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Abstract

This paper argues that job characteristics can influence the patterns of social trust formation. By reviewing key approaches to building trust, we outline four dimensions through which employment properties may impact trust levels among the employed: (1) networks, (2) learning, (3) contexts, and (4) emotions. We use the Programme for the International Assessment of Adult Competencies (PIAAC) public-use data to operationalise the four dimensions and to link them to social trust scores. Our analysis provides strong empirical evidence that the four dimensions not only relate to trust but also exhibit joint effects on trust levels among employed individuals.

Keywords: social trust, employment, job characteristics, job tasks, multilevel analysis

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It is well established that numerous determinants affect social trust formation. An individual's employment status is often mentioned as such a factor (Hall 1999; Van Oorschot and Arts 2005). Employed individuals are more trusting than the unemployed, since employment brings more optimism, more certainty, or more resources. Conversely, unemployment leads to distrust by placing unemployed individuals at a disadvantage relative to others (Hall 1999) or by nourishing the feeling that social groups, and society as a whole, have deprived them of opportunities for employment and self-development (Christoforou 2004).

While the positive impact of employment on trust is well elaborated by theoretical and empirical studies, further research into the relationship between employment properties and trust levels remains beyond the scope of any analysis. This constitutes a considerable failure, given the recent findings that jobs are hardly homogeneous. Indeed, they differ in many respects starting from the type of employment contract to a wide range of tasks that individuals face at their workplaces. It is plausible that different work environments produce different social trust scores and hence individuals can develop varying trust levels depending on which job they end up doing.

Surprisingly, how employment characteristics impact social trust has never been analysed, according to the authors' best knowledge. Considering that an employed person spends on average one third of the day (seen as 24 hours) at work, current research has overlooked an important field where social trust is formed and hence has ignored numerous factors that can

influence trust levels. This drawback can largely be explained by the lack of datasets that contain both trust measures and job-related or workplace-related characteristics. The recently introduced PIAAC survey eliminates this shortcoming and enables examining how employment mechanisms impact the process of trust building among individuals.

Literature Overview

In analysing the trust formation process, we adopt the conventional definition that trust expresses an individual's confidence in the intentions and motives of others (Deutsch 1958; Mellinger 1956). The classical approach assumes that a natural and common account of trust is that certain people are trustworthy and can therefore be trusted (Hardin 2006). Building trust with someone requires assessing how trustworthy the individual is (Coleman 1982; Hardin 2006): The more trustworthy other people seem to us, the more trust is displayed. Severe criticism of this approach has spurred the emergence of alternative theories regarding mechanisms of trust building. We provide an overview of key conceptual approaches to explaining trust by grouping them into four strands: (1) networks, (2) learning, (3) contexts, and (4) emotions. We further use these four strands to derive at four dimensions along which the relationship between an individual's employment and social trust is analysed.

According to the network strand, the rational choice approach to trust overlooks cultural forces that underlie trust building (Rothstein 2000). Some societies prove more trusting than others, thereby suggesting that trust may emerge independently from the individual's properties to whom trust is to be exhibited and hence independently from the concept of trustworthiness. The formation of a trust culture has largely been linked to an individual's involvement in voluntary associations. Volunteering is believed to offer regular and close contacts with others,

and such contacts help individuals develop reciprocity, cooperation, empathy for others, an understanding of the common interest and common good and, as a result, trust (Brehm and Rahn 1997; Newton 1999a,b; Paxton 2002; Putnam 1993, 2000). The literature also recognises that trust patterns are shaped by the positive role of informal contacts with friends and family and by participating in social workplace relations. The frequency of meeting friends and colleagues often appears as a standard variable in trust equations (Paxton 1999; Rothstein and Uslaner 2006).

The learning strand discusses the role of education in trust building processes. Educated people are expected to have higher trust levels, because they can better assess others' trustworthiness and hence feel more secure in choosing whom to trust. Additionally, education may provide an individual with opportunities for collective action, either through offering access to social networks and personal acquaintances or through cultivating values and morals that lead to a sense of citizenship and solidarity. Finally, the link between education and income is closely analysed, by regarding income and poverty as a by-product of the individual's educational attainment (Knack and Keefer 1997; Uslaner 2002a,b). Numerous empirical studies established a strong positive effect of one's educational achievements on trust scores (Fukuyama 2000; Helliwell and Putnam 1999; Knack and Keefer 1997; Knack and Zak 2001).

The contextual strand assumes that there is uncertainty that individuals face in assessing others' trustworthiness or collecting information about others when defining the level of trust to display (Farrell and Knight 2003). The contextual approach suggests that institutional arrangements may help to reduce uncertainty, thereby viewing social trust as the contingent result of particular political or legal contexts. Efficient formal institutions are deemed to be conducive to establishing trust, since they enforce third-party agreements (Herreros and Criado

2008). They enable individuals to pursue redress and restitution when cheated, which reduces the risk involved in trusting someone (Rothstein and Stolle 2001; Tillmar and Lindkvist 2007) and serves as a safety net (Farrell 2005). If sanctions and penalties are imposed when a contract is breached, formal institutions may also increase the cost of betrayal (Bohnet and Baytelman 2007) and overcome the information deficit problem by indicating how others are likely to act (Farrell and Knight 2003).

Finally, the emotional strand argues that the rational choice approach to trust insufficiently addresses the contingent, reflexive, and affective forces that may influence collaborative activities and hence the prospects for trust (Lewis and Weigert 1985). The emotional component of trust rests on a strong positive affect for the object of trust and mainly refers to the extent to which a trustor is willing to be open to the trustee and does not fear emotional harm from him or her (Lewis and Weigert 1985). As such, trust has been reinterpreted as the trustor's positive expectations concerning a trustee's course of action (Barber 1983). To operationalise the emotional dimension of trust, studies often name the feeling of optimism whereas to trust someone is viewed as "to have an attitude of optimism about others' goodwill or the confident expectations that, when the need arises, the one trusted will be directly and favourably moved by the thought that you are counting on her" (Jones 1996, 5-6). Optimistic people believe that others can be trusted, since they are convinced that things will improve and that they can make the world better through their own actions (Uslaner 2002), leading to high levels of trust towards others. Alternatively, the literature discusses life satisfaction as an emotional foundation of trust. Individuals who are generally happy and satisfied with their lives are more likely to trust others than individuals who are unhappy or dissatisfied (Newton 1999a; Uslaner 2002).

We suggest extending the four channels influencing the trust building processes (networks, learning, contexts, and emotions) to employment properties. Research indicates that employment can offer access to social networks and personal acquaintances, open up new opportunities for learning at or outside of the workplace, provide additional exposure to institutional frameworks, and become a source of positive or negative emotions. We thereby argue that the four channels constitute four dimensions along which the impact of employment on social trust should be analysed. We assert that the variations in the extent to which employment properties or characteristics load on each of the four dimensions may explain cross-individual variations in trust levels among employed individuals:

Hypothesis 1: Jobs that offer more contacts with others relate to higher social trust scores among employed individuals.

Hypothesis 2: Jobs offering more opportunities for learning relate to higher trust scores among employed individuals.

Hypothesis 3: More secure job contexts relate to higher trust scores among employed individuals.

Hypothesis 4: Jobs that trigger more positive emotions at the workplace relate to higher trust levels among employed individuals.

Data and Methods

To test our hypotheses, we utilised the public-use data from the Programme for the International Assessment of Adult Competencies (PIAAC) conducted in 2012. This database is unique, because it provides numerous employment-related variables while also containing a measure of social trust (see https://www.oecd.org/site/piaac/surveyofadultskills.htm for a more detailed

description of the PIAAC survey). Our sample includes Belgium (Flanders), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Russian Federation, the Slovak Republic, Spain, Sweden, the United Kingdom (England and Northern Ireland), and the USA. The analysis excludes Australia, Austria, and Canada, since data for many employment-related variables were unavailable for these countries. The sample is restricted to respondents aged between 16 and 65 years. We only select those respondents who were employed or had a paid job at the time the survey was conducted.

We utilise the following set of variables to empirically test our hypotheses (see Tables 1 for descriptive statistics).

[Table 1 near here]

Dependent variable

The PIAAC contains two questions that approximate the respondents' social trust. The first measures an individual's faith in others by asking about the extent to which respondents agree with the statement that "there are only few people they can trust completely". The second captures one's caution levels by stating that "if you are not too careful, people will take advantage of you". We limit our trust operationalisation to the faith in others, since caution proves unequal to the concept of trust (Miller and Mitamura 2003). Additionally, recent studies suggest that the traditional question on trust, which uses faith in others and caution as opposites, measures much more than social trust (Ben-Ner and Halldorsson 2010). Both questions have a response scale varying from 1 "strongly agree" to 5 "strongly disagree".

Independent variables

The network-related dimension of employment is operationalised through the frequency of workplace contacts that are part of job tasks and managerial responsibilities. The PIAAC contains eleven questions about the nature of one's job tasks, which can be combined into four constructs according to a factor analysis (see Annex 1). The first captures a more interactive form of contacts by uniting the frequencies with which the respondent declares: (1) instructing, training or teaching people, individually or in groups, (2) making speeches or giving presentations in front of five or more people, and (3) planning the activities of others. The second construct captures a less interactive form of contacts but which can still provide a positive experience with others and includes: (1) cooperating or collaborating with co-workers and (2) sharing work-related information with co-workers. The third construct combines active interactions with other individuals that involve a certain resistance on the part of others, such as: (1) selling a product or service, (2) advising people, (3) persuading or influencing people, and (4) negotiating with people either inside or outside of your firm or organisation. The fourth construct combines tasks that do not involve any contacts, such as: (1) planning your own activities and (2) organising your own time. Each of the questions has a response scale varying from 1 "never" to 5 "every day". The respondents' involvement in managerial responsibilities is captured by a dummy variable that takes the value of 1 if the respondent currently manages or supervises other employees.

The learning-related dimension is measured through lifelong learning, unrealised learning, the intensity of on-the-job learning, and attitudes towards learning. Participation in lifelong learning is measured by a set of questions where respondents specify whether they did any of the following learning activities within the last twelve months: (1) courses or private

lessons, (2) seminars or workshops, (3) courses conducted through open or distance education, (4) any organised sessions for on-the-job training or training by supervisors or co-workers. Each item has 2 values with 1 “yes” or 0 “no”. We summed up positive responses to the above questions so that the final construct’s response scale ranges from 0 “no participation in lifelong learning” to 4 “active participation in lifelong learning”. Unrealised learning is measured by a dummy variable that takes the value of 1 if respondents state that, in the last twelve months, there were learning activities they wanted to participate in but did not. Learning in the job is a synthetic variable constructed by summing up responses to three questions asking how often the current job involves: (1) learning new work-related things from co-workers or supervisors, (2) learning-by-doing from performed tasks, and (3) keeping up-to-date with new products or services. Each item has a response scale ranging from 1 “never” to 5 “every day” so that the final construct has values varying between 3 “no learning in the job” and 15 “active learning in the job”. A respondent’s attitudes towards learning are captured by a synthetic variable constructed as a sum of the responses to six questions about one’s attitudes to learning or dealing with new things in general. The final construct has values ranging between 6 and 30, with higher values corresponding to a greater subjective propensity to learn or integrate new information.

The context-related dimension of employment is operationalised through the respondent’s job sector, job stability, and freedom at the workplace. The job sector is measured through two dummies specifying whether the individual’s job belongs to the public or non-profit sector, with the private sector representing a reference category. Job stability is measured by asking how many times the respondent changed firms or organisations in the last 5 years. Flexibility at the workplace is derived by asking the extent to which the individual can choose or change working hours. The response scale varies from 1 “not at all” to 5 “to a very high extent”.

The emotions-related dimension of employment is measured through one's current job satisfaction, job stress level, and the level of challenge at the workplace. Job satisfaction has values varying from 1 "extremely satisfied" to 5 "extremely dissatisfied". The job stress level is operationalised through the number of weekly work hours. The level of challenge at the workplace is measured through a dummy that takes the value of 1 if respondents specify that they can cope with more demanding duties than those that are currently required at their job.

Control variables

We control for the conventional determinants of trust: the respondents' participation in volunteering, education level, intelligence level, income, political efficacy, respondents' health condition, living with a spouse or partner, the presence of children in the household, immigration status, and age. Participation in voluntary activities is measured by asking how often the respondent did voluntary work in the last twelve months, with the response scale varying from 1 "never" to 5 "every day". One's education level is measured by two dummies, with the first taking the value of 1 if the respondent has a higher education and the second taking the value of 1 if the respondent has a middle education. A low education is used as a reference category. We also control for the individual's cognitive abilities measured by averaging the cognitive test results in the areas of literacy and numeracy. Each of the two constructs is calculated as a mean of the ten possible values that the PIAAC survey provides. Income is operationalised through the variable specifying the decimal to which the respondent's yearly income belongs. Political efficacy is operationalised by asking respondents to specify whether they agree with the following statement "People like me do not have any say about what the government does". The response scale ranges between 1 "strongly agree" to 5 "strongly disagree". The respondents' health condition is measured by asking respondents to self-rate their health status by using a

scale between 1 “excellent” and 5 “poor”. The living with a spouse or partner variable is a dummy that takes the value of 1 if the respondent declares living with a spouse or partner. The presence of children in the household is measured by a dummy variable that takes the value of 1 if the respondent declares having at least one child living in the household. Immigration status is captured by a dummy variable that takes the value of 1 if the respondent was born in the country where the survey was conducted. The respondents’ age is measured in ten year bands.

Methods used in the analysis

We primarily use a multilevel analysis to account for the hierarchical structure of our data (Kreft and Jan de Leeuw 1998). Controlling for the hierarchical structure is necessary to prevent the un-modeled country information from all being pooled into the single individual error term and to account for the fact that the regression coefficient for individual-level variables may not apply equally to all countries (Luke 2004). The base model takes the following form:

$$Trust_{ij} = \gamma_{00}+\gamma_{10}Networks_{ij}+\gamma_{20}Learning_{ij}+\gamma_{30}Contexts_{ij}+\gamma_{40}Emotions_{ij}+\gamma_{50}X_{ij}+m_{0j}+\varepsilon_{ij} \quad (1)$$

Here, *Trust* is the respondents’ trust scores. *Networks*, *Learning*, *Contexts,* and *Emotions* are the four employment dimensions that are operationalised as described above. *X* is the set of individual-level control variables; *m* is the country-level variance, whereas ε is the individual-level variance. The STATA *gllamm* command is utilised for calculating the model’s parameters. Since social trust is an ordinal variable, the *ologit* link is specified together with the *binomial* family sub-option. Additionally, we include the GLLAMM *adapt* option, which causes adaptive quadrature to be used instead of ordinary quadrature.

Empirical Results

The base model results are consistent with the conventional understanding of trust formation processes: The impact of the selected variables is in line with previous findings (see Table 2). Augmenting the base trust regression with individuals' employment characteristics substantially improves the model fit measured through the value of the log likelihood parameter (see Table 3). One should note that the greatest improvement in the model fit is obtained after including the network-related items and the learning-related items of employment dimensions. The smallest improvement in the trust model fit is obtained when including the available operationalisations for the contextual dimension of employment.

[Table 2 near here]

Our empirical results suggest that jobs involving tasks that offer more contacts with others relate to higher social trust levels among employed individuals. Interactions with people through job tasks where the individual takes on a more active role, such as teaching and making presentations or speeches, contribute the most to trust formation processes. Also, learning from co-workers and supervisors or sharing information with co-workers may positively affect trust levels but to a lesser extent than the previous interaction forms. Clearly, learning from others or sharing information presupposes that an individual has less of a leading role in the contacts and this limits the impact of networking on trust formation. Our results further suggest that the positive impact of these two interaction forms on trust can be reinforced if these job tasks are combined with individuals planning or organising their own activities (see Table 4). Additionally, we establish a negative effect of job tasks like selling, advising, or negotiating on

trust (see Table 3), which makes sense as these interactions often involve negativity or suspicion on the part of others (Hawes, Mast, and Swan 1989) that undermine trust formation. We detect no impact of job tasks focused on organising or planning one's own activities (see Table 3), since these tasks do not presuppose building or maintaining any networks with other individuals. Finally, jobs involving managerial responsibilities relate to lower trust scores (see Table 3).

[Table 3 and Table 4 near here]

We also reveal that jobs offering more opportunities for learning encourage trust formation among employed individuals (see Table 3). More specifically, participating in various forms of lifelong learning is associated with higher trust levels. By contrast, depriving an individual of learning opportunities may negatively affect his or her trust scores: Respondents who declared a desire to complete learning activities which they did not carry out have lower trust scores. Also, jobs that involve or require more workplace learning, such as learning-by-doing, learning from others, or keeping up-to-date with workplace information, reinforce trust building. It is interesting that despite a positive relationship between various types of learning and trust, we establish a negative relationship between learning strategies used by the employed and their trust levels. People who value learning new things or integrating information into various domains of their work or life tend to display less trust. We also found interactions between the learning dimension's items (see Table 4). Our results indicate that the impact of lifelong learning on trust scores is greater for those individuals who actively use learning strategies in general or whose job requires various forms of active learning.

Additionally, our empirical analysis determined that the job context can considerably affect individuals' trust scores (Table 3). Working in the public or non-profit sector is associated with higher trust levels. By contrast, private sector employment leads to lower trust scores. The established job sector's impact on trust can be explained by the fact that jobs in the private sector are usually less secure and involve more stress due to an increased workload or higher competition at the workplace, compared to public or non-profit sector jobs (Blaug, Kenyon, and Lekhi 2007; Demmke 2005; Munnell and Fraenkel 2013). The insecurity of employment translated through job instability and frequent job changes also leads to lower trust levels. This negative impact can be fully offset for those individuals who are currently employed in the public sector (see Table 4). We also detected that flexibility at the workplace is closely linked to trust levels (see Table 3): More freedom in organising one's own working hours is positively associated with social trust. This flexibility is especially important for the trust formation processes in the public and non-profit sectors (see Table 4).

Finally, our results indicate that there is a strong relationship between emotions triggered at the workplace and trust levels (see Table 3). Similar to life satisfaction, job satisfaction correlates very positively with trust scores. Taking into account that our sample consists only of employed individuals who spend a great portion of their day at work, the above impact can be explained by the previous findings demonstrating that job satisfaction is the driving force of life satisfaction (Near 1984). By contrast, individuals who experience more workplace stress, measured through their working hours per week, have lower trust levels. Also, individuals who are not challenged by their job, due to a gap between the qualifications they possess and the qualifications their job tasks require, have lower trust scores. Our interaction analysis

additionally suggests that a skill mismatch may further intensify the negative impact of one's job dissatisfaction on trust scores (see Table 4).

One should note that our results did not change considerably after applying the selected set of robustness checks: (a) controlling for variations in the sample size and (b) accounting for possible endogeneity in the relationship between the four employment dimensions and social trust (see Annexes 2 and 3). Finally, we checked for the cross-dimensional interactions, with the greatest number of interaction effects detected in the case of the learning variables (see Table 5). More lifelong learning reinforces the network items' positive impact on social trust. More lifelong learning or workplace learning are both associated with stronger impacts of job satisfaction on trust levels. Our results additionally suggest that if flexibility at the workplace is calibrated with more workplace learning, the individual's trust levels rise. Interestingly, trust building needs more learning in the public and non-profit sectors than in the private sector.

We also found a positive interaction between the network and the contextual dimensions. The four groups of job tasks impact trust in a more positive manner when they are combined with more flexibility at the workplace. Networking through job tasks affects trust levels more positively when the individual is more satisfied with their job. Interestingly, job tasks involving selling, advising, or influencing others do not have a negative effect when the individual is employed in the non-profit sector. Job satisfaction also affects trust levels more strongly when the individual is employed in the public or non-profit sectors compared to the private sector. Conversely, negative emotions due to a mismatch of skills affects individuals' social trust more negatively in a public sector rather than a private sector job. Finally, our results determined that job instability's negative impact on social trust can be offset if the individual is currently

satisfied with their job. Also, job satisfaction tends to reinforce the positive impact of flexibility at the workplace on trust levels.

[Table 5 near here]

Overall, our empirical analysis supports the idea that it is not only the employment as such but also the characteristics of this employment that shape individuals' social trust levels. These results are in line with the dynamic models of trust formation which view trust as moulded by the individual's lifelong experiences, thereby allowing trust levels to fluctuate over the course of one's life. The workplace should be considered as an important source of such experiences that can both positively and negatively affect trust scores. The four dimensions of employment suggested by us may constitute channels through which workplace experiences influence an individual's trust towards others.

Conclusions

This study argues that the analysis of social trust formation should go beyond the traditional view of family, networks, society, and government. Workplaces where the majority of individuals spend many hours per day should undoubtedly be incorporated into the research on trust determinants. We support this argument by regressing trust on a variety of employment characteristics. We demonstrate that jobs can promote trust formation by expanding an individual's contacts at the workplace, especially if these contacts presuppose a more active role in engaging the individual. We also found that jobs allowing more non-formal learning or requiring more workplace learning may encourage trust formation among the employed.

Similarly, jobs that trigger more positive emotions and limit workplace stress may positively affect social trust levels. Or, job contexts that allow more flexibility at the workplace and more employment stability lead to higher trust towards others.

This study's results have substantial policy implications by providing useful insights into how companies can affect their employees' social trust. Since social trust constitutes the basis for any kind of trust, such as team trust, trust towards an employer, or trust towards company management, our findings can be used to understand how employment or workplace characteristics influence trust within a company and hence determine the productivity and efficiency of a company's operations, as a whole.

Further research is needed to eliminate two important limitations of our study. First, longitudinal data should be used to check the dynamic nature of trust formation processes at the workplace. Second, it is necessary to find instruments for each of the employment-related dimensions proposed by this study in order to fully eliminate the endogeneity problem in the relationship between employment and trust and thereby establish the true effect that employment characteristics and workplace properties have on the trajectory of trust formation processes among the employed.

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Table 1. Descriptive Statistics for the Key Variables Used in the Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Social trust	76558	1.000	5.000	2.362	1.161
Volunteering	76658	1.000	5.000	1.642	1.019
Respondent's education level					
Highly-educated	73509	0.000	1.000	0.396	0.489
Middle-educated	73509	0.000	1.000	0.461	0.498
Intelligence levels	76711	37.870	426.120	278.129	42.914
Yearly income percentile	70921	1.000	6.000	3.335	1.532
Perceived political efficacy	76289	1.000	5.000	2.767	1.259
Subjective health status	76651	1.000	5.000	2.480	0.985
Living with a spouse or partner	66705	0.000	1.000	0.741	0.438
Children in the household	76659	0.000	1.000	0.649	0.477
Born in the country	76689	0.000	1.000	0.909	0.287
Age	76722	1.000	5.000	3.108	1.266
Job task factor 1	76570	3.000	15.000	6.802	3.514
Job task factor 2	70243	2.000	10.000	7.633	2.213
Job task factor 3	76373	4.000	20.000	11.464	4.952
Job task factor 4	76502	2.000	10.000	8.079	2.704
Lifelong learning	75372	0.000	4.000	0.903	0.967
Unrealized leaning	75388	0.000	1.000	0.269	0.443
Intensity of learning in the job	70006	3.000	15.000	9.847	3.111
Attitudes towards learning	76055	6.000	30.000	21.950	4.359
Job sector PRIVATE	76550	0.000	1.000	0.724	0.447
Job sector PUBLIC	76550	0.000	1.000	0.249	0.433
Job sector NON-PROFIT	76550	0.000	1.000	0.027	0.161
Job instability	76604	0.000	7.000	1.810	1.266
Flexibility levels in the job	76649	1.000	5.000	2.658	1.407
Job satisfaction	76657	1.000	5.000	1.993	0.843
Stress levels in the job	73163	1.000	125.000	38.319	13.441
Not challenged by the job	76032	0.000	1.000	0.832	0.374

Table 2. Social Trust Base Model

VARIABLES	(1)	(2)	(3)	(4)
Volunteering		0.085***	0.073***	0.073***
		(0.007)	(0.008)	(0.013)
Respondent's education level				
Highly-educated		0.453***	0.431***	0.431***
		(0.026)	(0.028)	(0.053)
Middle-educated		0.110***	0.089***	0.089**
		(0.023)	(0.025)	(0.035)
Intelligence levels		0.003***	0.003***	0.003***
		(0.000)	(0.000)	(0.001)
Yearly income percentile		0.042***	0.022***	0.022**
		(0.005)	(0.006)	(0.008)
Perceived political efficacy		0.372***	0.369***	0.369***
		(0.006)	(0.007)	(0.017)
Subjective health status			-0.098***	-0.098***
			(0.009)	(0.015)
Living with a spouse or partner			0.065***	0.065**
			(0.021)	(0.033)
Children in the household			-0.079***	-0.079***
			(0.022)	(0.028)
Born in the country			0.087***	0.087
			(0.029)	(0.071)
Ag in 10-year bands			0.092***	0.092***
			(0.008)	(0.019)
Constant				
Cut 1	-1.213***	0.851***	0.756***	0.734***
	(0.114)	(0.066)	(0.079)	(0.199)
Cut 2	0.743***	2.966***	2.899***	2.877***
	(0.114)	(0.067)	(0.081)	(0.156)
Cut 3	1.327***	3.588***	3.525***	3.502***
	(0.114)	(0.067)	(0.081)	(0.146)
Cut 4	3.154***	5.499***	5.470***	5.447***
	(0.115)	(0.069)	(0.083)	(0.182)
Between-class variance	0.269	0.333	0.494	0.522
	(0.083)	(0.028)	(0.046)	(0.048)
Log likelihood	-103875.23	-88507.607	-76440.142	-76440.636
Number of level 2 units	21	21	21	21
Number of level 1 units	76,558	67,508	58,605	58,605

Note. Standard errors in parentheses. Column (1) reports the results for the null model. Column (2) reports the results for the trust regression containing the conventional determinants of trust. Column (3) expands the trust regression by including additional socio-demographic controls. Column (4) reports the results with the *robust* option that uses the Huber/White/sandwich estimator of the covariance matrix of the parameter estimates.
*** p<0.01, ** p<0.05, * p<0.1.

Table 3. Social Trust Augmented Model, Employment Dimensions Included

VARIABLES	(1)	(2)	(3)	(4)	(5)
The network-related dimension					
Teaching, presentations,	0.022***				0.017***
planning for others	(0.003)				(0.003)
Cooperating or sharing	0.009**				0.009**
information with others	(0.004)				(0.004)
Selling, advising or	-0.009***				-0.006***
influencing others	(0.002)				(0.002)
Planning or organizing	0.001				-0.002
activities for oneself	(0.003)				(0.004)
Managerial responsibilities	-0.087***				-0.077***
	(0.022)				(0.022)
The learning-related dimension					
Lifelong learning		0.075***			0.061***
		(0.009)			(0.010)
Unrealized learning		-0.059***			-0.045**
		(0.019)			(0.020)
Intensity of learning in the job		0.012***			0.008**
		(0.003)			(0.003)
Attitudes towards learning		-0.021***			-0.021***
		(0.002)			(0.002)
The context-related dimension					
Job sector Public			0.173***		0.115***
			(0.019)		(0.020)
Job sector Non-profit			0.225***		0.187***
			(0.048)		(0.051)
Job instability			-0.028***		-0.022***
			(0.007)		(0.007)
Flexibility levels in the job			0.027***		0.035***
			(0.006)		(0.007)
The emotions-related dimension					
Job satisfaction				-0.089***	-0.082***
				(0.009)	(0.011)
Stress levels in the job				-0.003***	-0.003***
				(0.001)	(0.001)
Not challenged by the job				-0.118***	-0.080***
				(0.022)	(0.024)
Control variables	Yes	Yes	Yes	Yes	Yes
Between-class variance	0.219	0.519	0.559	0.493	0.262
	(0.049)	(0.040)	(0.056)	(0.039)	(0.025)
Log-likelihood	-67485.257	-69147.447	-76162.809	-75674.426	-64606.693
Number of level 2 units	20	20	20	20	20
Number of level 1 units	53,099	51,775	58,450	58,063	49,766

Note. Standard errors in parentheses. As controls, each trust regression contains the full list of variables from the social trust base model. Due to space limits, we do not report the cut values for the constant.
*** p<0.01, ** p<0.05, * p<0.1

Table 4. Intra-Dimensional Interactions of Employment Properties

VARIABLES	Interaction term
The learning-related dimension of employment	
Lifelong learning * Attitudes towards learning	0.005***
	(0.001)
Lifelong learning * Intensity of learning in the job	0.006***
	(0.002)
The network-related dimension of employment	
Teaching, presentations, planning for others * Planning or organizing	0.002***
activities for oneself	(0.000)
Cooperating or sharing information with others * Planning or organizing	0.002***
activities for oneself	(0.000)
The context-related dimension of employment	
Job sector Public * Job instability	0.026***
	(0.009)
Job sector Non-profit * Job instability	-0.000
	(0.023)
Job sector Public * Flexibility levels in the job	0.037***
	(0.008)
Job sector Non-profit * Flexibility levels in the job	0.058***
	(0.022)
The emotions-related dimension of employment	
Job satisfaction * Not challenged by the job	0.035**
	(0.016)

Note. Standard errors in parentheses. We only report those interactions that have been found statistically significant at least at the 5 percent level. The interactions are calculated by using the OLS regression with the *cluster* option. The interaction terms are included sequentially (one by one) in the social trust augmented model.
*** p<0.01, ** p<0.05, * p<0.1.

Table 5. Inter-Dimensional Interactions of Employment Properties

VARIABLES	Interaction term
The learning and network dimensions	
Lifelong learning * Teaching, presentations, planning for others	0.005***
	(0.001)
Lifelong learning * Cooperating or sharing information with others	0.008***
	(0.002)
Lifelong learning * Planning or organizing activities for oneself	0.007***
	(0.002)
The learning and emotional dimension	
Lifelong learning * Job satisfaction	-0.053***
	(0.006)
Unrealized learning * Job satisfaction	-0.035***
	(0.013)
Intensity of learning in the job * Job satisfaction	-0.007***
	(0.002)
Attitudes towards learning * Job satisfaction	-0.004***
	(0.001)
The learning and institutional dimensions	
Lifelong learning * Flexibility levels in the job	0.016***
	(0.004)
Attitudes towards learning * Flexibility levels in the job	0.003***
	(0.001)
Attitudes towards learning * Job sector Public	0.007***
	(0.002)
Attitudes towards learning * Job sector Non-profit	0.010
	(0.007)
Intensity of learning in the job * Job sector Public	0.010***
	(0.003)
Intensity of learning in the job * Job sector Non-profit	0.019*
	(0.010)
The network and contextual dimensions	
Teaching, presentations, planning for others * Flexibility levels in the job	0.007***
	(0.001)
Cooperating or sharing information with others * Flexibility levels in the job	0.007***
	(0.001)
Selling, advising or influencing others * Flexibility levels in the job	0.002***
	(0.000)
Planning or organizing activities for oneself * Flexibility levels in the job	0.008***
	(0.001)
Selling, advising or influencing others * Job sector Public	0.003
	(0.002)
Selling, advising or influencing others * Job sector Non-profit	0.024***
	(0.006)
The network and emotional dimensions	
Teaching, presentations, planning for others * Job satisfaction	-0.012***
	(0.002)
Selling, advising or influencing others * Job satisfaction	-0.006***
	(0.001)
Planning or organizing activities for oneself * Job satisfaction	-0.012***
	(0.002)

The institutional and emotional dimensions	
Job sector Public * Job satisfaction	-0.071***
	(0.013)
Job sector Non-profit * Job satisfaction	-0.064*
	(0.036)
Job sector Public * Not challenged by the job	-0.087***
	(0.027)
Job sector Non-profit * Not challenged by the job	0.034
	(0.073)
Job instability * Job satisfaction	0.011***
	(0.004)
Flexibility levels in the job * Job satisfaction	-0.023***
	(0.004)

Note. Standard errors in parentheses. Due to space limits, we only report those interactions that have been found statistically significant at the 1 percent level. The interactions are calculated by using the OLS regression with the *cluster* option. The interaction terms are included sequentially (one by one) in the augmented trust model.
*** p<0.01, ** p<0.05, * p<0.1.

Annex 1.

Principal Component Analysis for the Job Task Items

	Component			
	Factor 1: Teaching, presentations, planning for others	Factor 2: Cooperating or sharing information with others	Factor 3: Selling, advising or influencing others	Factor 4: Planning or organizing activities for oneself
How often cooperating with others		0.889		
How often sharing information with others		0.807		
How often teaching	0.807			
How often making presentations	0.878			
How often selling			0.910	
How often advising others			0.603	
How often planning own activities				0.904
How often planning others' activities	0.507			
How often organizing own time				0.934
How often influencing others	0.348		0.571	
How often negotiating with others			0.583	

Note. Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 10 iterations.

Annex 2.

Robustness Check: Variations in the Sample Size

VARIABLES	(1)	(2)	(3)
The network-related dimension			
Teaching, presentations, planning for others	0.015***	0.017***	0.018***
	(0.005)	(0.003)	(0.003)
Cooperating or sharing information with others	0.006	0.009**	0.008*
	(0.006)	(0.004)	(0.004)
Selling, advising or influencing others	-0.008**	-0.006***	-0.007***
	(0.003)	(0.002)	(0.002)
Planning or organizing activities for oneself	-0.003	-0.002	-0.002
	(0.005)	(0.004)	(0.004)
Managerial responsibilities	-0.071**	-0.069***	-0.078***
	(0.031)	(0.023)	(0.022)
The learning-related dimension			
Lifelong learning	0.068***	0.061***	0.063***
	(0.014)	(0.010)	(0.010)
Unrealized learning	-0.064**	-0.041**	-0.045**
	(0.029)	(0.020)	(0.020)
Intensity of learning in the job	0.012***	0.008**	0.008**
	(0.005)	(0.003)	(0.003)
Attitudes towards learning	-0.023***	-0.021***	-0.021***
	(0.003)	(0.002)	(0.002)
The context-related dimension			
Job sector Public	0.095***	0.116***	0.113***
	(0.031)	(0.021)	(0.021)
Job sector Non-profit	0.260***	0.181***	0.189***
	(0.090)	(0.052)	(0.052)
Job instability	-0.013	-0.023***	-0.023***
	(0.010)	(0.007)	(0.007)
Flexibility levels in the job	0.028***	0.036***	0.034***
	(0.010)	(0.007)	(0.007)
The emotions-related dimension			
Job satisfaction	-0.088***	-0.084***	-0.084***
	(0.016)	(0.011)	(0.011)
Stress levels in the job	-0.003***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)
Not challenged by the job	-0.066*	-0.080***	-0.080***
	(0.035)	(0.024)	(0.024)
Control variables	Yes	Yes	Yes
Between-class variance	0.313	0.519	0.261
	(0.054)	(0.042)	(0.024)
Log-likelihood	-32117.430	-63431.947	-63797.939
Number of level 2 units	20	20	20
Number of level 1 units	24,625	48,818	49,148

Note. Robust standard errors in parentheses. The list of controls consists of the social trust base model variables. In column (1), we follow Kuckulenz and Zwick (2003) and restrict our analysis to male employees, since effects of learning for women require a different modelling approach. In column (2), we restrict the sample to employees with hours per week top coded at 60, since reported working hours vary widely in our dataset. In column (3), the sample is restricted to people aged between 20-65 to avoid a bias caused by the fact that the majority of young people between the ages of 16 and 20 are still being educated and hence those in the labour market might not be representative of the young population (Hanushek, Woessmann, and Zhang 2011). * p < .10. ** p < .05. *** p < .01.

Annex 3.

Robustness Check: Controlling for the Problem of Endogeneity in Trust Regressions

VARIABLES	(1)	(2)	(3)	(4)
The network-related dimension				
Teaching, presentations, planning	0.158***	0.012***	0.015***	0.024***
for others	(0.042)	(0.003)	(0.003)	(0.003)
Cooperating or sharing	-0.162***	0.075***	0.029***	0.029***
information with others	(0.051)	(0.008)	(0.004)	(0.005)
Selling, advising or influencing	-0.066***	0.012***	-0.004*	-0.006**
others	(0.017)	(0.003)	(0.002)	(0.003)
Planning or organizing activities	0.022	0.001	-0.022***	-0.014***
for oneself	(0.049)	(0.005)	(0.004)	(0.005)
Managerial responsibilities	-0.774**	-0.173***	-0.121***	-0.035*
	(0.313)	(0.019)	(0.021)	(0.020)
The learning-related dimension				
Lifelong learning	0.048***	0.391***	0.050***	0.073***
	(0.015)	(0.075)	(0.008)	(0.008)
Unrealized learning	-0.017	-0.487***	-0.014	-0.069***
	(0.017)	(0.172)	(0.017)	(0.026)
Intensity of learning in the job	0.029***	0.214***	-0.004	0.025***
	(0.011)	(0.024)	(0.003)	(0.007)
Attitudes towards learning	-0.006*	-0.038**	-0.011***	0.004
	(0.003)	(0.017)	(0.002)	(0.003)
The context-related dimension				
Job sector Public	0.147***	-0.009	0.386***	0.038*
	(0.045)	(0.022)	(0.058)	(0.022)
Job sector Non-profit	-0.033	-0.138**	-1.316***	-0.041
	(0.053)	(0.055)	(0.447)	(0.048)
Job instability	-0.002	-0.002	0.044	0.005
	(0.008)	(0.009)	(0.034)	(0.006)
Flexibility levels in the job	0.049***	0.042***	0.310***	0.082***
	(0.009)	(0.006)	(0.034)	(0.013)
The emotions-related dimension				
Job satisfaction	-0.084***	-0.193***	-0.054***	-0.469***
	(0.011)	(0.019)	(0.010)	(0.158)
Stress levels in the job	-0.001	-0.003***	-0.004***	-0.049***
	(0.001)	(0.001)	(0.001)	(0.006)
Not challenged by the job	-0.070***	-0.198***	-0.048**	-0.264*
	(0.019)	(0.034)	(0.019)	(0.141)
Number of observations	31,990	31,990	31,990	31,990
Number of countries	18	18	18	18

Note. Robust standard errors in parentheses. Columns (1) to (4) contain results of an instrumental variable (IV) regression, in which the four dimensions of employment are instrumented with the mother's level of education, mother's immigration status, the respondent's job sector dummies, the respondent's overall work experience length, contract type dummies, computer use at work, need for further training in the current job, number of people living in the respondent's household, and the size of the company where the respondent currently works. The IV regressions also contain the full list of variables from the social trust base model. Column (1) instruments the network-related dimension's items. Column (2) instruments the learning-related dimension's items. Column (3) instruments the context-related dimension's items. Column (4) instruments the emotions-related dimension's items.
* p < .10. ** p < .05. *** p < .01.