our expectations about the links between the values and the quality of supervision are unambiguous as far as social-focused values are concerned but ambiguous for all person-focused values, excluding Power[16].

[14] See, however, Rosing et al., 2022; Wang & Guan, 2018.

[15] Importantly, these correlations are consistent with motivational goals related to self-direction and hedonism (see Appendix 1). Moreover, according to Schwartz (1992), Self-Directions belongs to the Openness to Change HOV, while Hedonism has also elements of the Self-Enhancement HOV.

[16] Some ambiguity regarding desirability of Power and Benevolence values for supervisors might arise from the fact that Power is positively but Benevolence negatively associated with competitive behavior (Sagiv et al., 2011).

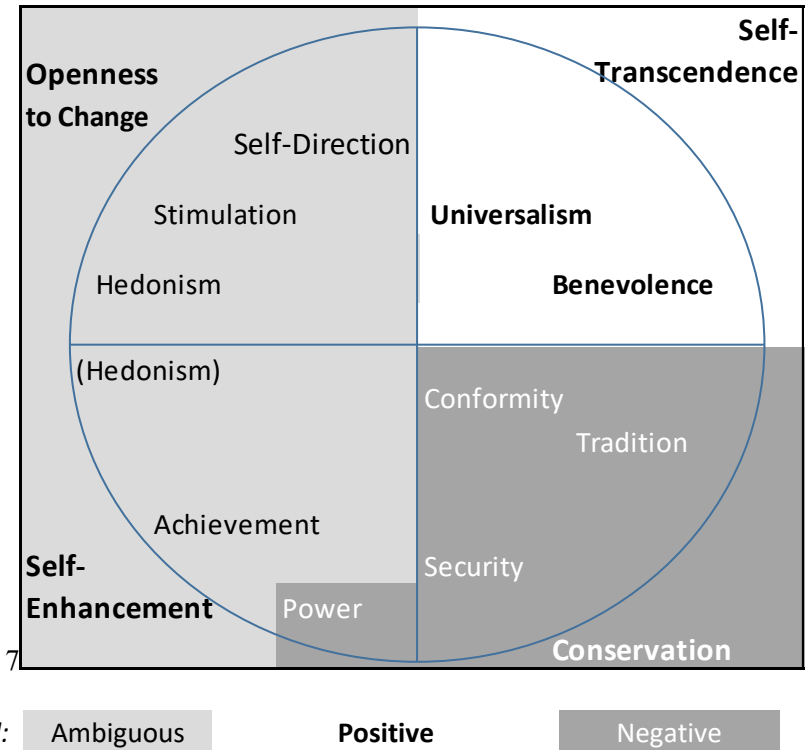

Figure 2. Hypothetical impact of basic human values and higher order values on the quality of supervision

Sources: Value structure - Schwartz (1992, 2006). Impact on the quality of supervision - author compilation.

Based on a theoretical framework based on Schwarz's concept of basic human values and the considerations about the role of human values in supervision, two main hypotheses are proposed for their empirical testing:

- Hypothesis 1: Human values are related to the selection of employees' into supervisory positions.
- Hypothesis 2: There are strong commonalities across the countries in the relationship between human values and supervisory responsibilities.

The empirical testing of the developed hypotheses is based on the data of the countries of the Baltic Sea region, taking into account some specificities of the region and the countries belonging to it.

3. Data and Methodology

We use data from rounds 7 – 9 of the ESS, freely available online, along with the documentation, including questionnaires and codebooks[17]. The European Social Survey has a long history of critical development (see also Jewell et al. 2007) and can therefore be expected to provide good-quality data for comparative analysis. Data for three ESS rounds (7, 8, and 9) are available for most countries of the Baltic Sea region; however, round 8 data are missing for Denmark, while only round 9 data are available for Latvia. For each round, the ESS data consists of a nationally representative sample of the resident population aged 15+. In rounds 7 –

However, in our opinion, this aspect is much less important that above-mentioned arguments against Power and in favour of Benevolence.

[17] See European Social Survey Data (2014, 2016, and 2018) and European Social Survey (2018).

9, the sample size varies in the range 1400 – 1800 in Denmark, Sweden, Norway and Poland, 1750 – 2250 in Finland, Estonia and Lithuania, and between 2350 and 3050 in Germany. Latvia stands out with a sample size below 1000 in round 9. Country-specific descriptive statistics relevant to this study are provided in Appendix 4.

Our working samples consist of employees and former (in the last job but not earlier than in 2011) employees aged 20-64 during the respective survey round[18]. This way, we cover workers occupying supervisory and non-supervisory positions in 2011 – 2019, thus excluding the Great Recession of 2009 – 2010. Some of the supervisors in our sample entered supervisory positions before 2011, but at least we know that they continued as supervisors after the Great Recession. To focus on the selection into supervisory jobs in the countries of the Baltic Sea region, we exclude immigrants whose last job was before they entered the country.

All models in this study are estimated separately for each of the BSR countries accounting for the sample design (strata and primary sampling units) and using the post-stratified design weights[19]. When strata with one sampling unit are encountered (this is the case for Poland, Finland, and Norway), they are centered at the grand mean instead of the stratum mean. We use Akaike information criterion (AIC)[20] to compare model performance across specifications. To derive AIC, the models are re-estimated with the same weights but disregarding the sample design data, resulting in the same point estimates and, most of the time, similar significance levels.

The ESS data provide as many details on the last job of the respondents not employed during the survey as on the current job of those employed. In studies devoted to employment issues, this makes country-specific samples larger and allows problems related to selection into employment to be avoided. The share of respondents not employed during the survey in our working samples ranges from 13 – 14 per cent in Lithuania, Norway, and Sweden to 16 – 17 per cent in Estonia, Denmark, and Germany to 19 – 23 per cent in Poland, Latvia, and Finland.

We estimate two types of models:
(i) probit models with the dependent variable being the indicator of holding a supervisory position in the current or in the last job;
(ii) tobit models with the dependent variable being the number of subordinates (zero for non-supervisors).

Due to data limitations, we are unable to distinguish "failed supervisors" from non-supervisors. Thus, the probit models refer not only to the selection into supervisory positions (at some unobserved moment in the past), but also to staying in such position until the measurement time, i.e., the survey time for the employed respondents and the time of the last job for those non-employed – let us call it "time M". The tobit models are even stronger linked to the time M, as the number of subordinates refers exactly to this time.

In both types of models, we use the same three blocks of explanatory variables. The first block includes demographic characteristics: gender, age and its square, living with a spouse/partner, ever living with own or partner's children, completed education level, as well as immigration and ethnic background. Regarding education level, we distinguish five broad categories well comparable across countries: below secondary, secondary, post-secondary or short-cycle tertiary, Bachelor degree or equivalent, and Master or PhD degree

[18] We exclude teenagers because their human values are still in the formation process, while change in the individual value priorities is very slow thereafter (see e.g. Vecchione et al. 2016). On the other hand, we exclude seniors aged 65+ (mostly retired), for two reasons. First, people of this age tend to shift their priorities from future-oriented to present-oriented goals (Carstensen et al. 1999). Second, retirement implies a major change in individuals' location in the social structure hence influencing their value priorities (Shwartz 2006).
[19] These weights do not include population size correction and are suitable for single-country analysis or for cross-country comparisons (Kaminska 2020, p.4).
[20] See Liddle (2007) on AIC and its comparison with other information criteria.

(or equivalent). In terms of immigration and ethnic background, we distinguish immigrants, two categories of second-generation immigrants (with one or both parents born abroad), local-born ethnic minorities, and the rest of the population ("100% native"). Technically, these categories are defined as in Hazans (2011)[21]; in particular, local-born ethnic minorities are those who either answer "Yes" to the question "Do you belong to minority ethnic group in [country]?" or use at home a language different from the "titular" language. Gender, as well as immigration and ethnic background, are exogenous variables for which reversed causality can be safely excluded so that they can be seen as "determinants" of supervisory status.

Age serves as a proxy for labour market experience; including both age and age-squared in the regressions is a common approach to account for diminishing returns to experience. For those not employed during the survey, we measure supervisory status at the time of the last job; thus, it is not perfectly synchronized with age, family status and (for younger respondents) even with education. The age gap, however, does not exceed two years for 95 – 98 per cent of our working samples (and doe not exceed five years for all but a fraction of one per cent). We use age at the time of the survey (rather than at the time of the last job) to ensure synchronization with the measurement of human values and education. Alternative specifications (with age as of the last job or with samples excluding non-employed) yield results similar to those in the paper[22]. Family status and education variables are important controls but also proxies for some non-observed inherent personal characteristics: ability to build long-term relationships, cognitive ability, and purposefulness. This justifies the use of these explanatory variables despite the fact they are measured not at the time of selection into a supervisory position. In some additional specifications, as the measures of unobserved cognitive and managerial abilities, we also include parental background controls: father's or mother's highest completed education level, father's occupation when the respondent was aged 14.

The second block includes job characteristics: sector of economic activity (14 categories plus a category for nonresponse), employer type (four categories: a private firm, a state-owned enterprise, central or local government, and other public sector, such as education or health), contracted weekly working hours (less than 20, 20 – 34, 35+, and a category for nonresponse). We also control for the ESS round (i.e., our models include time fixed effects). In the baseline specifications, we do not control for the plant size because it is a labour market outcome potentially endogenous to holding a supervisory position. Moreover, controlling for plant size might cause bias in the estimates of our main variables of interest – the scores of human values. Indeed, persons who highly value social status, prestige, and/or success plausibly are more likely to work in large organisations (one reason being higher pay, see Fox, 2009; Meagher & Wilson, 2004; Oi & Idson, 1999); hence, the plant size controls might take some explanatory power from Power and Achievement values, as well as from Self-Enhancement HOV. However, as a robustness check, we have estimated some models also with plant size controls – without substantial changes in the main results.

The third block of explanatory variables includes scores of the basic human values (or the HOVs) corrected for individual patterns of scale use. The ESS scale for the measures of human values (the PVQ-21 items) is from 1 (*very much like me*) to 6 (*not at all like me*). In line with the literature (Schwartz 2003, Sortheix & Schwartz 2017, Rudnev et al. 2018), we implement the following transformations. First, we reverse the scale (so that a higher score indicates higher importance of the value to the person) and centre respondents' scores on their own mean response across the 21 items, thus accounting for the individual differences in scale use and measuring the *relative* importance of values. Second, the scores for the ten basic values and the four HOVs are obtained by averaging the respective PVQ-21 items. Third, all above-mentioned scores

[21] However, unlike Hazans (2011), we put all immigrants into one category (disregarding their region of origin). This is to avoid too small cells when running country-specific regressions (estimates in Hazans (2011) are performed at the level of country groups, rather than single countries).
[22] These results are available on request.

are standardized by dividing by their (country-specific) standard deviations and used in the regressions in linear form[23].

To investigate the link between human values and supervisory responsibilities, we start by estimating, for each country, four models with a single HOV each, as well as all six possible two-HOVs models[24]; in addition, the best-performing of these models are amended with the social trust variables. Following the literature (e.g. Kelly et al., 2009; Zmerli & Newton, 2008), we define *the social trust variable* as the average of three components available in the ESS data, each measured at the 0 – 10 scale:

- *fairness* (0 = Most people try to take advantage of you … 10 = *Most people try to be fair*)
- *helpfulness* (0 = People mostly are looking out for themselves …10 = *Most of the time people are helpful*)
- *trustfulness* (0 = You can't be too careful … 10 = *Most people can be trusted*).

Regarding the ten basic values, as the first step, we estimate, for each country, ten single-value models to find out which values are significantly associated with supervisory responsibilities. At the second stage, for each country, we include in the model (in addition to demographic and job characteristics) all basic values significant in the single-value models. Then, to arrive at an "optimized model with multiple basic values", we perform stepwise exclusion of the basic values not significant at the 10% level (as long as it improves the AIC). If the resulting model includes one or more basic values with a significance level close to 10%, we continue the process with a lower significance threshold (e. g., 0.07 or 0.08). Finally, as a robustness check, we repeat the second stage, starting with all ten basic values in the model (in some cases, one of the values not significant in the single-value model improves the model's performance with multiple values).

4. Main results in terms of the higher order values

Table 1 presents the main results regarding the HOVs. After controlling for a battery of demographic and job characteristics, Openness to Change and Self-Enhancement are positively associated with the probability of holding a supervisory job in all countries considered, excluding Latvia. This holds true in the models with just one of these HOVs (Table 1, Panel A) and when they are included simultaneously (Table 1, Panel B)[25]. Moreover, the marginal effects in the latter case are very close to those estimated by the single-HOV models; this is consistent with very weak correlations between Openness to Change and Self-Enhancement (see *Table A6*, panel A).

A one-standard-deviation increase in Openness to Change is associated with an increase in the probability of holding a supervisory job by 2 to 3 pp. A one-standard-deviation increase in Self-Enhancement is linked to the rise in the probability of supervising other employees by 3.7 to 4.3 pp in Estonia, Finland and Germany, while this effect amounts to less than 2 pp in Lithuania and Norway and about 3 pp in Sweden and Denmark. Given that the share of employees with supervisory jobs ranges between 12% and 22% in Lithuania, Poland and Finland and between 27% and 38% in the other countries considered, the effects of HOVs seem not large yet economically meaningful. The relative sizes of the effects (in comparison to the shares of employees in supervisory positions) are country-specific. Poland and Lithuania feature the largest effects of Openness to Change, while Finland, Estonia and Lithuania top the list regarding the effects of Self-Enhancement.

[23] In some cases, the requirements for a supervisory position might imply a very high (or very low) score for some of the values. In such situations, step-wise constant measures of values might be more appropriate. We plan to look into this in future research.

[24] We report in detail only two best-performing of these six models. All three-HOVs models are not reported as well, as they appear to be inferior (in terms of AIC) to the best two-HOVs models.

[25] Few insignificant exceptions include Openness to Change in Denmark and Self-Enhancement in Norway (panel A), as well as Self-Enhancement in Poland (panel C).

Table 1 Marginal effects of higher order values (HOVs) on the probability of holding a supervisory job. Baltic and Nordic countries, Poland and Germany, 2014-2018.

	EE	LV	LT	PL	FI	NO	SE	DK	DE
	A. Models with a single HOV variable: each cell represents a separate model								
O	.024***	.009	.023***	.029***	.026***	.020**	.029***	.017	.027***
S-E	.042***	.013	.019**	.014*	.038***	.015	.025**	.029**	.039***
C	-.057***	-.029	-.028***	-.035***	-.042***	-.021**	-.055***	-.035***	-.045***
S-T	-.008	.001	-.012	-.005	-.010	-.012	.013	-.004	-.016**
	B. Models with C and Social Trust (STR): each column represents a model								
C	-.057***	-.028	-.029***	-.033***	-.042***	-.022**	-.054***	-.035***	-.046***
STR	.018**	-.025	.000	.015**	.009	-.011	.014	.005	-.014*
	C. Models with O and S-E: each column represents a model								
O	.025***	.011	.020**	.028***	.026***	.021**	.033***	.020(*)	.030***
S-E	.043***	.015	.016**	.011	.037***	.017[*]	.029***	.031**	.041***
	D. Models with O, S-E and STR: each column represents a model								
O	.025***	.007	.020**	.027***	.026***	.021**	.034***	.020(*)	.031***
S-E	.044***	.017	.017**	.012[*]	.039***	.016	.030***	.031**	.041***
STR	.022***	-.026	.001	.016**	.014*	-0.009	.019*	.007	-.009
	E. Models with C and S-E: each column represents a model								
C	-.047***	-.027	-.024**	-.038***	-.033***	-.018*	-.053***	-.029**	-.035***
S-E	.024**	.003	.008	-.006	.022**	.008	.008	.018	.026***
	F. Models with C, S-E and social trust (STR): each column represents a model								
C	-.046***	-.025	-.024**	-.036***	-.032***	-.019*	-.052***	-.028**	-.037***
S-E	.026***	.006	.008	-.005	.023**	.008	.009	.019	.025***
STR	.020**	-.026	.001	.015**	.011	-.011	.015	.005	-.012
	G. Change in Akaike information criteria (vs. the model C + S-E)								
C+S_E	**0.0**	0.0	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0
C+S_E+STR	-4.6	-1.4	2.0	-1.8	-0.1	0.8	-0.8	1.8	-0.7
C	5.3	**-2.0**	**-1.0**	**-1.6**	3.9	-1.3	**-1.4**	1.3	7.8
C+STR	1.9	-3.3	0.5	-3.7	4.4	-2.4	-1.9	1.2	6.1
C+S_T	6.9	0.0	-0.9	0.4	1.6	-1.8	0.6	0.9	**-0.7**
C+O	0.9	-0.1	0.5	-0.2	5.3	-0.1	-0.6	1.6	9.7
O+S_E	15.2	0.8	-0.4	4.4	3.5	**-2.1**	15.5	3.2	-0.5
	H. Other controls (for all models in panels A – G): Gender, age, education level (5 categories), immigration and ethnic minority background (5 categories), living with a spouse/partner, own or partner's children of any age living regularly (in present or in the past) in the respondent's household, sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, survey round.								
Mean Y	0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.286	0.361
N obs.	3284	460	2951	2359	3099	2705	2666	1806	4601

Notes. O = Openness to Change, S-E = Self-Enhancement, C = Conservation, S-T = Self-Transcendence, STR = Social Trust, EE = Estonia, LV = Latvia, LT = Lithuania, PL = Poland, FI = Finland, SE = Sweden, DK = Denmark, DE = Germany. The marginal effects show the average change in the predicted probability of holding a supervisory job associated with a one-standard-deviation change in the score of respective HOV (or social trust). The effects are calculated from probit models. For details on HOVs, see Figure 1 and Appendix 1; more details – in Schwartz (2003). (*) $p < 0.125$; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust standard errors). The sample includes persons aged 20-64 working as employees (in their current or last job). *Sources:* ESS data (rounds 7 – 9) and calculations.

Conservation (the set of values oriented at tradition, conformity and security) is negatively associated with the probability of being a supervisor in all countries but Latvia[26]. This is good news, given that Conservation and its subordinate basic values are likely to compromise the quality of supervision (see Figure 2 and the preceding discussion in Section 2). In each country, the effect of Conservation is of a larger size than those of Openness to Change and Self-Enhancement. A one-standard-deviation increase in Conservation is linked

[26] One of the components of Conservation (Tradition) is negative and significant also in Latvia (Tables 2, 3).

to a decrease in the probability of supervising other employees by over 5.5 pp in Estonia and Sweden, by 3.5 to 4.5 pp in Poland, Finland, Denmark and Germany, and by 2 to 3 pp in Lithuania and Norway (Table 1, Panel A). Relative to the share of supervisory positions, the effects of Conservation in Norway, Denmark and Germany are much smaller than elsewhere.

When Self-Enhancement is included in the models in addition to Conservation, the effects of Conservation stay negative and strongly significant in all countries but Norway, while Self-Enhancement remains positive and significant only in Estonia, Finland and Germany (Table 1, Panel E)[27]. According to the Akaike information criterion, Conservation performs better than any of the other three HOVs in explaining who is more likely to be a supervisor (Table 1, Panel G)[28]. Moreover, in Latvia, Lithuania, Poland, and Sweden, Conservation outperforms all combinations of two or three HOVs[29]. In Estonia, Finland, and Denmark, the model with Conservation and Self-Enhancement is the best performer among models with single HOV and with combinations of two HOVs, while this role belongs to the models combining Openness with Self-Enhancement and Conservation with Self-Transcendence in Norway and Germany, respectively.

Noteworthy is that the model with Conservation in Norway and the model with Conservation and Self-Enhancement in Germany differ from the best-performing models by less than one AIC unit (Table 1, Panel G). Thus, in each country considered, either the model with Conservation or the one with Conservation and Self-Enhancement is the best performer or differs from that negligibly.

The effects of demographic characteristics and education are reported (for the models with Conservation and Self-Enhancement) in Table A8 (Appendix 3)[30]. Sizable and strongly significant gender gaps suggest that gender discrimination in promotion to supervisory positions is present in Poland, Finland, Norway, Sweden and Germany, where the probability of holding a supervisory job for a female is by 6 to 9 pp smaller than for a male of similar age and education working in the same industry[31].

These gaps are especially striking when compared to lthe ow share of supervisors in Poland (16%) and Finland (22%). In Lithuania, the share of supervisors is even lower (12%), so the gender gap of about 4 pp is actually quite large in relative terms. These results are potentially related to the pattern documented by Goldin (2014): certain positions, including those with supervisory responsibilities, are more frequently taken up by males due to temporal flexibility requirements (e.g. availability 24/7, working at weekends and overtime). In Estonia, the gender gap is smaller and less significant, but in Latvia, it is not significant.

As one should expect, more educated workers, other things equal, are more likely to occupy supervisory positions in all countries of the Baltic Sea region (Table A8). In the Baltics, Poland, Finland and Germany, the largest increase in chances (11 to 20 pp) is associated with a Bachelor degree in comparison to secondary education, while in Norway, Sweden and Denmark, the gains from a high school diploma (vs low education) and from a Bachelor degree (vs high school) are of similar size (about 9 pp in Norway, 7 to 8 pp in Denmark and 5 to 6 pp in Sweden). Compared to a Bachelor's, a Master's or PhD degree further increases one's chances for a supervisory position in the Baltics, Finland, Sweden, and Denmark, while it does not make a difference in Poland, Norway, and Germany.

[27] Note that within-countries correlations between Conservation and Self-Enhancement are negative and significant, see Rudnev et al. (2018: Table 1 and Figure 2) for theoretical foundation and empirical evidence from 30 European countries; in our working samples these correlations range from roughly -0.6 to -0.4 (Table A6, panel A).
[28] As an exception, Openness to Change and Conservation perform equally well in Norway.
[29] Table 1, Panel G reports only four of the six two-HOVs; for each country, AIC of the remaining two-HOVs models and AIC of all three-HOVs models exceeds AIC of the best reported model by two or more units.
[30] For reasons outlined in section 4, our baseline specifications do not control for plant size. However, the results are very similar to the baseline ones when additionally controlling for plant size.
[31] Models with basic values or detailed measures of basic values reveal a similar gender gap also in Denmark (see Table A11, panel B).

In line with the idea that promotion to a supervisory position requires substantial work experience in the field, the probability of holding a supervisory position (in the current or last job) features an inverse-U-shaped association with age and peaks at the age of about 40 years in Estonia and Latvia, about 45 years in Sweden, and between 50 and 52 years in Lithuania, Finland, Sweden, and Germany (Table A8). Consistent with this, the marginal effects of a ten-year increase in age estimated at the age values 20, 30, 40 and 50 years steadily decline with age (Table A8)[32]. These results are derived from models controlling for age and age-squared. For the countries mentioned above, such models perform better (regarding the Akaike information criterion) than those linear in age. For Poland and Denmark, however, models linear in age perform better and feature a positive association with age, suggesting that in these countries, the probability of holding a supervisory position monotonically increases with age in the range between 20 and 64 years and reaches its maximum at the age of 64. In line with this, for Poland, the marginal effects of age estimated from quadratic models are virtually constant, while similar effects for Denmark are not statistically significant[33]. When interpreting these results, one should be careful because our models also control for living with a spouse or partner and for living (in present or in the past) with one's own or partner's children, and both variables are positively correlated with age. The exact shape of the relationship between age and the probability of holding a supervisory position is not a subject of this study.

As far as supervisory jobs for ethnic minorities and immigrants are concerned, we find evidence of barriers facing these groups only in Estonia, Finland, and Germany. This is the case for immigrants in all the above-mentioned countries, for their children – in Estonia and Finland, as well as for native-born ethnic minorities in Estonia. In Germany and Norway, by contrast, native-born minority workers are more likely to be supervisors than otherwise similar ethnic Germans and Norwegians, respectively (Table A8).

Finally, in Denmark and Germany, return migrants are more likely to hold supervisory jobs than similar stayers (Table A8); this is in line with the "brain gain" literature (Beine et al. 2008, Docquier & Rapoport 2012, Wahba 2021, among others). As discussed above, it is perhaps not surprising, given the past studies, that this is not the case in the Baltic countries.

When the models with HOVs are amended with the social trust variable (Table 1, Panels B, D and F), it appears that the effects of HOVs stay unchanged. However, in Latvia, Poland, Norway, and Sweden, the combination of the Conservation HOV and Social Trust slightly outperforms all other models (with and without social trust) in explaining who is more likely to be a supervisor; in Estonia, the same holds for the model with Conservation, Self-Enhancement and Social Trust[34]. The link between the individual level of social trust and the probability of supervising other employees is positive in Estonia and Poland[35], while it is not significant in Latvia, Lithuania, Norway, and Denmark. Germany stands out as the only country in our sample where employees with a high level of social trust are less likely to hold supervisory jobs, other things equal (Table 1, Panels B and F); this effect is, however, only weakly significant. The effects of social trust are similar in the models not controlling for human values (Appendix 3, Table A9). As noticed in the Introduction, social trust is not a value but an attitude, which, in principle, might be endogenous to holding a supervisory position. We have addressed this problem both by the classic instrumental variable approach (using religiosity as an instrument) and by the method suggested by Lewbel (2012, 2018), and exogeneity of social trust in our models was not rejected (these results are available on request).

[32] E.g. from 3 – 4 pp in Estonia and Lithuania and 6 – 8 pp in Finland, Norway Sweden, and Germany at the age of 20 to virtually zero at the age of 50 in the all above-mentioned countries (Table A8).

[33] In Poland, a ten-year increase in age is associated with an increase in the probability of holding a supervisory position by 3.2 to 3.5 pp (Table A8). According to the models linear in age, the average effect of a ten-year increase in age amounts to 3.3 pp in Poland and 1.1 pp (not significantly different from zero though) in Denmark.

[34] See Table 1, panel G; for each country, the bold entry corresponds to the best-performing model without Social Trust; if some model with Social Trust performs even better, its entry is shadowed.

[35] In Finland and Sweden this association is less robust: it is significant (at the 10% level) in the panel D models, but not significant in the models of panels B and F.

We have performed a number of robustness checks by amending the models with controls for plant size and parental background (father's/mother's highest completed education level and father's/mother's occupation when the respondent was aged 14). According to the results (see Table A7), including any of these controls leaves the links between the HOVs and holding a supervisory position basically unchanged. Moreover, each of these additional controls improves model's performance (measured by AIC) in some countries but worsens in others[36] (Table A7, panel G). Plant size appears to be positively linked with supervision in Lithuania and Poland but negatively – in Norway and Sweden (Table A7, panel B). Having a parent with higher education is positively associated with holding a supervisory position only in the Baltic countries and Sweden, suggesting that some mechanism of intergenerational transmission of status is at work in these countries (Table A7, panel C, D; further evidence in panels E, F). For other countries, on the link between parental socio-economic status and attaining a managerial/leadership position, see the review by Roberts et al. (2007) and recent studies by Ingram & Oh (2022) and Barling et al. (2023).

5. Main results for the basic human values

This section extends the analysis from four higher order values to ten basic values. Moreover, in addition to selection into supervisory jobs, we look at the link between the number of supervised and the supervisor's values. As the first step, for each of the ten basic values, we analyse its association with the probability of holding a supervisory position, controlling for demographic characteristics, sector of economic activity, employer type, and whether the employee is working full-time. Like in the previous section, this is done by estimating probit models with the dependent variable being the indicator of a supervisory position. Table 2 briefly outlines the main findings presented in
Table *3* (panel A).

Table 2 Countries where holding a supervisory job is significantly associated with human values

HOV	*Values*	*A. Positive associations significant at 5%* [a]	*Hypothetical impact on the quality of supervision* [b]
S-E	Power	EE FI (NO) DK DE	Negative
	Achievement	EE LT PL FI SE (DK) DE	Ambiguous
	Hedonism	(PL) (NO)	Ambiguous
O	Stimulation	(EE) PL FI DE	Ambiguous
	Self-Direction	EE LT (PL) NO SE (DK) DE	Ambiguous
S-T	Benevolence	NO SE	Positive
		B. Negative associations significant at 5% [a]	
S-T	Benevolence	LT	Negative
	Universalism	(EE) FI NO (DE)	Negative
	Security	EE LT PL FI (NO) SE DE	Positive
C	Conformity	EE PL FI SE (DK) DE	Positive
	Tradition	EE LV LT PL FI NO SE DK DE	Positive

Notes: O = Openness to Change, S-E = Self-Enhancement, C = Conservation, S-T = Self-Transcendence, EE = Estonia, LV = Latvia, LT = Lithuania, PL = Poland, FI = Finland, SE = Sweden, DK = Denmark, DE = Germany. [a] For countries given in parentheses – significant at 10%. [b] The statements are based on Figure 2, which refers to the hypothetical impact of values. In panel A, the statements are taken from Figure 3 as is. In panel B, the statements from Figure 3 are reversed.
Sources: [a]
Table *3* (panel A) and Figure 2.

While Self-Enhancement and Openness to Change HOVs are positively linked with supervisory responsibilities in all countries but Latvia (Table 1, panels A and B), this is only partly true for the five underlying basic values. Two values, however, come close (each featuring a positive link in seven countries, see Table 2): Achievement (motivated by success and expression of abilities) and Self-Direction (motivated

[36] Mother's occupation, however, improves the model in seven out of nine countries.

by freedom of thought and action)[37]. Whether such patterns facilitate the quality of supervision in respective countries is an open question: while the pursuit of professional achievements, creativity, critical thinking and the ability to act independently is desirable for a supervisor, Achievement and Self-Direction also bear some risk of autocratic behaviour (Schwartz 2003: p. 280 and Table 5).

The two other values with an ambiguous impact on the quality of supervision are much less important for selection in supervisory positions: Stimulation (motivated by excitement, variety and challenge) is significant just in three out of nine countries (Poland, Finland and Germany), but Hedonism (motivated by pleasure and fun) is not significant at the 5% level in any of the countries of the Baltic Sea region (although significant at the 10% level in Poland and Norway).

Power value is positively associated with supervision in five countries of the BSR: Estonia, Finland, Norway, Denmark, and Germany. This likely undermines the quality of supervision due to strong risk of autocratic behaviour (Schwartz 2003: p. 280 and Table 5), suggesting that adverse selection into supervisory positions takes place in these countries. More detailed specifications (see Table A10 and Table A11) suggest that this adverse selection is related to just one of the "dimensions" of the Power value – pursuing respect from others, status and prestige, while the other dimension (motivation to be rich, have money and expensive things) is irrelevant in this regard.

Benevolence and Universalism hypothetically facilitate the quality of supervision (Figure 2). For each of these two values, unfortunately, the link with the probability of supervising other employees is either negative or not significant in most countries of the Baltic Sea region (Table 2). Benevolence (motivated by the helpfulness and care for close others) is positively related to supervision in Norway and Sweden but negatively in Lithuania. Universalism (motivated by understanding, tolerance and equality, as well as nature protection), is negatively linked to supervision in Finland and Norway (at the 5% level), as well as in Estonia and Germany (at the 10% level).

Each of the three basic values belonging to the Conservation HOV is negatively related to the probability of supervising other employees in most countries (Table 2). For Tradition (motivated by humbleness and customs), this is the case in all nine countries; for Security (motivated by safety against threats) – in seven countries, while for Conformity (motivated by rules and norms) – in six countries. These are good news because Tradition, Conformity and Security are likely to compromise the quality of supervision (Table 2). Noteworthy, significant positive relationships with supervision in most cases refer to person-focused (agentic) human values (the exception in the case of Benevolence in Norway and Sweden), while significant negative relationships in all cases refer to social-focused (communal) human values (Table 2 and Figure 1).

Table *3* presents a detailed account of the relationships between ten basic human values and the probability of holding a supervisory position (after controlling for demographic and job characteristics). Panel A of Table *3* reports the marginal effects from models with a single basic value among explanatory variables. For each country but Latvia, there are five to eight basic values significantly associated with supervising other employees (after controlling for demographic and job characteristics). The absolute size of the significant effects on the probability of supervising in most cases ranges between 2.3 and 3.9 pp per one-standard-deviation change in the score of the respective value. Smaller values (less than 2 pp) are found in Lithuania, Poland and Finland, but this is in line with lower shares of supervisory positions in these countries. Sweden features a particularly large (4.6 pp) positive effect of Self-Direction. Large negative effects of Security (between –4.3 and –4.7 pp) are found in Estonia, Finland and Sweden, while Latvia features a very large negative effect of Tradition (–7.7 pp).

Panel B of

[37] Hereafter, we use wording by Schwartz & Boehnke (2004) and Schwartz (2015) for motivational goals of values.

Table *3* presents models with multiple basic values. Initial versions of the models included all basic human values featuring significant effects in Panel A. Still, in the course of stepwise optimisation, the models have been reduced to three or four (for Estonia – five) basic values per country, thus facilitating the interpretation[38]. Regarding direction, size and significance, the effects in Panel B, in most cases, are similar to the corresponding effects in Panel A, suggesting that the optimized models in Panel B do not suffer from multicollinearity between values[39].

Table 3 Marginal effects of the ten basic human values on the probability of holding a supervisory job. Baltic and Nordic countries, Poland and Germany, 2014-2018

HOV	Basic value	EE	LV	LT	PL	FI	NO	SE	DK	DE
		A. Single-value models: each cell represents a separate model. Empty cells correspond to insignificant effects which are not reported.								
O	Self-direction	.033***		.030***	.015*		.031***	.046***	.023*	.031***
O	Stimulation	.014*			.025***	.036***				.019**
O	Hedonism				.014*		.014*			
S-E	Achievement	.030***		.018**	.017**	.025***		.029***	.024*	.031***
S-E	Power	.034***				.028***	.021*		.025**	.025***
C	Security	-.047***		-.022***	-.022***	-.045***	-.017*	-.043***	-.018	-.022***
C	Conformity	-.019**			-.019***	-.017**		-.027***	-.021*	-.032***
C	Tradition	-.036***	-.077***	-.018**	-.025***	-.023***	-.023**	-.031***	-.025**	-.025***
S-T	Benevolence			-.016**			.025**	.022**		
S-T	Universalism	-.015*				-.016**	-.030***			-.014*
		B. Optimized models with multiple basic values: each column represents a model. Empty cells correspond to the variables omitted during the stepwise estimation process.								
O	Self-direction	.021**		.025***	.013*		.032***	.043***	.029**	.036***
O	Stimulation				.024***	.025***				.021***
O	Hedonism									
S-E	Achievement	.016*			.017**			.041***	.026**	.031***
S-E	Power	.022***				.029***	.022**		.028**	.026***
C	Security	-.038***		-.019**		-.033***		-.027***		
C	Conformity									
C	Tradition	-.018*	-.077***							
S-T	Benevolence			-.012*			.036***	.030***	.028**	
S-T	Universalism						-.026**			
		C. Change in Akaike information criterion (vs. the best country-specific model with HOVs)								
		-15.10	-10.00	-17.60	5.00	-19.20	-23.50	-22.60	-3.67	-13.10
		D. Other controls (for all models in panels A – C)								
		Gender, age, living with partner, education level (5 categories), immigration and ethnic minority background (5 categories), own or partner's children of any age living regularly (in present or in the past) in the respondent's household, sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, survey round								
Mean Y		0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.286	0.361
N obs.		3284	460	2951	2359	3099	2705	2666	1806	4601

Notes. Abbreviations: O: Openness to Change; S-E: Self-Enhancement; C: Conservation; S-T: Self-Transcendence. The marginal effects (derived from probit models) show the average change in the predicted probability of holding a supervisory job associated with a change in the score of respective basic value by one standard deviation. Basic values are grouped by higher order values (HOVs); see Figure 1. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust

[38] As an exception, the optimized model for Latvia includes just one value – Tradition.

[39] Some differences between panels A and B are, however, noteworthy. In Estonia, Achievement and Security are significant at the 1% level in Panel A but just at the 10% level in Panel B. In Denmark, Benevolence is not significant in a single-value model, but in the optimized model it is significant and improves the overall model's performance.

standard errors). The sample includes persons aged 20-64 working as employees (in their current or last job). *Sources:* ESS data (rounds 7 – 9) and calculations.

The effects of the Power value (potentially leading to autocratic behaviour) deserve a special inspection. In Estonia, Finland, Norway, Denmark, and Germany, these effects are significant (at 5% or better) both in single-value and in optimized models with multiple basic values. As a share of the proportion of supervisors, these effects amount to almost 13% in Estonia and Finland, about 9% in Denmark, 6.1% in Norway, and 6.6% in Germany[40].

Two out of the ten values (Hedonism and Conformity) do not appear in the optimized models; moreover, Universalism appears only in the Norwegian model. Thus, the selection into supervisory jobs in the countries of the Baltic Sea region is largely governed by just seven of the ten basic values. Self-Direction (i.e., freedom of thought and actions) appears to dominate the scene, as it is significant in the optimized models for seven out of nine countries. Noteworthy, the combinations of the basic values in the optimized models do not repeat - each of the nine countries features a unique set of values. This suggests that country-specific procedures and norms are at work in the selection into supervisory positions. Yet, in some cases, the differences between the models are less pronounced than in others – e.g. the Danish model is very similar to the Swedish that could be expected given that Denmark and Sweden are very close to each other in terms of average values and cultural value orientations (Schwartz 2014: Fig. 20.3).

Table *4* presents the results from Tobit models estimating the associations between the supervisor's human values and the number of subordinated employees while controlling for the supervisor's demographic and job characteristics. The Tobit models are estimated on the samples that include both supervisors and non-supervisors; the dependent variable is the number of supervised workers (zero for non-supervisors). Table 4 reports the marginal effects on the number of supervised workers conditional on this number being positive (i.e., for the subpopulation of supervisors), as in Cong (2000). As far as the higher order values are concerned, similarly to the case of selection into supervisory jobs, there are two main alternative specifications: (i) with Openness to Change and Self-Enhancement, and (ii) with Conservation (the latter performing somewhat better). A one-standard-deviation increase in Conservation is associated with a decrease in the number of subordinates by 3 to 4 in Germany, Sweden, Poland, and Estonia, and by 6.7 in Finland; in Denmark and Lithuania, similar effects are smaller but significant at the 5% level (
Table *4*, panel B).

On the other hand, an increase in Openness to Change by one standard deviation (while controlling for Self-Enhancement and demographics) is associated with an increase in the number of subordinates by about 2 in Germany, Sweden, and Estonia and by 3 in Poland, Finland and Norway (
Table *4*, panel A). Likewise, an increase in Self-Enhancement by one standard deviation (other things, including Openness to Change of being equal) is associated with an increase in the number of subordinates by about 2 in Estonia and Sweden, by 3 in Germany, and by nearly 6 in Finland (
Table *4*, panel A).

[40] These figures refer to the single-value models (Table 3, panel A), but the ones for the multiple-value models are similar, except for Estonia, where the relative effect falls to 8.2% of the share of supervisors.

Table 4 Marginal effects of higher order values and basic values on the number of supervised workers (conditional on being a supervisor). Baltic and Nordic countries, Poland and Germany, 2014-2018.

	EE	LV	LT	PL	FI	NO	SE	DK	DE
HOVs	*A. Models with Openness to Change and Self-Enhancement (other controls as in panel F)*								
O	1.67**	-0.28	0.75	3.04**	3.21*	2.84(*)	1.94**	0.54	2.37***
S-E	2.15***	-0.22	0.07	1.11	5.94**	2.41	1.79**	1.21**	3.18***
	B. Models with Conservation (other controls as in panel F)								
C	-3.75***	-0.20	-1.07**	-3.44**	-6.79**	-2.81	-3.57***	-0.97**	-3.25***
Basic values [a]	*C. Models with single basic value: each cell represents a separate model (other controls as in panel F). Empty cells correspond to insignificant effects which are not reported.*								
Selfdirection	1.55***		1.80***	1.33*		5.63*	3.26**	0.79(*)	2.11***
Stimulation	1.32*			2.68**	4.65*				1.49**
Hedonism				1.71(*)					
Achievement	1.33**		0.80(*)	1.36[*]	4.55**		2.37**	1.06**	1.76**
Power	1.81***				4.35*	3.83(*)		0.78*	2.57***
Security	-3.47***		-1.13*	-2.18**	-7.75*		-2.44***		-1.76**
Conformity	-1.31*			-2.28*			-2.02**		-1.89***
Tradition	-1.95***	-1.65*		-2.04**	-3.18**	-3.83*	-2.06**	-0.81*	-2.34**
Benevolence						3.98[*]	1.60*		
Universalism						-4.63(*)			-1.60*
Basic values [a]	*D. Optimized models with multiple basic values: each column represents a model (other controls as in panel F). Empty cells correspond to the omitted variables.*								
Self-direction			1.35***	1.15(*)		6.18*	3.33**	1.00**	2.45***
Stimulation				2.56**	2.43[*]				1.67***
Achievement				1.32[*]			3.34**	1.18**	1.55**
Power	1.12*				4.07*	5.63*		0.80*	2.82***
Security	-3.31**		-0.71*		-6.45*		-1.14*		
Conformity									
Tradition	-1.58***	-1.6*							
Benevolence						5.74(*)	2.46**	0.90*	
Female [b]	-2.72	-2.17	-2.20*	-8.13***	-13.78**	-13.6(*)	-6.29**	-1.55	-6.17***
Age/10 [c]	0.19	0.13	0.44	3.47***	6.97**	4.14(*)	1.57*	0.26	2.25**
	Peak age for the number of supervised workers								
	44.7	43.3	47.4	64.0	54.4	64.0	54.3	48.7	54.6
	E. Change in Akaike information criteria (models with HOVs vs. panel D)								
O + S-E	20.02	13.48	19.92	-1.67	15.78	16.95	35.36	2.52	5.16
C	7.02	11.78	15.62	-5.47	11.68	16.35	21.76	3.12	12.76
	F. Other controls (for all models in panels A – C; for panel D – excl. gender and age)								
	Gender, age, living with partner, education level (5 categories), immigration and ethnic minority background (5 categories), own or partner's children of any age living regularly (in present or in the past) in the respondent's household, sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, survey round								
Mean Y| Y > 0	21.80	10.10	19.87	28.99	25.76	25.61	19.19	19.08	25.56
N obs. | Y > 0	852	152	342	343	644	1067	808	537	1757
N obs.	3275	458	2935	2342	3093	2703	2661	1782	4592

Notes. Abbreviations: O: Openness to Change; S-E: Self-Enhancement; C: Conservation; S-T: Self-Transcendence. For details on HOVs and basic values, see Figure 1 and Appendix 1; more details – in Schwartz (2003). Hedonism and Universalism do not show up in the optimized models and are omitted from the list of basic values in panel *D*.

[a] The marginal effects (calculated from tobit models) show the average change in the expected number of supervised workers (conditional on it being positive) associated with a one-standard-deviation change in the score of the respective value. [b] Predicted gender gap (other things equal) in the number of supervised workers. [c] The average change in the expected number of supervised workers associated with a ten-year increase in age. [*] $p < 0.14$; (*) $p < 0.11$; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust standard errors). The sample includes persons aged 20-64 working as employees (in their current or last job).

Sources: ESS data (rounds 7 – 9) and calculations.

Turning to the basic values, single-value models (
Table *4*, panel C) feature, by and large, the same variables as those in
Table *3*, panel A: *values which make it easier or harder to become a supervisor tend to work the same way regarding promotion to supervising more workers*. The results by values and countries are as follows (we refer to the change in the number of subordinates associated with a one-standard-deviation increase in the score of value as to "the size of the effect", without implying causality).

- Self-Direction and Achievement (in six and five countries, respectively), as well as Power and Stimulation (in four countries each), feature robust positive associations with the number of subordinates, while Tradition, Security, and Conformity (in eight, six, and four countries, respectively) feature negative associations.
- The largest positive effects are those of Self-Direction in Norway and Sweden (amounting to 5.6 and 3.3 workers, respectively), as well as of Achievement, Power, and Stimulation in Finland (4.3 to 4.7 workers). These are followed by the effects of Self-Direction and Power in Germany, Achievement in Sweden, and Stimulation in Poland, all ranging from 2.1 to 2.7 supervised workers.
- The rest of the positive effects are smaller in size: 1.3 to 1.8 workers for Self-Direction in Estonia, Lithuania, and Poland, for Stimulation and Achievement in Estonia and Germany, for Power in Estonia, and for Benevolence in Sweden, while the effects of Achievement and Power in Denmark amount for no more than one worker per one-standard-deviation change in the score of value.
- The largest negative effect is that of Security in Finland (with a size of 7.8 workers), followed by the effects of Security in Estonia and Tradition in Finland and Norway (ranging from 3.2 to 3.8 workers). The effect of Universalism in Norway is also negative and quite large, but marginally insignificant. Other negative effects range from 0.7 to 2.4 workers.

There are some exceptions to the above-mentioned similarity in how the basic values are associated with supervisory positions and the number of supervised workers. This concerns Achievement in Poland, Tradition and Benevolence in Lithuania, Conformity and Universalism in Finland, and Security in Norway, which are strongly significant in the probits for being a supervisor but not significant in the tobit models for the number of supervised employees.

The optimized tobits with multiple basic values (
Table *4*, panel D) feature one to four values per country – in most cases, the same as in the optimized probits in
Table *3* (panel B). However, Self-Direction and Achievement in Estonia, Benevolence in Lithuania, and Universalism in Norway, which are significant in the optimized probits for being a supervisor, do not appear in the optimized tobit models for the number of supervised employees.

The marginal effects derived from the optimized tobits are of the same direction and similar size as the effects of the same variables in the single-value tobits (
Table *4*, panel C, described above). However, in Estonia, Lithuania, and Finland, the effects in the optimized tobits are slightly smaller than the corresponding effects in the single-value tobits, while it is the other way around in Norway and Germany.

While section 4 presented the results for higher order values and section 5 for basic human values, Appendix 6 further develops the models for holding a supervisory job by applying more nuanced measures of basic human values, namely, by the scores of the individual items used to measure the basic values. For the given value, the underlying items represent different aspects of the value and might play different (or independent) roles in the process of selection into supervisory positions. The results are generally in line with the ones presented in sections 4 and 5, yet they provide new insights on the selection into supervisory jobs in the Baltic countries and Finland.

6. Conclusion

Our paper has aimed to shed light on how employees' values relate to their chances to be promoted to supervisory positions, as well as (for those promoted) to the number of subordinates. On the other hand, we discuss how the selection on human values affects the quality of supervision in terms of facilitating the organisation's development, performance of subordinate workers, and human relations within the team. Our empirical study employs the European Social Survey data, which allows to derive measures of the ten basic values and four higher order values identified by Schwartz (1992). In this paper, the analysis has been restricted to the nine countries of the Baltic Sea region (though the extension to all countries covered by the ESS is straightforward).

The results suggest that human values play a significant role in the selection into supervisory jobs in the countries of the Baltic Sea region. For instance, Conservation values (Conformity, Security and Tradition) are negatively associated with holding a supervisory job in all countries considered, while Openness to Change and Self-Enhancement are positively associated with supervision. Openness to Change is further reinforced by supervision being positively linked to Self-Direction and Achievement values (in all countries excluding Latvia). Such a link likely facilitates the pursuit of professional achievements among supervisors but, on the other hand, bears some risk of autocratic behaviour. This risk is especially strong in Estonia, Finland and Denmark but is also present in Germany and Norway – in these five countries supervision is positively linked to the Power value, potentially leading to adverse selection into supervisory jobs. In Poland, Finland, and Germany, a positive association between supervision and Stimulation value (oriented at novelty and challenge in life) likely makes supervisors in these countries even more change-seeking and innovation-friendly, but can also lead to conflicts between personal and professionally oriented goals.

Benevolence and Universalism are values highly desirable for supervisors: they would help to maintain good interpersonal relationships, which, in turn, tend to improve organizational performance. Yet Benevolence is positively linked to supervision only in Norway, Sweden, and Denmark, while the link between Universalism and supervision is either insignificant or negative in all countries of the Baltic Sea region. However, in each of the three Baltic countries, as well as in Finland, Norway, and Sweden, supervision is positively linked to helpfulness and/or tolerance – two of the motivations underlying Benevolence and Universalism. Furthermore, we find that values, which make it easier or harder to become a supervisor, tend to work the same way regarding promotion to supervising more workers.

In sum, our results are robust and consistent both for the higher order and individual values and the single items of the ESS survey questions. From the side of the measurement of supervision, we provided a similar set of broadly similar results regarding the link between the number of supervised workers (conditional on it being positive) and the supervisor's values. For instance, individuals with higher Openness to Change (Conservation) have a larger (smaller) number of supervised employees. All estimated effects are both statistically significant and economically meaningful. For instance, an increase in a supervisor's Power value score by one standard deviation is associated with an increase in the predicted number of supervised workers by almost three in Germany, and by more than four in Finland and Norway.

Naturally, our study has many limitations due to the cross-sectional nature of the ESS data. Despite that, future studies could provide more insights into the selection of supervisors even with the ESS dataset, like extending our analysis to other countries would be straightforward. At the same time, our focus on the BSR region seemed natural, given certain variations of the results even within that relatively homogenous region. Yet, due to the cross-sectional nature of the ESS data used, we could not observe the employees before and after promotions to supervisory positions. That information would help better understand how selection to supervisory positions relates to values and employees' past job performance (Alessandri et al. 2021). While in our study, we could only observe whether someone is a supervisor at a particular time (and not, e.g. how long the person has filled the supervisory position), our argument could be that most probably good

supervisors are kept in their job. Still, panel data could help further look into that, even when no separate information on the quality of supervision is available. Any future study, either a cross-country one or within a single country, could also benefit from the information on knowing the policies of how employees are promoted into supervisory positions (see, e.g. Ariga et al. 2008), like what are the criteria for promotion (e.g. seniority, efficiency and/or merit).

Also, observing the evolution of social trust, but possibly also the values before and after the take-up of supervisory positions, might be helpful, though the counter-argument could be the stability of values over time. Furthermore, from a different angle, being a supervisor may have a different meaning (incl. objectives, components and procedures) in various sectors of the economy. For instance, in some additional estimations not reported in the paper, we have considered the split between the public and private sectors of the economy, but that part could be developed further; one motivation could be that the public sector seemed to have a higher share of jobs with supervisory tasks. We also find that firm size may deserve further attention: while supervision-intensive jobs are more likely to be found in large organisations, we did not always find evidence of that; still, one may expect the correlation with values to be stronger in larger organizations (yet, some our additional estimations not reported in the text showed that this might not always be the case). Finally, the gender aspect deserves further and separate attention as we found some evidence for gender discrimination in the selection into supervisory jobs (statistically and economically significant negative effect of gender on holding supervisory position) in all countries of the BSR; moreover, we find that the values positively associated with supervision are those identified in the literature as predominantly masculine. This is in line with the existing evidence on the gender promotion gap[41]. All in all, we hope that this study, even if it does not give all the relevant answers, has motivated the researchers to look further into the values of supervisors.

Finally, our approach was also unable to study more precisely what it means more narrowly for the supervisor's subordinates or more broadly for the organization for having supervisors with particular values. For instance, we gave robust evidence of negative selection into supervisory positions concerning autocratic behaviour. As one example, abusive supervision is increasingly getting more attention in the literature (Peltokorpi 2017), but the question is how to exploit the potential of "good" values efficiently. That relates directly to the economic and managerial implications: our study confirms the findings of earlier studies on the selection of managers and supervisors being a challenge, requiring re-consideration of the procedures of promotion and selection.

Declaration of Competing Interest

The authors declare that they have no relevant or material financial interests that relate to the research described in this paper.

Data availability

Data will be made available on request.

Disclosure of the use of the generative AI technologies

During the preparation of this work, one of the authors (Jaan Masso) used ChatGPT to a limited extent in order to look for references to some of the literature. After using this tool, Jaan Masso reviewed and edited the content as needed and took full responsibility for the content of the publication.

[41] E.g. Adams & Funk (2012), Benson et al. (2023), Bertrand et al. (2019), Cassidy et al. 2016, Hillman et al. (2007), Goldin (2014), Ibarra et al. (2013), Koenig et al. (2011), Krause et al. (2022), Rothstein (2001), Wille et al. (2018).

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Appendix 1 Basic human values and associated motivational goals

- Power (social status and prestige, control or dominance over people and resources)
- Achievement (personal success through demonstrating competence according to social standards)
- Hedonism (pleasure and sensuous gratification for oneself)
- Stimulation (excitement, novelty, and challenge in life)
- Self-direction (independent thought and action-choosing, creating, exploring)
- Universalism (understanding, appreciation, tolerance, and protection for the welfare of all people and for nature)
- Benevolence (preservation and enhancement of the welfare of people with whom one is in frequent personal contact)
- Tradition (respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self)
- Conformity (restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms)
- Security (safety, harmony, and stability of society, relationships, and self)

Source: Schwartz & Boehnke (2004).

Appendix 2. Cultural value orientations

Schwartz (2004, 2009, 2014) defines three cultural value dimensions to characterise different cultures:

- autonomy vs. embeddedness – that dimension has three rather than two poles, as Schwartz (2014: 551) distinguishes intellectual autonomy (associated with values like broadmindedness, curiosity, and creativity) and affective autonomy (putting high importance on values like pleasure, variety and exciting life). The opposite pole, embeddedness, emphasises social order and respect for tradition.
- egalitarianism vs. hierarchy - egalitarianism is associated with social justice, equality and helpfulness, while hierarchy is related to authority and social power and concerns "legitimizing social inequality" (Schwartz 2014: 565).
- harmony vs. mastery - harmony prioritises humbleness and unity with nature, while mastery is about ambition, daring and social recognition (Schwartz 2014: 552).
-

For further details, see Schwartz (2009) Fig. 1, 2 or Schwartz (2014) Fig. 20.1, 20.2.

The poles of the three above-mentioned dimensions are the seven cultural value orientations, which "specify the ways people are expected to think, feel, and act in order for society to function smoothly" (Schwartz 2014:567).

Schwartz (2014: 565-566) notes that his autonomy/embeddedness dimension overlaps with Hofstede's (2001) individualism/collectivism, as well as with Inglehart's (e.g., Inglehart & Baker, 2000) secular-rational/tradition and (to a lesser extent) self-expression/survival dimensions. However, unlike individualism/collectivism, "autonomy/embeddedness contrasts openness to change with maintaining the *status quo*" (Schwartz (2014: 565). Furthermore, Schwartz's egalitarianism/hierarchy dimension slightly overlaps with Hofstede's power distance and with Inglehart's secular-rational/tradition dimension (the latter thus has common features with two of Schwartz's dimensions). Schwartz's harmony ("being in tune with others and the environment") only weakly correlates with Hofstede's uncertainty avoidance. Finally, Schwartz's mastery and Hofstede's masculinity both emphasize assertiveness and ambition, but empirically, the two measures almost do not correlate (Schwartz 2014: 565).

Appendix 3. The Baltic Sea region

The proportion of employees with supervisory responsibilities varies substantially across European countries. Among the countries covered by rounds 7 – 9 of the ESS, in four countries, this proportion is below 15%; in other four countries – between 15% and 18%; in three countries – between 20% and 25%; in seven countries it exceeds 25% but not 30%; in five countries it exceeds 30% but not 35%, and in seven countries it ranges between 35% and 40% (the Netherlands with 46% is an outlier, see Figure A1). Remarkably, each of these six groups includes some countries of the Baltic Sea region (respective bars in Figure A1 are filled). This suggests that our focus on the Baltic Sea region countries does not imply any loss of generality regarding the prevalence of supervisory positions.

The Baltic Sea region features sufficient diversity in many other respects important for our study. We outline this diversity below, while Table A1 provides the details. To start with, in terms of population, the Baltic Sea region includes three relatively small countries (the Baltic states with 1.3 in Estonia to three million inhabitants in Lithuania), four Nordic countries with a population ranging from five million in Denmark to ten million in Sweden, and two big countries – Poland with nearly 40 million and Germany with over 80 million. Second, the share of foreign-born among the working-age population varies from very low (1 to 4 per cent) in Poland and Lithuania to substantial (8 to 13 per cent) in Finland, Latvia and Estonia to high (15 to 21 per cent) in Denmark, Germany, Norway and Sweden. On top of this, in the same age group, native-born ethnic or language minorities account for 36% in Latvia, 29% in Estonia, 17% in Lithuania and about 12% in Sweden and Germany, while elsewhere in the Baltic Sea region, this proportion ranges from 6% to 8%.

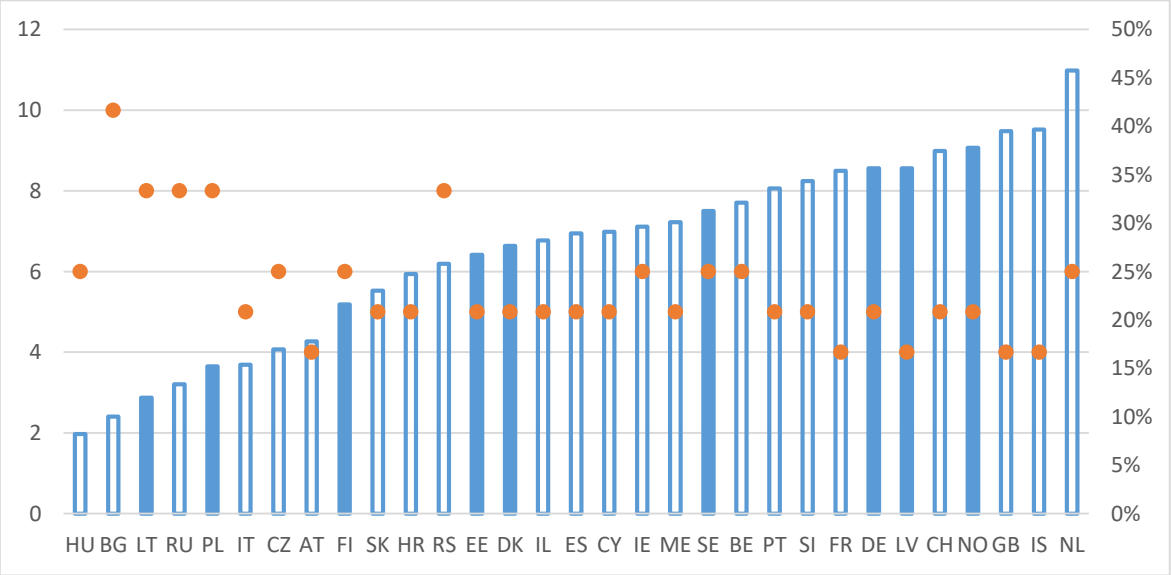

Figure A1. The proportion of employees with supervisory responsibilities among all employees (bars, right scale) and the median number of subordinates (dots, left scale) among supervisors aged 20-64.
Notes: The sample includes persons working as employees in their current or last job. Filled bars represent countries of the Baltic Sea region. *Sources:* ESS data (rounds 7 – 9) and calculations.

The countries of the Baltic Sea region also differ in terms of their economic and political history, as well as cultural backgrounds. The Baltic countries and Poland are post-socialist economies; the eastern part of Germany also experienced totalitarian communist rule between 1945 and 1990. Being relatively young market economies, the Baltic countries and Poland feature a substantially lower level of economic development than the Nordic countries and Germany: in 2016 (the midpoint of the period covered by this study), per capita GDP in PPS in the latter group ranged from 111 to 146 per cent of the EU average, while corresponding figures in the Baltic countries and Poland ranged between 66 and 77 per cent (Table A1).

Other important differences concern the composition of employees. The Nordic countries feature very high union density (50 per cent in Finland and about two-thirds in Sweden, Denmark and Norway). By contrast, in the Baltic countries, Poland and Germany, this indicator ranges between 5 and 17 per cent. The same two groups emerge with respect to the share of employees working in industry and construction, which is below 20% in Sweden and Norway, 23% in Finland and Denmark, but about 30% in Germany and the Baltics and even 35% in Poland. Another grouping emerges in terms of the share of employees working in establishments with at least 100 workers: it is substantially higher (from 30 to 42 per cent) in Poland, Norway, Sweden, Denmark and Germany than in the Baltics and Finland (below 25%). Finally, the share of workers with at least a bachelor's degree is much lower in Germany (about 20%) than in all other countries of the Baltic Sea region (28% in Latvia and above 30% elsewhere).

Table A1. Selected demographic and labour market indicators of the Baltic Sea region countries

	EE	LV	LT	PL	FI	NO	SE	DK	DE
Population, million [a]	1.3	2.0	2.9	38	5.5	5.2	9.9	5.8	82.2
Percentage of working-age population…									
…foreign born [a]	13.1	10.6	3.9	0.7	8.3	19.2	21.0	14.6	17.4
…native born ethnic or language minorities [b]	28.9	36.1	17.0	5.9	7.6	8.2	11.6	7.3	12.1
Per capita GDP in PPS (EU27=100) [a]	77.2	65.9	76.2	68.6	110.7	146.0	124.3	128.1	124.6
Social trust index, 0 -10 scale [b]	5.49	4.91	4.94	4.22	6.54	6.51	6.28	6.66	5.47
Trade union density, % [c]	5.0	12.4	7.7	14.1	65.7	50.0	66.7	67.4	17.0
Percentage of employees [b, d]…									
…in industry and construction	30.7	31.8	30.3	34.7	22.9	19.6	19.6	22.8	28.3
…in plants with < 10 workers	24.7	28.2	22.8	22.1	23.8	19.1	17.6	16.6	16.9
…in plants with 100+ workers	23.4	23.8	14.7	33.3	24.9	31.6	30.3	33.0	42.1
…with at least Bachelor degree	34.3	28.1	31.0	31.3	34.3	38.2	31.6	30.9	19.7
…in supervisory jobs	26.7	35.7	12.0	15.2	21.6	37.8	31.2	28.5	35.7

Notes. EE = Estonia, LV = Latvia, LT = Lithuania, PL = Poland, FI = Finland, SE = Sweden, DK = Denmark, DE = Germany.

Sources: [a] – Eurostat data for year 2016 (the midpoint of the period covered in this paper). [b] Calculation with ESS data (rounds 7 – 9 average). [c] OECD statistics (dataset TUD, year 2016). [d] Working samples consist of employees and former employees aged 20-64 during the survey.

In terms of social trust (a.k.a. interpersonal trust), three (rather than two) groups of countries emerge within the Baltic Sea region: the highest average level of social trust is found in the Nordic countries; Germany and Estonia lag behind by roughly one point on the 0-10 scale, and Poland, Lithuania and Latvia score even lower (Table A1).

An even larger diversity emerges in terms of historically prevailing religion. Poland and Lithuania have predominantly Roman Catholic populations, while Norway, Finland and Denmark are mostly Protestant. In Germany, about two-thirds of the population are (or used to be) either Catholic or Protestant, in roughly equal proportions. Finally, more than half of the population in Sweden and Latvia do not (and did not) belong to any of the religions, while in Estonia, this proportion is as high as two-thirds. As far as those who do/did belong to some religion are concerned, in Sweden, they are mostly Protestant; in Estonia - they are mostly Orthodox[42]; in Latvia, they are roughly equally split between Protestant, Catholic and Orthodox. The

[42] While Estonia is traditionally considered predominantly as a Protestant country, already according to the 2011 population census there are more adherents of the Orthodox church than of the Protestant (Evangelic Lutheran church),

variation of religiosity is important, while religiosity has been shown to have a robust negative correlation with social trust (Berggren & Bjornskov 2011), while one of the dimensions used on the world cultural map[43], traditional versus secular values, is directly related to religiosity. Yet, it should also be considered that there are some differences across the BSR countries in secularity: while most BSR countries score relatively equally high in secularity, Poland scores somewhat lower in that dimension. On the other hand, regarding survival vs self-expression value, there are larger differences e.g. between the Baltic States and the Scandinavian countries (Poland being closer to the Baltics).

The same two groups also emerge in terms of Schwartz's cultural value orientations. The Nordic countries and Germany belong to the West European culture – "the highest of all regions on egalitarianism, intellectual autonomy, and harmony, and the lowest on hierarchy and embeddedness" (Schwartz 2014: 561). The Baltic countries and Poland belong to the East-Central and Baltic Europe cultural region, which, despite historical links and common religious background with Western Europe, is higher on embeddedness and hierarchy (Schwartz 2014: 564). Yet, there are also notable differences within these groups. Finland and Norway are significantly lower on autonomy and higher on embeddedness than Denmark, Sweden and Germany (Schwartz 2014: Fig. 20.3) – in line with conservative values being more important in Finland and Norway than in Sweden and Denmark (Figure A2). Poland is much higher than the Baltics on hierarchy and mastery but lower on egalitarianism and harmony (Schwartz 2014: Fig. 20.3).

Figure A2 presents, for the Baltic Sea region countries, mean importance scores of the higher order values. In all countries, on average, Self-Transcendence (a set of altruistic values) is considered the most important, while Self-Enhancement is the least important HOV in all countries but Lithuania. Conservation is the second most important set of values in the Baltic countries, Poland, Norway, and Germany, while in Finland, Sweden, and Denmark, Openness to Change is second, and Conservation – is third. Thus, the order of priorities is largely similar across the nine countries. However, a large gap in the scores between the four post-socialist countries and the other five countries is immediately evident. In the Baltic countries and Poland, people attach much less importance to Self-Transcendence and Openness to Change but much more - to Self-Enhancement and Conservation than in the Nordic countries and Germany.

while the share of the Orthodox church and also the absolute numbers of Orthodox believers has increased and the share of the Lutheran church decreased.

[43] The Inglehart-Welzel World Cultural Map 2023.

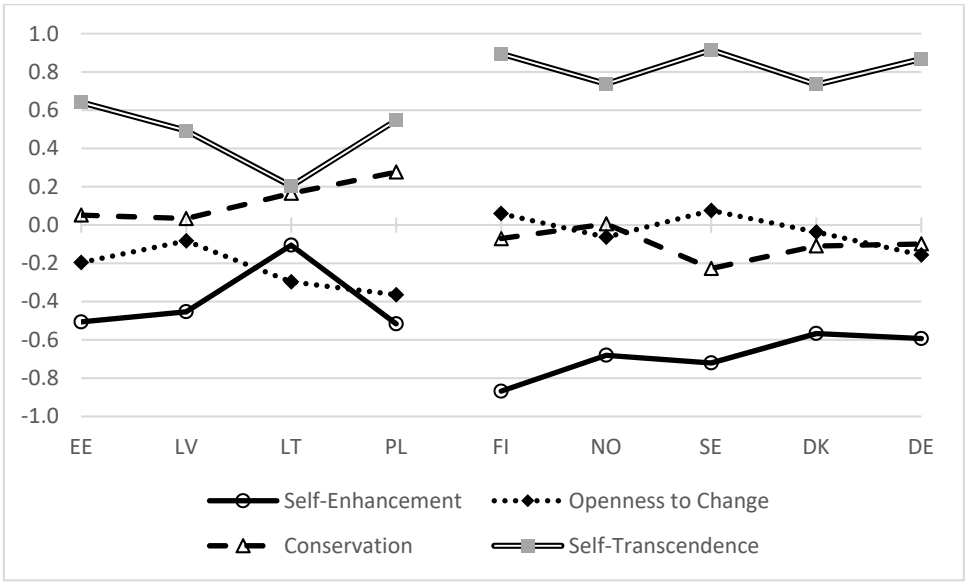

Figure A2. Mean importance scores (non-standardized) of the higher order values. Baltic and Nordic countries, Poland and Germany, 2014-2018.
Notes: The samples include persons aged 20-64 working as employees in their current or last job.
Sources: ESS data (rounds 7 – 9) and calculations.

Appendix 4. Country-specific descriptive evidence

In what follows, we provide statistics only for the countries of the Baltic Sea region. Table A2 presents the distribution of supervisors[44] by the number of supervised workers for each of these countries. In Lithuania and Poland, the median supervisor is responsible for the work of eight other employees. By contrast, in the rest of the countries in question, the number of workers subordinate to the median supervisor ranges from four to six. This is in line with the share of supervisors among employees in Lithuania and Poland being lower than elsewhere in the Baltic Sea region (Table A1). A quarter of supervisors have just one to four subordinate workers in Lithuania and Poland and one to three – elsewhere in the Baltic Sea region. On the other hand, in eight out of nine countries, the top 25% of supervisors are responsible for the work of more than ten employees, and the top 10% of supervisors have at least 29 subordinate workers (the 75th percentile ranges from 12 in Finland, Norway and Germany to 20 in Poland, and the 90th percentile equals 29 or 30 in five countries, 35 in Denmark and Germany, and 50 in Poland, see Table A2).

Table A2. Distribution of supervisors by the number of subordinates. Baltic and Nordic countries, Poland and Germany, 2014-2018.

	EE	LV	LT	PL	FI	NO	SE	DK	DE
				A. Minimum and percentiles					
min	1	1	1	1	1	1	1	1	1
p25	3	2	4	4	3	3	3	2	3
p50	5	4	8	8	6	5	6	5	5
p75	15	9	15	20	12	12	14	15	12
p90	30	20	30	50	30	29	30	35	35
p95	60	30	50	98	50	50	51	70	70
p99	400	117	150	500	200	280	200	300	430
				B. Means and standard deviations					
mean	22.0	10.1	19.5	28.5	25.7	25.5	19.3	19.1	25.5
std. dev.	113.3	27.8	63.9	101.8	263.7	297.3	111.7	52.3	129.2
N obs.	864	153	356	351	647	1073	819	537	1780
	C. Means and standard deviations conditional on less than 500 supervised workers								
mean	15.5	10.1	14.3	18.8	13.6	12.6	14.2	15.5	15.3
std. dev.	36.6	27.8	24.3	34.6	24.9	27.6	27.6	31.8	36.2
N obs.	858	153	354	347	645	1066	816	534	1765

Notes. Country abbreviations – see Notes to *Table A1*. Working samples consist of employees and former employees aged 20-64 during the survey and holding a supervisory position in their current or last job.
Sources: Calculations with the European Social Survey (rounds 7-9) data.

In all countries considered, the top 1% of supervisors command hundreds of workers each: the 99th percentile ranges from 100 – 150 in Latvia and Lithuania to 200 – 300 in the Nordic countries to 400 – 500 in Estonia, Germany, and Poland. After excluding cases with 500+ subordinates (less than 1% of supervisors in each country), the average number of supervised workers falls within a narrow band from 12.6 to 15.5 in all countries considered but Latvia (10.1) and Poland (18.8). On the other hand, the standard deviation of the number of subordinates falls between 21.0 and 27.8 in all countries except for Denmark, Poland, Germany, and Estonia, where it ranges from 31.8 to 36.6 (Table A2).

Table A3 provides the shares of supervisors by the nine major groups of occupations. A vast majority of managers (from over three quarters in Lithuania and Estonia to over 90% in Germany, Sweden and Poland) report having supervisory responsibilities. However, supervisors are found in all other groups as well[45]. The

[44] Hereafter, "supervisors" are either employees with supervisory responsibilities in their current job or not employed former employees who held a supervisory position in their last job in the period 2011–2018.
[45] As an exception, Poland does not have any supervisors in groups 4 (clerical support workers), 6 (skilled agricultural workers) and 9 (elementary occupations).

proportions of supervisors among professionals and technicians (groups 2 and 3) range from 37% to 46% in Norway, Germany and Latvia and from 12% to 32% elsewhere. Lithuania, Poland and Finland (the three countries with the lowest overall shares of supervisors among employees) feature an especially low proportion of supervisors (7% to 12%) in low-skilled non-manual occupations - clerks (groups 4) and services/sales workers (group 5), while this proportion ranges from 19% to 36% elsewhere in the Baltic Sea region. Likewise, the share of supervisors among skilled manual workers (groups 6 – 8) is below 12% in Lithuania, Poland, Finland and Estonia, while this share falls between 25% and 35% elsewhere. Finally, the share of supervisors among workers employed in elementary occupations is negligible in Poland and Lithuania but ranges from 5% to 13% elsewhere.

Table A3. Percentage of employees in supervisory positions by the major group of occupations. Baltic and Nordic countries, Poland and Germany, 2014-2018.

ISCO-08 [a] major group [b]	EE	LV	LT	PL	FI	NO	SE	DK	DE
1	78.7	89.7	75.3	99.5	87.2	88.3	94.8	82.3	93.6
2	29.9	45.5	18.5	2.3	31.1	35.5	31.4	24.3	41.8
3	35.1	47.3	23.2	24.4	24.9	40.9	31.5	35.4	40.1
4	21.6	42.0	10.9	0.0	10.5	23.1	25.8	18.9	26.8
5	17.6	34.0	6.4	10.3	12.8	28.1	26.6	28.4	26.6
6	10.4	4.9	15.0	0.0	13.1	41.7	59.8	5.8	37.8
7	13.8	30.7	5.0	1.6	11.2	46.6	26.6	36.6	38.9
8	8.6	22.1	2.5	1.8	9.6	17.7	19.3	16.4	26.3
9	8.4	5.3	1.0	0.0	6.5	13.4	13.1	11.9	7.5
2-3	31.7	46.2	20.6	12.1	28.4	37.2	31.5	28.1	40.8
4-5	18.7	36.4	7.4	7.4	12.2	27.0	26.4	25.6	26.7
6-8	11.4	25.7	4.1	1.6	10.7	34.6	24.9	26.2	34.4
Total	26.7	35.7	12.0	15.2	21.6	37.8	31.2	28.5	35.7
N obs.	3335	471	3138	2438	3139	2733	2709	1813	4703

Notes. [a] The International Standard Classification of Occupations 2008, see ILO (2008). [b] The ISCO major groups are defined as follows: 1 – Managers; 2 – Professionals; 3 – Technicians and associate professionals; 4 – Clerical support workers; 5 – Services and sales workers; 6 – Skilled agricultural, forestry and fishery workers; 7 – Craft and related trades workers; 8 – Plant and machine operators and assemblers; 9 – Elementary occupations. Country abbreviations and working samples: see Notes to *Table A1* and Figure A1. Total and N obs. also include a small number of observations with missing data on the occupation.

Sources: Calculations with the European Social Survey (rounds 7-9) data.

Table A4 provides descriptive evidence on the link between supervisory responsibilities and plant size. Two different patterns emerge in this regard. The share of supervisors increases with the plant size in six countries (Lithuania, Poland, Finland, Germany, and, in a less pronounced way, Denmark and Estonia). By contrast, the share of supervisors seems to be not related to the size of the establishment in Norway, Sweden, and Latvia (Table A4, panel A). Furthermore, the larger the size of the establishment, the larger the number of subordinates for supervisors in the upper part of their distributions by this parameter. In Denmark and Germany, this is the case for the top 50% of supervisors, as the median number of subordinates steadily increases with plant size (Table A4, panel B). In Norway and Sweden, the number of subordinates grows with plant size for the top 25% of supervisors (Table A4, panel C), while in the Baltic countries, Poland and Finland - for the top 10% of supervisors (Table A4, panel D)[46]. It is essential to remember that both occupation and the size of the establishment are labour market outcomes that are not exogenous with respect to the supervisory position. We come back to this in Section 3.

[46] In Estonia, the statement is true only for establishments with less than 500 workers.

Table A4. Share of supervisors and percentiles of the number of their subordinates by plant size (# workers). Baltic and Nordic countries, Poland and Germany, 2014-2018.

# workers	EE	LV	LT	PL	FI	NO	SE	DK	DE
				A. Percentage of employees in supervisory positions					
Under 10	25.2	33.4	7.4	7.9	17.3	41.6	32.5	24.8	27.9
10 to 24	22.4	29.3	10.0	14.5	20.6	38.6	30.9	25.7	31.9
25 to 99	26.7	46.6	14.2	14.2	22.5	35.9	32.0	27.9	35.8
100 to 499	31.8	27.2	18.2	19.9	24.8	35.7	31.3	29.6	37.8
500+	37.6	40.8	23.1	28.1	28.2	39.1	30.5	36.9	44.0
Total	26.7	35.7	12.0	15.2	21.6	37.8	31.2	28.5	35.7
N obs.	3335	471	3138	2438	3139	2733	2709	1803	4703
				B. Median number of supervised workers for supervisors					
Under 10	3	3	4	3	3	3	3	3	3
10 to 24	6	6	10	6	7	5	6	4	4
25 to 99	10	5	10	10	10	7	6	5	5
100 to 499	8	5	10	8	7	8	10	8	7
500+	7	10	7	15	7	8	10	10	8
Total	5	4	8	8	6	5	6	5	5
N obs.	864	153	356	351	647	1073	819	536	1780
				C. The 75th percentile of the number of supervised workers for supervisors					
Under 10	5	4	6	5	5	5	6	4	5
10 to 24	10	10	15	10	10	12	14	11	10
25 to 99	25	15	22	26	30	15	15	16	25
100 to 499	25	10	20	20	14	18	21	20	25
500+	15	22	15	30	20	21	20	30	15
Total	15	9	15	20	12	12	14	15	12
N obs.	864	153	356	351	647	1073	819	536	1780
				D. The 90th percentile of the number of supervised workers for supervisors					
Under 10	8	5	7	6	8	7	10	5	7
10 to 24	17	14	18	16	16	18	20	22	17
25 to 99	45	25	40	50	40	30	30	35	30
100 to 499	80	30	100	50	40	55	70	43	54
500+	60	40	600	150	50	60	40	160	70
Total	30	20	30	50	30	29	30	35	35
N obs.	864	153	356	351	647	1073	819	536	1780

Notes. Country abbreviations and working samples: see Notes to Table A1 and Figure A2.
Sources: Calculations with the European Social Survey (rounds 7-9) data.

Next, we compare the mean characteristics of supervisors with those of other employees for each of the nine countries considered. The differences, along with significance levels, are reported in Table A5. First, we look at the higher order values (Table A5, panel A, entries in bold). For three out of four HOVs, the descriptives send unambiguous signals: supervisors, on average, score higher than non-supervisors on Openness to Change and Self-Enhancement and lower – on Conservation. The difference is significant at

the 1% level in most cases and at the 5% level in almost all remaining cases[47]. The picture is more diverse regarding Self-Transcendence (the HOV covering motivations like understanding, tolerance and helpfulness). On average, supervisors score on Self-Transcendence significantly lower than other workers in Lithuania, Norway and Germany, while this difference is not significant elsewhere in the Baltic Sea region.

For the basic values, the situation is broadly in line with that for corresponding HOVs; when this is not the case, the difference between supervisors and other employees is insignificant[48] (Table A5, panel A). On average, supervisors score significantly higher than other workers for the following basic values: self-direction (in seven countries), stimulation (in three countries), achievement (in eight countries), and power (in six countries). The opposite situation concerns conformity (in five countries), security (in eight countries), and tradition (in nine countries). For the remaining three basic values, the differences in means between supervisors and other workers are insignificant in most countries: this is the case for hedonism, benevolence, and universalism (in eight, seven, and seven countries, respectively).

Turning to the demographic characteristics (Table A5, panel B), in the Nordic countries, Germany, and Poland, the proportion of females among supervisors is 9 to 16 pp smaller than among other workers; these differences are significant at the 1% level. The share of immigrants among supervisors is smaller than among other employees in Estonia, Lithuania, Finland, and Germany, the differences ranging from 1.3 to 4.3 pp and being significant at 5% or better. These findings might signal labour market discrimination based on gender and origin. On the other hand, in the Nordic countries and Germany, the proportion of return migrants among supervisors is 2.3 to 3.7 pp larger than among non-supervisors (these differences are significant at the 5% level). This suggests successful labour market integration of returnees and brain gain from migration in these countries. An opposite situation is observed in Lithuania, where the share of returnees among supervisors is 3.8 pp smaller than among other workers. In line with this, Hazans (2016: Figure 18) finds that in 2012–2013, return migrants in Lithuania and Estonia were less likely to be tertiary-educated than stayers of the same age, while Masso et al. (2014) found no evidence of that return migration has a positive impact on upward occupational mobility in Estonia.

[47] The exceptions concern Openness to Change in Norway and Denmark (with differences significant at 10%), as well as Openness to Change and Self-Enhancement in Latvia (with non-significant differences).
[48] The only exception is negative (and significant at 10%) difference for Hedonism in Finland.

Table A5. Supervisors vs. non-supervisors: differences in mean characteristics

	EE	LV	LT	PL	FI	NO	SE	DK	DE
	A. Basic human values and higher order values								
Self-direction	.224***	.145	.369***	.211***	.062	.154***	.237***	.131**	.158***
Stimulation	.108***	.012	.053	.139**	.156***	.032	.012	.073	.038
Hedonism	.000	.032	.065	.059	-.074*	-.019	-.009	-.039	-.020
O	.158***	.058	.204***	.196***	.098**	.079*	.135***	.106*	.072**
Achievement	.206***	.192*	.211***	.165***	.161***	.012	.197***	.113**	.145***
Power	.189***	.001	.063	-.034	.206***	.131***	.098**	.174***	.152***
S-E	.244***	.154(*)	.197***	.105**	.199***	.087**	.174***	.155***	.195***
Conformity	-.128***	-.018	-.050	-.133**	-.070(*)	.043	-.097**	-.077	-.132***
Security	-.269***	.055	-.212***	-.193***	-.267***	-.110**	-.237***	-.154***	-.111***
Tradition	-.251***	-.372***	-.224***	-.209***	-.138***	-.106**	-.188***	-.140**	-.098***
C	-.307***	-.183**	-.232***	-.242***	-.218***	-.080*	-.259***	-.181***	-.163***
Benevolence	.018	-.067	-.195***	-.090*	-.038	.058	.012	-.001	-.050
Universalism	-.088**	-.006	-.039	.011	-.028	-.141***	.020	-.056	-.051(*)
S-T	-.055	-.038	-.142**	-.036	-.038	-.084**	.021	-.044	-.061*
	B. Demographic characteristics								
Female	-.017	-.043	-.065*	-.133***	-.129***	-.135***	-.127***	-.092***	-.158***
With partner [a]	.065***	.088(*)	.042	.147***	.097***	.097***	.075***	.062**	.138***
Ever lived with spouse/partner [b]	.101***	.056	.047	.112***	.106***	.084***	.085***	.094***	.120***
With children [c]	.075***	.111**	.079**	.052*	.079***	.048**	.113***	.074***	.062***
Ever lived with children [c, d]	.037**	.038	-.010	.077***	.156***	.096***	.088***	.093***	.084***
Immigrant	-.037***	-.013	-.013**	.000	-.027***	-.015	-.007	-.024	-.043***
Returnee	.008	.022	-.038(*)	.008	.026**	.023***	.029**	.037**	.027***
Age/10	-.560	-2.687*	-.781	1.327**	3.896***	2.067***	.784	1.643**	1.683***
	C. Education and job characteristics								
Low education	-.071***	.004	-.058***	-.205***	-.049***	-.037**	-.042***	-.062***	-.078***
BA degree	.080***	.064*	.140***	.090***	.072***	.018	-.003	.027	.043***
MA/PhD	.150***	.073**	.133***	.141***	.133***	.044***	.088***	.046***	.051***
Public sector	.039**	.006	.065**	.024	.004	-.122***	-.105***	-.069**	-.005
N obs.	3287	463	3044	2381	3112	2710	2675	1808	4617

Notes. Country abbreviations and working samples: see Notes to Table A1 and Figure A2. O = Openness to Change; S-E = Self-Enhancement; C = Conservation; S-T: Self-Transcendence. In panel A, variables are standardized; hence, units are not identical across rows. (*) $p < 0.13$; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust standard errors). [a] "Partner" stands for spouse or partner living regularly (as of the time of the survey) in the same household. [b] Variable "Ever lived with a spouse or partner for 3 months or more" is available only in round 9 of ESS (i.e., year 2018). [c] "Children" refer to own children, as well as step, adopted, foster and partner's children. Variable "With children" refers to children younger than 15 years living regularly (as of the time of the survey) in the respondent's household. [d] Variable "Ever lived with children" refers to the respondent's own, step, adopted, foster or partner's children of any age living regularly (in present or in the past) in the respondent's household.
Sources: Calculations with the European Social Survey (rounds 7-9) data.

Furthermore, supervisors, compared to non-supervisors, are significantly more likely to live with a spouse or a partner and to live with children (incl. step, adopted, foster and partner's children) younger than 15 years, as well as to have children of any age living regularly (in present or in the past) in the same household (Table A5, panel B). Plausibly, this signals supervisors' higher willingness and/or ability to build long-term relationships. Concerning living with a spouse/partner, the difference in proportions between supervisors and others is as big as 14 – 15 pp in Poland and Germany, and it ranges from 6 to 10 pp elsewhere (except for Lithuania, where it is not significant). Similar differences regarding ever living with a spouse or partner for three months or more[49] range from 8 to 12 pp in all countries considered but Lithuania and Latvia. In terms of living with young children, the "supervisory gap" ranges from 5 to 11 pp and is significant in all BSR countries, while in terms of ever living with one's own or partner's children of any age, this gap reaches 16 pp in Finland and ranges from 4 to 10 pp elsewhere (Lithuania and Latvia again being the exceptions). Finally, in Poland, Finland, Norway, Denmark, and Germany, supervisors are, on average, slightly older than non-supervisors, while it is the other way around in Latvia. These age gaps range from 1.3 to 3.6 years, being significant at 5% or better in Finland, Norway, Denmark, and Germany but only at 10% in Poland and Latvia (Table A5, panel B).

Expectedly, supervisors are, as a group, substantially more educated than are other employees: the share of Master's or PhD degree holders among supervisors exceeds that among non-supervisors by 4 – 7 pp in Norway, Denmark, Germany, and Latvia and by 9 – 15 pp elsewhere in the Baltic Sea region. A similar situation holds for Bachelor's degree holders (the gap is significant and ranges from 4 to 14 pp in all countries except for Norway, Sweden, and Denmark).

Finally, the share of public sector employees among supervisors is higher than among non-supervisors by 4 pp in Estonia and by 7 pp in Lithuania, while in Denmark, Sweden, and Norway, the public sector share among supervisors is by 7 – 12 pp smaller than among other workers, all these gaps being significant at the 5% level or better.

[49] This indicator is available only in round 9 of ESS (i.e., year 2018).

Appendix 5. Supplementary results

Table A6. Correlations between higher order values (HOVs), as well as between social trust and HOVs. Baltic and Nordic countries, Poland and Germany, 2014-2018.

	EE	LV	LT	PL	FI	NO	SE	DK	DE
	A. Correlations between higher order values								
O ×(S-E)	.080	-.068	.255	.197	.060	-.017	-.069	-.061	-.032
O × C	-.748	-.623	-.752	-.735	-.727	-.722	-.705	-.670	-.700
O ×(S-T)	-.325	-.281	-.533	-.414	-.127	-.190	-.115	-.137	-.141
(S-E) × C	-.477	-.465	-.607	-.600	-.487	-.412	-.367	-.395	-.413
(S-E) × (S-T)	-.642	-.629	-.555	-.620	-.576	-.533	-.548	-.498	-.503
C × (S-T)	.133	.090	.228	.210	-.073	-.083	-.158	-.192	-.161
	B. Correlations between social trust and higher order values								
STR × O	-.004	-.107	.010	.082	-.030	-.067	-.034	-.035	-.042
STR × (S-E)	-.110	-.002	-.027	-.021	-.082	-.068	-.046	-.004	-.035
STR × C	-.013	.040	-.015	-.114	-.028	-.006	-.062	-.061	-.133
STR× (S-T)	.156	.068	.041	.093	.183	.176	.183	.123	.186
	C. Correlations between components of social trust								
FAIR × HLP	.434	.337	.614	.449	.465	.416	.414	.393	.434
TRST × HLP	.397	.426	.637	.406	.442	.403	.412	.441	.422
FAIR × TRST	.554	.428	.700	.491	.558	.578	.582	.601	.490
N obs.	3284	460	2951	2359	3101	2705	2666	1806	4608

Notes. Country abbreviations and working samples: see Notes to Table A1 and Figure A2. *Higher order values*: O = Openness to Change, S-E = Self-Enhancement, C = Conservation, S-T = Self-Transcendence. *Social trust*: FAIR = Most people try to be fair (vs. Most people try to take advantage of you); HLP = Most of the time people are helpful (vs. people mostly are looking out for themselves); TRST = Most people can be trusted (vs. you can't be too careful); STR = social trust (average of FAIR, HLP and TRST). See section 3 for details on HOVs and social trust variables. All correlations except for the shaded ones are significant at 5% level.
Sources: Calculations with the European Social Survey (rounds 7-9) data.

Table A7. Robustness checks: probits for holding a supervisory job with plant size and parental background controls. Baltic and Nordic countries, Poland and Germany, 2014-2018.

Marginal effects of selected variables

HOVs									
	A. The baseline models each column represents a model								
C	-.047***	-.027	-.024**	-.038***	-.033***	-.018*	-.053***	-.029**	-.035***
S-E	.024**	.003	.008	-.006	.022**	.008	.008	.018	.026***
	B. Models with plant size controls: each column represents a model								
C	-.047***	-.023	-.025**	-.034***	-.033***	-.018*	-.051***	-.029**	-.035***
S-E	.023**	.001	.007	-.003	.022**	.010	.010	.017	.025***
Plant size (vs. < 10 workers)									
10 - 24	-.027	-.034	.017	.068***	.027	-.010	-.028	-.006	.010
25 - 99	.008	.078	.044**	.049**	.026	-.038	-.018	.011	.001
100+	.024	-.070	.088***	.086***	.027	-.057*	-.064**	.036	.020
	C. Models controlling for mother's higher education: each column represents a model								
C	-.046***	-.025	-.023**	-.040***	-.033***	-.019*	-.051***	-.028**	-.034***
S-E	.024**	.005	.007	-.007	.022**	.009	.008	.017	.026***
High_m	.037*	.153*	.037*	-.032	.015	-.013	.060**	.034	.019
	D. Models controlling for father's higher education: each column represents a model								
C	-.046***	-.026	-.024**	-.038***	-.032***	-.018*	-.052***	-.028**	-.034***
S-E	.024**	-.001	.007	-.006	.022**	.008	.007	.018	.026***
High_f	.050**	.188**	.024	.004	.032(*)	.023	.031	.012	.019
	E. Models controlling for father's occupation when respondent was 14 years old								
C	-.044***	-.032	-.022**	-.038***	-.033***	-.017(*)	-.052***	-.031**	-.035***
S-E	.023**	.005	.005	-.005	.022**	.008	.008	.017	.025***
Father's occupation (vs. unskilled or farm worker)									
Professional	.088**	-.005	.084**	.004	.007	.039	.026	-.024	-.005
Higher admin.	.096**	.114	.043	-.040	.039	.026	.041	.058	.107**
Clerc/sales/serv.	.113***	.193*	.009	.042(*)	.013	.002	.018	.028	.010
Skilled worker	.025	.058	.050***	.027	.048**	-.027	.025	.073**	.016
Not employed or absent	.022	-.057	.034*	.039(*)	-.007	.003	-.032	-.059	-.027
	F. Models controlling for mother's occupation when respondent was 14 years old								
C	-.045***	-.029	-.022**	-.040***	-.032***	-.019*	-.052***	-.028**	-.034***
S-E	.024**	-.003	.006	-.007	.021**	.008	.009	.017	.026***
Father's occupation (vs. unskilled or farm worker)									
Professional	.065**	.070	.066**	-.059**	.089**	-.034	.049	.050	.102**
Higher admin.	.011	.519***	.113	.019	.036	.156**	.053	.064	.048
Clerc/sales/serv.	.075***	.041	.034*	-.030	.063***	.002	.032	.072**	.072***
Skilled worker	.042*	.104	.041***	.028	.064***	.039	.091**	.130***	.047
Not employed or absent	.087***	.150*	-.002	.007	.060**	-.033	.030	.052	.049*
Models with:	*G. Change in Akaike information criteria (vs. the baseline model)*								
Plant size	-0.30	-1.30	-14.40	-20.60	5.40	1.70	-10.10	5.70	-3.60
High_m	-1.80	-6.30	-2.60	0.20	1.50	1.70	-4.40	0.50	1.50
High_f	-4.40	-6.90	0.40	1.90	-0.60	1.00	0.10	1.80	1.20
Father's occ.	-10.80	-1.60	-6.40	3.00	-0.10	4.00	5.60	-6.00	-3.00
Mother's occ.	-5.10	-7.50	-7.20	-2.00	-4.50	-1.50	3.30	-1.40	0.30
Mean Y	0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.286	0.361
N obs.	3284	460	2951	2359	3099	2705	2666	1806	4601

Notes. Country abbreviations and working samples: see Notes to *Table A1* and Figure A2. Other controls: see Table 1. *Higher order values*: S-E = Self-Enhancement, C = Conservation. *Sources:* Calculations with the European Social Survey (rounds 7-9) data.

Table A8. Marginal effects of demographic characteristics and education on the probability of holding a supervisory job. Baltic and Nordic countries, Poland and Germany, 2014-2018.

	EE	LV	LT	PL	FI	NO	SE	DK	DE
Female	-.035**	-.084	-.037**	-.069***	-.096***	-.062***	-.075***	-.044*	-.065***
With spouse/partner	.033*	.054	.014	.062***	.016	.057***	.047**	.017	.104***
Ever with children	.038*	.046	-.005	.015	.054***	.052*	.061**	.056(*)	.051***
Age/10: on average	.001	-.031	.010	.034***	.031***	.022**	.010	.012	.014**
at age = 20	.038(*)	.149**	.032**	.032**	.074***	.070**	.066**	.031	.079***
at age = 30	.022	.076	.026*	.035***	.080***	.052**	.044**	.024	.056***
at age = 40	.004	-.015	.015(*)	.035***	.052***	.029**	.015	.015	.026***
at age = 50	-.015	-.104***	-.001	.033***	.007	.004	-.015	.005	-.006
Estimated age of the maximal probability of holding a supervisory position (in the current or last job)									
	42.1	38.3	49.8	64.0	51.5	51.7	45.4	64.0	48.0
Ethnic and migration background (ref.: native-born without minority background)									
Ethnic minority (native born)	-.064**	.049	-.017	-.024	-.013	.100(*)	-.054	-.070	.150**
Native-born, one parent born abroad	-.000	-.043	.029	-.011	-.094**	.051	.011	-.050	.020
Native-born, both parents born abroad	-.054**	-.014	.043	-.014	[…]	-.014	.027	.147	-.003
Immigrant	-.080***	.011	-.045	.029	-.100***	-.034	.023	-.046	-.064***
Return migrant (ref.: other)	.020	.012	-.038**	.006	.017	.059	.015	.087*	.115***
Education (ref.: secondary)									
Low	-.070***	.057	-.052***	-.109***	-.032	-.093***	-.056	-.081**	-.080**
Post-secondary or short-cycle tertiary	.071***	.044	.010	-.005	.077***	.082***	.071***	.023	.093***
Bachelor or equiv.	.183***	.199**	.112***	.167***	.153***	.090***	.061**	.069**	.138***
Master/PhD	.268***	.241***	.198***	.149***	.194***	.105***	.159***	.121***	.134***
Other controls	Sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, higher order values Conservation and Self-Enhancement (see Table 1, panel D)								
Mean Y	0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.286	0.361
N obs.	3284	460	2951	2359	3099	2705	2666	1806	4601

Notes: Country abbreviations and working samples: see Notes to *Table A1* and Figure A2. The marginal effects represent the average difference in the predicted probability of holding a supervisory job between the given category and the reference category, other things equal (for age – the effect associated with a ten-year increase in age). […] – estimates based on a very small number of observations are not reported. (*) $p < 0.12$; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust standard errors).

Sources: Calculations with the European Social Survey (rounds 7-9) data.

Table A9. Marginal effects of social trust and its components on the probability of holding a supervisory job. Baltic and Nordic countries, Poland and Germany, 2014-2018

	EE	LV	LT	PL	FI	NO	SE	DK	DE
	A. Each cell represents a separate model								
FAIR	.006	-.033	-.002	.012*	-.005	-.011	.023*	.008	-.006
HLP	.020**	-.007	.000	.012*	.010	-.009	.009	.002	-.016**
TRST	.014*	-.019	.002	.012*	.017**	-.005	.011	.006	-.002
Social trust	.018**	-.028	-.000	.016**	.010	-.011	.018(*)	.006	-.010
	B. Other controls: Gender, age, living with partner, education level (5 categories), immigration and ethnic minority background (5 categories), own or partner's children of any age living regularly (in present or in the past) in the respondent's household, sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, survey round.								
Mean Y	0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.285	0.361
N obs.	3284	460	2950	2358	3099	2704	2666	1804	4601

Notes: Each cell represents a separate model. The marginal effects (derived from probit models) show the average change in the predicted probability of holding a supervisory job associated with a one-standard-deviation change in the score of the respective variable. Country abbreviations, variable acronyms and working samples: see Notes to *Table A1*, *Table A6* and Figure A1. (*) $p < 0.13$; * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (based on robust standard errors).
Sources: Calculations with European Social Survey (rounds 7-9) data.

Appendix 6. Further refinement of the model

In this section, we further develop the models for holding a supervisory job by applying more nuanced measures of basic human values. Values are multifaceted concepts, and in our data source, the ESS, each of the ten basic values is measured by the average of two (for Universalism - three) scores based on items of the PVQ-21 (see Table A10 in Appendix 3). For the given value, the underlying items represent different aspects of the value and might play separate (or independent) roles in the process of selection into supervisory positions. This is the case, as can be seen, both from single-item models (summarized in the last two columns of Table A10) and from the optimized (methodology detailed in section 3) multi-item models reported in Table A11.

Table A10 summarizes the associations between the scores of single items from PVQ-21 (calculated as in Schwartz 2003) and supervisory responsibilities while controlling for demographic and job characteristics. Noteworthy, for each item, all significant associations are of the same sign across countries (the only exception, *loyalty*, features a negative link in Lithuania but positive – in Norway, both weakly significant). On the other hand, each country has a unique (country-specific) set of items positively linked to supervision and a unique set of items negatively related to supervision. This supports the idea of country-specific stereotypes or expectations of the personality of a leader/supervisor.

The Power value has two underlying motivations – to get *respect from others* and to be *rich*; the former is positively associated with supervisory responsibilities in six countries of the Baltic Sea region, while the latter does not feature a significant association in any of these countries (Table A10). By contrast, for each of the three other basic values positively associated with supervision in most countries – Achievement, Stimulation, and Self-Direction (Table 2, panel A) - the underlying motivations are also positively associated with supervision. The most 'widespread' among these motivations are *success* and *creativity* (six countries each), followed by *seeking excitement* and *variety* (five and four countries, respectively), *motivation to show abilities* (four countries), and *independence* (three countries). Next, recall from Table 2 that the link between supervision and Benevolence is positive in Norway and Sweden but negative in Lithuania. In line with this, one of the underlying motivations, *helpfulness,* is positively linked to supervision in Norway and Sweden, while for the other, *loyalty to people close*, this link is positive in Norway but negative in Lithuania.

For the three basic values negatively associated with supervision – Security, Conformity and Tradition (Table 2, panel B), all underlying measures are also negatively linked to supervision: *humbleness* – in all nine countries, *safety* – in eight countries, *behaving properly*, *following rules* and *support for a strong government ensuring safety* – in four countries each, and *following traditions* – in one country (Table A10). The situation is slightly more complex for Universalism – basic value featuring a negative link with supervision in four countries: Estonia, Finland, Norway, and Germany (Table 3, panel A). One of its underlying motivations, *equality of opportunities*, is negatively linked with supervision in the first three of these countries; the second one, *environment,* is negatively linked with supervision only in Finland; the third one, *tolerance,* is not significantly associated with supervision is all countries but Sweden (where the link is positive).

In addition to the signs of associations with supervision, Table A10 reports the hypothetical impact of these associations on the quality of supervision based on conclusions regarding respective basic values (see Figure 2 and preceding text in Section 2). Half of the effects remain ambiguous; otherwise, for positive (respectively, negative) associations, the direction of the impact is the same as (respectively, opposite to) the one for the respective basic value. The absence of significant association in the case of a value negatively linked to the quality of supervision is interpreted as a positive impact on the quality of supervision (Table A10, the first item in panel C).

Table A10. The European Social Survey (ESS) measures of the ten basic human values and their relation to supervisory responsibilities

Basic human values	Short portraits [a] of hypothetical persons benchmarking the measures: It is important to her/him…	ESS variables used to derive the measures [b]	Countries where the given measure has the indicated association with supervisory responsibilities	Hypothetical impact on the quality of supervision [c]
	A. Positive association (significant at 5%) with holding a supervisory position [d]			
Power	to get *respect* from others	*iprspot*	EE, LT, FI, NO, DK, DE	Negative
Achievement	to *show abilities* and be admired	ipshabt	EE, (FI), SE, DE	Ambiguous
	to be successful and that people recognise achievements (*success*)	*ipsuces*	EE, LT, PL, FI, SE, DE	Ambiguous
Self-Direction	to think new ideas and being creative (*creativity*)	*ipcrtiv*	EE, LT, NO, SE, (DK), DE	Ambiguous
	to make own decisions and be *free*	*impfree*	LT, SE, (DE)	Ambiguous
Stimulation	to try new and different things in life (*variety*)	*impdiff*	LT, PL, FI, DE	Ambiguous
	to seek adventures and have an *exciting life*	ipadvnt	EE, (PL), FI, (NO), DE	Ambiguous
Hedonism	to have a *good time*	ipgdtim	(PL)	Ambiguous
Benevolence	to *help people* and care for others well-being (*helpfulness*)	*iphlppl*	(NO), (SE)	Positive
	to be loyal to friends and devote to people close (*loyalty*)	iplylfr	(NO)	Ambiguous
Universalism	to understand different people *(tolerance)*	*ipudrst*	(SE)	Positive
	B. Negative association (significant at 5%) with holding a supervisory position [d]			
Universalism	that people are treated equally and have *equal opportunities*	*ipeqopt*	EE, FI, NO	Negative
	to care for nature and *environment*	*impenv*	FI	Negative
Benevolence	to be loyal to friends and devote to people close (*loyalty*)	iplylfr	(LT)	Ambiguous
Tradition	to be humble and modest, not draw attention (*humbleness*)	*ipmodst*	All 9 countries	Positive
	to follow *traditions* and customs	imptrad	PL	Positive
Conformity	to do what is told and follow *rules*	ipfrule	PL, (FI), (DK), DE	Positive
	to behave *properly*	*ipbhprp*	EE, FI, SE, DE	Positive
Security	to live in secure and *safe* surroundings	*impsafe*	All except LV	Positive
	that *government is strong* and ensures safety	ipstrgv	EE, LT, FI, (SE)	Positive
	C. No significant association with holding a supervisory position [d]			
Power	to be *rich*, have money and expensive things	imprich	All 9 countries	Positive
Hedonism	to have a *good time*	ipgdtim	All except for PL	Ambiguous
	to seek fun and things that give *pleasure*	impfun	All 9 countries	Ambiguous

Notes. [a] See Schwartz et al. (2015) for a full description of the Portrait Value Questionnaire (PVQ-21; the term comes back to Schwartz 2003). [b] Following the literature (Schwartz 2003, Sortheix & Schwartz 2017, Rudnev et al. 2018), we transform the ESS variables by reversing the scale and centring respondents' scores on their own mean response across the 21 items (see Section 3 for details). These transformed variables are used to derive the measures of the ten basic values and HOVs. For ESS variables whose names (in col. 3) are given in *italics*, the transformed variables are used in the models presented in Table A11, where we use keywords from col. 2 (also in italics) as the variable names. c Based on conclusions regarding respective basic values (see Figure 2 and preceding text in section 2). In panel A, the statements from Figure 2 are taken as is (for *iplylfr* – changed to Ambiguous); in panel B, the statements from Figure 2 are reversed. [d] In probit models with a single PVQ-21 item and other controls as in Table A3. For countries given in parentheses – significant at 10%. *Sources:* ESS documentation and data, and authors' calculations.

Table A11. Marginal effects of selected measures of the basic human values on the probability of holding a supervisory job. Baltic and Nordic countries, Poland and Germany, 2014-2018.

Values[a]	Measures[b] of basic values: Importance of…	EE	LV	LT	PL	FI	NO	SE	DK	DE
		A. Marginal effects (the average change in predicted probability of holding a supervisory job associated with a one-standard-deviation change in the score of respective variable, other things equal)								
SD	*Creativity*	.034***		.026***			.036***	.035***	.024*	.029***
	Freedom			.020***				.022**		
ST	*Variety*			.019***	.020***	.032***				
AC	*Success*	.022**			.026***	.022***		.038***		.021**
PO	*Respect*	.053***		.027***		.043***	.030***		.033***	.029***
SE	*Safety*	-.029***			-.017**	-.028***		-.034***		
CO	*Behaving properly*									-.023***
TR	*Humbleness*	-.028***	-.074***				-.029***		-.029**	-.021**
	Traditions				-.016**					
BE	*Helpfulness*	.026***				.017**	.034***	.021**		
	Tolerance	.018**	.044*	.018**						
UN	*Equal opport.*						-.037***			
	Environment				.015**					
		B. Change in AIC (vs. the specification with multiple basic values as in Table 3, panel B)								
		-52.07	-2.52	-20.06	-18.17	-24.53	-29.50	1.04	-6.44	-20.37
		C. Other controls: Gender, age, living with partner, education level (5 categories), immigration and ethnic minority background (5 categories), own or partner's children of any age living regularly (in present or in the past) in the respondent's household, sector of economic activity (14 categories), employer type (4 categories), full-time/part-time, survey round.								
Mean Y		0.268	0.366	0.123	0.153	0.218	0.380	0.314	0.286	0.361
N obs.		3283	460	2948	2356	3099	2705	2665	1806	4601

Notes: [a] SD = Self-Direction; ST = Stimulation; AC = Achievement; PO = Power; SE = Security; CO = Conformity; TR = Tradition; BE = Benevolence; UN = Universalism. [b] See Table A10 (col. 2) for definitions. Each column represents one model; empty cells correspond to omitted variables. The shaded entries indicate cases when the model includes a respective basic value instead of it's component. *Sources:* ESS data (rounds 7 – 9) and calculations.

The associations summarized in Table A10 (and described above) refer to models including, in addition to demographic and job characteristics, just a single measure of some basic value. Table A11 presents optimized models with multiple measures of basic values (selected from PVQ-21). These models substantially outperform the models with multiple basic values presented in Table 3 (panel B), as seen from the change in AIC (Table A11, panel C). In six out of nine countries, the optimized models include just three to five PVQ-21 items, while in Norway and Sweden – six. In Estonia, the selection into supervisory jobs seems to rely on more comprehensive information about candidates' personalities – here, the optimized models includes five PVQ-21 items and two basic values, thus relying on nine PVQ-21 items.

Overall, the models presented in Table A11 feature thirteen items from PVQ-21, but four of them appear just in one country each. One can conclude that in the countries of the Baltic Sea Region, the selection into supervisory jobs is largely governed by just nine items from PVQ-21. The findings regarding these items from Table A10 and Table A11, as well as the discussion in section 2, can be summarized as follows:

i. Prioritizing *creativity, freedom,* and *success* is positively linked to supervision.[50] This likely facilitates openness to change and pursuit of professional achievements among supervisors but also bears some risk of autocratic behaviour.
ii. Prioritizing *respect* is also positively linked to supervision. The resulting risk of autocratic behaviour among supervisors is strongly statistically significant in Estonia, Lithuania, Finland, Norway, Denmark, and Germany, while it's relative level is especially high in the three former countries.
iii. Prioritizing *variety* is positively associated with supervision in Lithuania, Poland, and Finland. This likely makes supervisors more open to change and innovation, but it also might lead to conflicts between personal and professionally oriented goals.
iv. In every country of the Baltic Sea region, prioritizing *safety* or *humbleness* is negatively associated with holding a supervisory job. This likely facilitates independent thinking and openness to change among supervisors.
v. In the Baltic countries, Finland, Sweden, and Norway, prioritizing *helpfulness* and/or *tolerance* is positively associated with holding a supervisory position. This facilitates good interpersonal relationships with co-workers and tends to improve organizational performance.

When compared to the models with the HOVs (Table 1) and the basic human values (Table 3), the findings above substantially extend our understanding of the selection into supervisory jobs in the Baltic countries and Finland. The finding on the risk of autocratic behaviour among supervisors is new for Lithuania but in line with Table 3 for Estonia, Finland, Norway, Denmark, and Germany.

The marginal effects of the components of the basic values reported in Table A11 are economically meaningful, ranging mostly between 2.0 and 4.4 pp per one-standard-deviation change in the respective score; few effects (mainly in Lithuania and Poland) range between 1.5 and 1.8 pp, while the largest effects are those of *respect* in Estonia (5.3 pp) and of *humbleness* in Latvia (−7.4 pp). In relative terms, the largest effects are the ones of *respect* in Estonia, Lithuania and Finland, as well as of *humbleness* in Latvia and *creativity* in Lithuania – all reaching at least 20% of the share of supervisors, followed by the effects of *success* in Poland, as well as of *freedom* and *variety* in Lithuania,– all exceeding 15% of the share of supervisors.

We omit the discussion of the effects of demographic characteristics because, in terms of significance, direction and size, they are very similar to those estimated from models with the HOVs (see Table A8 and discussion in section 4).

[50] In all countries of the Baltic Sea region excl. Latvia, this holds for at least one of the three above-mentioned items.