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## Let bygones be bygones? Socialist regimes and personalities in Germany

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Socialist Regimes and Personalities in  
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# Let Bygones be Bygones? Socialist Regimes and Personalities in Germany

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## Abstract

This paper investigates the influence of political regimes on personality, using the separation of Germany into the socialist GDR and the democratic FRG and its reunification in 1990 as a natural experiment. We show that there are significant differences between former GDR and FRG residents regarding important attributes of personality (particularly the locus of control, neuroticism, conscientiousness, and openness). To understand the influence of the GDR's socialist regime on personality, we test an important channel by exploiting regional variation in the number of unofficial state-security collaborators across East German counties. Our results indicate that local surveillance intensity is indeed an important determinant of the personality of former GDR citizens. The differences in personality imply that former citizens of the GDR have economic prospects rather different from former FRG citizens and help to understand behavioral differences established in the prior literature.

*Keywords: personality, political regime, East Germany, socialism, Big Five, locus of control, SOEP*

*JEL: D03, D12, D63*

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# 1 Introduction

## 1.1 Motivation and main results

This paper aims to show the effect of a socialist regime on personalities – motivated by the fact that personality is key for economic behavior and life outcomes (e.g., Almlund et al. 2011) – and to explore the role of state-security surveillance for this effect. To this end, we treat the reunification of the socialist German Democratic Republic (GDR) and the democratic Federal Republic of Germany (FRG) in 1990 after more than four decades of separation as a “natural experiment”. Personality emerges strongly in young age, whereas it becomes relatively stable in middle adulthood (e.g., Specht et al. 2014). The political regime may influence personality development because it severely impacts, *inter alia*, education, parental investment (e.g., by reinforcing behaviors or values that are considered beneficial in the circumstances), and the feedback from the social environment, and there is a growing body of evidence suggesting that such aspects can causally affect personality traits (e.g., Almlund et al. 2011, Reitz et al. 2014).<sup>1</sup>

The GDR’s socialist regime pervaded all aspects of life and influenced most interpersonal relationships in one way or another for more than four decades, suggesting that peoples’ personalities show traces of the regime. In this vein, Fulbrook (2005: 5) argues that people who came to maturity in the GDR were “products of the regime”. For personality development, the years up to adulthood are very important, implying that schooling and youth organizations are highly relevant. With regard to the role of education in the GDR, Fuchs-Schündeln and Masella (2014: 3) point out that “the curricula systematically aimed at creating *a socialist personality*” (emphasis added). Indeed, students had a subject that dealt explicitly with the superiority of the socialist regime and how to behave as a citizen within the regime (e.g., Latsch 2015). In fact, some people later commented that the school system was an instrument even more effective in creating submission than the state-security services (Jahn 2014: 38). The influence exerted during school hours was complemented by the role of the youth organizations Young Pioneers (ages six to ten), Pioneers (ages ten to fourteen), and the *Freie Deutsche Jugend (FDJ)* (ages 14 to 25) where membership was de facto expected. For example, the FDJ had the objective of raising children to become class-conscious socialists and also functioned as a selection stadium for leadership positions, organizing more than 75 percent of the respective age cohort in the 1980s (Fulbrook 2005: 128). In contrast, maladjusted youths were put into one of the community homes for so-called re-education, that is, for bringing their personalities more in line with the socialist ideals (e.g.,

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<sup>1</sup>While personality traits are to some extent hereditary (e.g., Riemann et al. 1997) and relatively stable during adulthood (e.g., Cobb-Clark and Schurer 2012, 2013), they are malleable by experience and investment (Almlund et al. 2011, Borghans et al. 2008, Kautz et al. 2014). Behavioral geneticists argue that about 50% of the variation in personality is attributable to genes, while the other half is shaped by environmental factors (Krueger and Johnson 2008).

Schnurr 2015). Parents taught their children how to get by in the political regime. For example, to avoid trouble, parents instructed their children that hiding what you actually do or want to do is oftentimes better kept to yourself (e.g., Jahn 2014: 53). Moreover, parents had to explain to their children that it is best to put up with the fact that many important aspects of life (e.g., housing, career options, the availability of consumption goods and services) were determined by the state. After maturity, the social investment principle assumes that personality development is primarily driven by investing in changing social roles that are associated with different expectations (e.g., Lodi-Smith and Roberts 2007). In this regard, the political regimes in the GDR and the FRG were associated with different community structures and diverging sex-role attitudes (see, e.g., Bauernschuster and Rainer 2012), for example, implying diverging investment incentives and thus personality development. One very infamous aspect of the GDR's political regime was the massive state-security service and its extensive reliance on unofficial collaborators. The extent of surveillance was indeed unprecedented. Roughly, there was one state-security collaborator for every random sample of 50 citizens (e.g., Heineck and Süßmuth 2013).<sup>2</sup> Denunciations frequently resulted in drastic repression, setting examples for all the onlookers (e.g., Kowalczyk 2013). As a result, people were on alert regarding what opinion they may voice or which activity they may undertake without endangering, for example, their career or opportunity to study at a university, or, even more serious, their physical integrity or their personal freedom (Fulbrook 2005: 9). In addition, people were submissive in order to avoid harming relatives and friends (e.g., Jahn 2014: 139).

This paper studies the socialist regime's impact on the locus of control (e.g., Rotter 1966), the Big Five personality inventory (e.g., McCrae and Costa 1999), and reciprocity. We use data from the German Socio-Economic Panel (SOEP), which allows us to include a host of information at the individual level. The locus of control represents the individual's belief about the relationship of own behavior and consequences. Individuals with a high internal locus of control believe they have a strong impact on what happens in their lives, whereas others attribute incidents to sources outside their influence (e.g., chance, fate, or powerful others). The Big Five personality inventory includes the traits openness, conscientiousness, extraversion, agreeableness, and neuroticism. This taxonomy is generally regarded as a set of core dimensions that is useful to describe individual differences in personality economically (Specht et al. 2014). With respect to reciprocity, we include measures of positive and negative reciprocity.

Our results show a significant, long-lasting impact of the GDR's socialist regime on personality. Experience with the socialist regime is associated with not only higher neuroticism and conscientiousness scores but also lower openness ratings almost 20 years after the German reunification.

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<sup>2</sup>Rainer and Siedler (2009: 251-252), for example, report the following: "The Stasi kept files on an estimated six million people... By 1995, 174,000 East Germans had been identified as unofficial collaborators... In fact, the ratio of watchers' to watched' was even higher than (i.e., roughly 90-times) that of the Soviet Union under communism."

Moreover, when compared to citizens from West Germany, individuals who have lived in the GDR have a lower internal locus of control, that is, they ascribe consequences less to own behavior and more to external circumstances. Regressions by age cohort are consistent with the hypothesis that the duration of the exposure to the political regime and having received the complete education in the GDR are important for the regime’s influence on personality. Robustness checks give confidence that the differences can be attributed to the political regime and are not driven by regional differences.

To identify a channel of how the regime influenced personality, we consider the well-known infiltration by unofficial collaborators who monitored supposedly politically incorrect behavior of fellow citizens and reported it to the state-security services. Indeed, we can establish that variations in the number of unofficial collaborators across GDR counties are related to significant differences in personality. Specifically, more regional secret-service surveillance makes people reciprocate negative acts more strongly and lowers the *internal* locus of control (i.e., makes respondents ascribe consequences less to own behavior and more to external circumstances). In other words, the consideration of the within-treatment variation with respect to the surveillance intensity produces findings aligned with our baseline estimates and thus contributes to their explanation.

The socialist regime’s footprint in personalities has economic significance today. Personality is decisive for economic success, health, and other life outcomes (e.g., Borghans et al. 2008, Fletcher 2013, Ozer and Benet-Martinez 2006).<sup>3</sup> The stable association of personality traits and life outcomes connotes that the regime that discontinued to exist in the political sphere continues to shape the life of its former citizens to this day and into the future. In our penultimate section, we present both qualitative implications and some rough estimates about the magnitude of the economic repercussions following from the socialist regime’s effect on personality.

Our analysis also contributes by helping to understand findings of the previous literature. More specifically, our analysis investigates via what precise channels the socialist regime influenced individuals that caused them to exhibit significantly different behavior in specific contexts. For example, Ariely et al. (2014) indicate that East Germans are more prone to dishonesty, and Ockenfels and Weimann (1999) and Brosig-Koch et al. (2011) show results indicating that East Germans exhibit less solidarity than West German subjects. Moreover, our results are important for the interpretation of findings in the prior literature. We establish that exposure to the socialist regime changes the personality of subjects. Hence, studies that investigate the socialist regime’s effect on outcomes like college attendance and labor market outcomes (Fuchs-Schündeln and Masella 2014) without controlling for personality traits might overemphasize the *direct* effect

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<sup>3</sup>For example, Mueller and Plug (2006) consider the Big 5 personality traits and establish significant positive or negative earnings effects for all five of them (e.g., less agreeable men have higher earnings on average).

of the political regime due to omitting important moderating variables.

## 1.2 Related literature

The present paper investigates whether and how political regimes shape personalities, taking advantage of the German separation and reunification. Our paper is related to contributions that consider the role of personality, papers that search for footprints of past institutions, and studies that similarly make use of the recent German history as a *natural experiment*.

Previous research has already suggested that there are differences between East and West Germans. Bauernschuster et al. (2012) present evidence for the intuitive relationship of East Germans having less of an individualistic mentality when compared to West Germans, using survey responses to questions such as “Do you agree that the state has to care for the sick, poor, old, and unemployed?”. With regard to the role of the state and the individual, two other studies are noteworthy. First, Brosig-Koch et al. (2011) study experimental data from the solidarity game – building on the experimental findings of Ockenfels and Weimann (1999) – and find lasting differences; the authors determine that East Germans show much less solidarity than West Germans. East Germans instead attribute more responsibility to the state. In this vein, Alesina and Fuchs-Schündeln (2007) show that East Germans support redistribution and state intervention more than West Germans (but also that there is a moderate convergence in this regard). The lasting consequences are attributed to social norms and intergenerational transmission. The importance of intergenerational transmission as a mechanism is established by Dohmen et al. (2012), for example, with respect to risk and trust attitudes. Necker and Voskort (2014) also study this transmission process, focusing on East and West Germany and responses to value questions (e.g., whether owning a house is important) by parents and children. The present paper establishes that the political regime has imprinted on peoples’ personalities, which are stable over much of the life cycle, contributing an additional channel to explain the persistence of differences in observed outcomes such as the relative importance of conspicuous consumption (Friehe and Mechtel 2014) or the level of trust. Rainer and Siedler (2009) study the extent to which East and West Germans trust institutions and other people, using cross-sectional data and finding that East Germans persistently show less trust than West Germans. Relatedly, Heineck and Süßmuth (2013) examine differences in trust, cooperation, and risk in a study that relies on the panel data source that we also use (i.e., the SOEP). In contrast, our focus is on personality traits, which are complementary to the economic preferences aspects addressed by Rainer and Siedler (2009) and Heineck and Süßmuth (2013) when it comes to explaining heterogeneity in important life outcomes and behavior (as established by Becker et al. 2012).

There is some recent literature about the long-term persistence and long-lasting effects of institutions. For example, Acemoglu et al. (2001) relate colonization styles to present economic



performance, whereas Nunn and Wantchekon (2009) explain present levels of trust in Africa with references to the slave trade and Voigtländer and Voth (2012) find that pogroms in medieval times predict anti-semitic violence in Nazi Germany. In comparison to these and related important contributions (see Bisin and Verdier 2011 for a recent overview), our interest is with a much shorter time span and a very different object of study (namely personality traits).

Traditionally, economists have focused on differences in risk, time or social preferences to explain heterogeneous behavior. However, recently, there has been an upsurge in the interest in personality traits, because they offer complementary explanatory power (e.g., Cobb-Clark 2014, Dohmen 2014). For example, Almlund et al. (2011), Becker et al. (2012), and Borghans et al. (2008) refer to the importance of personality for life outcomes. In addition, many much more nuanced questions are addressed with regard to personality traits. These range from the relationship to cooperation (Kagel and McGee 2014, Proto and Rustichini 2014, Volk et al. 2012) over health-related conduct (Cobb-Clark et al. 2014) to the relationship between household income and subjective well-being (Boyce and Wood 2011). The present paper is instead primarily interested in how differences in personality traits come about by exploring whether or not political regimes *create* their citizens' personalities, a research question that has to the best of our knowledge not been addressed before.

This paper contributes to the literature in several ways. First, it demonstrates the influence of the GDR's socialist regime on personalities. Second, the present paper identifies one facet of the socialist regime as an important driver of the observable footprint of the GDR system. Third, we present back-of-the-envelope calculations of the implications of the shadows of the GDR's socialist regime for peoples' life outcomes today. Moreover, we contribute to a better understanding of differences between East and West Germans presented in the prior literature.

The remainder of our paper is organized as follows: In Section 2, we discuss our research design in more detail. In Section 3, we describe the data used in our analysis. In Section 4, we present our empirical analysis. The influence of secret-service infiltration (as an important facet of the socialist regime) on personality traits is considered in Section 5. Section 6 presents rough economic implications of the estimated differences in personality. The final section concludes.

## 2 Research design

We propose that differences in personality traits of East and West Germans measured after the reunification are related to having *treated* people living in East and West Germany with two different political regimes during the 40 plus years of separation. In other words, we consider the German separation into the FRG and the GDR to be a *natural experiment*. To isolate the causal impact of the socialist regime on personality, a key identifying assumption is that East and West

Germans did not differ from each other in this regard prior to the German separation. Lacking data on personality traits before the imposition of the respective political regimes, we propose that similarity between East and West Germans with respect to a host of other variables prior to the separation may be sufficiently indicative that our assumption is reasonable.

At the time when the two political regimes were imposed, the inhabitants in the treatment and control regions must have been comparable in important dimensions. Notably, the imposition of the political regime was not upon request of the inhabitants. In fact, which political regime was imposed was a result of how the United Kingdom, the United States, and the Soviet Union agreed on a protocol for the partition of postwar Germany in 1944, which happened so as to allow for a division of the territory into three sectors of roughly equal population size (e.g., Burchardi and Hassan 2013). Accordingly, the actual imposition of the regimes was unrelated to the personalities of the inhabitants. In this vein, Redding and Sturm (2008) highlight that the decisions determining the partition of East and West Germany are unlikely to be correlated with prewar characteristics of respective regions. Moreover, as argued by Alesina and Fuchs-Schündeln (2007), for example, the regions that became the FRG and the GDR were similar in terms of pre-World War II average per capita income levels and in terms of the amount of destruction during World War II. The available data confirms similarity of the two regions in other regards as well. This applies, for instance, to the split of the working population across industries (Schäffgen 1998), the political orientation of voters at the turn of the century (Alesina and Fuchs-Schündeln 2007), and to the population density (Hubert 1998). Moreover, Wolf (2009) states that Germany was by the end of the Weimar Republic in 1933 an economically well-integrated area, such that the separation into East and West Germany that existed between about 1946 and 1989 was hardly predictable in 1939. Based on such evidence Rainer and Siedler (2009), among others, conclude that the two parts of Germany were indistinguishable prior to the separation.

After the two political regimes had been imposed, around three million people emigrated from the GDR to the FRG before the Berlin Wall was built in August 1961 (e.g., Heidemeyer 1994, Hubert 1998), whereas there was little migration after 1961 or from West to East Germany. Importantly, intellectuals and entrepreneurs were overrepresented among the sample of migrants (e.g., Heidemeyer 1994).<sup>4</sup> Alesina and Fuchs-Schündeln (2007) and Geissler (2008), among others, argue that the main motives for migration were family reunions, lacking economic opportunities, and the imposed political restrictions. This migration during our treatment period is potentially problematic for our identification of a treatment effect when the migrating population differed consistently regarding their personality traits – a possibility that is not testable due to the lack of data. To address this migration issue we include information pertaining to the survey respondent's

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<sup>4</sup>Schäffgen (1998: 58) nevertheless asserts that the structure of the society regarding educational achievement and implied differences between social groups remained relatively stable and comparable in East and West Germany.

parents to control for characteristics of the person in charge of the migration decision at the time.

After the GDR’s socialist regime was removed, we have full control with regard to migration.<sup>5</sup> More specifically, our data set allows us to differentiate East Germans who have lived in the GDR in 1989 and continue to live in that region of Germany today from those who have lived in the GDR in 1989 but moved westwards before their participation in the survey years of relevance to us. In addition, the rich SOEP dataset enables us to take into account individual information about the post-reunification period regarding, in particular, individual employment history. This is important for our identification strategy because adverse life events, such as long unemployment spells, were relatively more likely in East Germany after the reunification and may imprint on personality (Cobb-Clark and Schurer 2012).

In summary, we believe that our identifying assumption that differences in personality traits are shaped by the population’s experiences under the two political regimes seems justified, paralleling the approach taken by Alesina and Fuchs-Schündeln (2007), Bauernschuster and Rainer (2012), Heineck and Süßmuth (2013), and Rainer and Siedler (2009). When we analyze regional variation in secret-service surveillance intensity across GDR counties in Section 5, we find notable within-treatment heterogeneity perfectly aligned with the idea that our main results are due to *treated* East Germans and *non-treated* West Germans. However, we cannot rule out the possibility that migration during the treatment period confounds our results.

### 3 Data

Our empirical analysis is based on the German Socio-Economic Panel (SOEP), a nationally representative longitudinal data set, which started in 1984.<sup>6</sup> The SOEP combines extensive socio-demographic information with various measures of preferences and personality traits. We restrict our working sample to respondents with valid information about where they lived in 1989 (i.e., the year before the reunification). Furthermore, we include only subjects who were either born in Germany or immigrated before 1949. These data selection criteria mirror the argument in our research design section that the separation and the reunification of East and West Germany constitute a unique natural experiment. In this spirit, German natives living in East Germany in 1989 constitute the treatment group, while natives living in West Germany in 1989 represent the control group. For all respondents, we collect data on personality constructs provided by the SOEP in the years 2005, 2009, and 2010. Hence our working sample is an unbalanced panel data set for these years.

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<sup>5</sup>See, for example, Hunt (2006) and Fuchs-Schündeln and Schündeln (2009) for a description and analysis of the migration after the end of the GDR.

<sup>6</sup>For more information about the SOEP in general, refer to Wagner et al. (2007).

We study the relationship between the political regime and personality. To measure the latter, we use the locus of control, positive/ negative reciprocity, and the Big Five personality traits. The locus of control may be understood as “a generalized attitude, belief, or expectancy regarding the nature of the causal relationship between one’s own behavior and its consequences” (Rotter 1966: 2). From an economic point of view, it is important that people with an internal locus of control perceive future outcomes as being contingent on their own decisions and behavior, whereas people with an external locus of control believe that most events in their life are beyond their control. Following Caliendo et al. (2015), we construct a standardized continuous measure of locus of control where high values indicate a more internal locus of control. Turning to reciprocity as an individual trait, we note that people are positively reciprocal when they reward kind actions by others and negatively reciprocal when they punish others for unkind actions. Dohmen et al. (2009), for example, have emphasized that it is important to distinguish positive from negative reciprocity as they represent distinct traits. The Big 5 approach comprises the traits neuroticism, conscientiousness, openness, agreeableness, and extraversion. Table 1 presents a definition and correlated trait adjectives of the Big 5 traits following Becker et al. (2012) and Heckman and Kautz (2012) to provide for a better understanding. Like the locus of control and reciprocity, the Big 5 personality trait scores use respondents’ self-assessments in terms of agreement with how specific statements describe their personality (e.g., Costa and McCrae 1992) on a scale from 1 (*not at all true*) to 7 (*completely true*).<sup>7</sup> All measures of personality are generated by standardizing the sum of the scores of the dimension-specific questions. Note that a higher value of the derived variable represents a stronger intensity of that trait (e.g., being more conscientious). Information on the Big Five is contained in the survey years 2005 and 2009, whereas information on the locus of control and reciprocity scores is available in 2005 and 2010.

The covariate of key interest in the first part of our empirical analysis is a dummy variable that is equal to one (zero) when the respondent was a resident of the GDR (FRG) in 1989. We include a host of further covariates in order to isolate the causal impact of the socialist regime (see Table 2). Since the information of the SOEP allows us to track subjects, we include a dummy variable equal to one should a subject have moved westwards. The age of the respondent is included since it influences personality. Even during the period in which personality traits are relatively stable, it has generally been established that, for example, conscientiousness tends to increase with age (Borghans et al. 2008). Gender is included as a dummy variable equal to one when the respondent is male and zero otherwise. Since personality is very much shaped by

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<sup>7</sup>Gerlitz and Schupp (2005) describe the implementation of the Big Five inventory into the SOEP and the reliability of measurements. Cobb-Clark and Schurer (2012) provide evidence that these measured traits are stable over time and that intra-individual changes are not economically meaningful. Therefore, they conclude that the Big Five measures may be considered stable input into economic decisions. Specht et al. (2011) test the stability of personality traits in terms of mean-level and rank-order consistency using the SOEP.

Table 1: Big Five Personality Traits (Becker et al. 2012, Heckman and Kautz 2012).

Description of trait	Correlated trait adjectives
<i>Openness</i>	
Individual differences in the tendency to be open to new aesthetic, cultural, and intellectual experiences	Imaginative, artistic, excitable, wide interests, curious, unconventional
<i>Conscientiousness</i>	
The tendency to be responsible and hardworking; located at one end of a dimension of individual differences (conscientiousness versus lack of direction)	Efficient, organized, not careless, ambitious, not lazy, not impulsive
<i>Extraversion</i>	
An orientation of one’s interests and energies toward the outerworld of people and things rather than the inner world of subjective experience	Friendly, sociable, self-confident, energetic, adventurous, enthusiastic
<i>Agreeableness</i>	
The tendency to act in a cooperative, unselfish manner; located at one end of a dimension of individual differences (agreeableness versus disagreeableness)	Forgiving, not demanding, warm, not stubborn, not show-off, sympathetic
<i>Neuroticism</i>	
A chronic level of emotional instability and proneness to psychological distress	Worrying, irritable, not contented, shy, moody, not self-confident

the parents and the environment during childhood, we also include information about whether or not the respondent was raised in a small, medium-sized or a large community and about the educational background of the parents (for which we use dummy variables for the highest degree obtained by the father and the mother).<sup>8</sup> The latter inclusion is also intended to address potential selection effects due to the migration after the imposition of the GDR’s socialist regime but before the erection of the Berlin Wall. With respect to the family status, we differentiate married, divorced, and widowed, so that single is the reference category. In terms of work status, it may be that the respondent works full time or part time, or that a training or unemployment status describes the situation at the time of the survey (see the variables *emp full-time*, *part-time*, *vocational* or *unemployed*). Furthermore, we include information about the employment history of the respondent (i.e., we consider years in full or part time employment, and unemployment; see the variables *exp full-time*, *part-time*, and *unemp*). This is important because adverse events, such as long unemployment spells, may influence personality traits. In addition, potential effects from being a pensioner, a blue collar worker or a civil servant will be taken into account in our empirical model. The logarithm of net income also enters some regressions. A bad health status similarly belongs into the group of adverse events, which is why there is a dummy variable to control for its influence (Specht et al. 2013). This dummy variable is equal to one when the respondent

<sup>8</sup>We differentiate the three school tracks in Germany, namely Haupt, Real, and Abi, where Haupt would be considered lower level, Real middle level, and Abi top level of schooling.

reports that current health is either “not good” or “bad” (i.e., either a 4 or a 5 from a five-point scale). In our empirical analysis, we run specifications in which only arguably exogenous variables enter the equation (the upper part of Table 2 except for *moved West*) and others with the full set of control variables. Employing the full set of covariates leads to smaller working sample sizes because some of the presumably endogenous variables have higher rates of item non-response. Item non-response might itself be informative with respect to personality.

Table 2 presents summary statistics by treatment status for all variables used in our empirical analysis. Test results in Column (3) indicate that former GDR and FRG residents differ with respect to covariates like age, marital status, and labor market experience, suggesting adjustment for covariate differences in our linear regression framework. Imbens and Wooldridge (2009) point out that differences in the observable characteristics of the treatment and the control group might lead to sensitive estimation results in a linear regression framework. They propose to assess the imbalance of the covariate distributions by testing whether or not a normalized difference of the treatment and control group means exceeds 0.25 (as a rule of thumb). The normalized differences in our data are less than 0.25 for all but three covariates in Table 2, and are in these three cases very close to 0.25.

After we have established the relationship between GDR residence and personality, we consider one aspect of the GDR’s socialist regime in more detail. To this end, we exploit variation in the number of unofficial collaborators across counties. Unofficial collaborators were critical in trying to keep all citizens in line with the expectations of the socialist unity party (*SED*) and responsible for seeding distrust among the people. To this end, they primarily collected information and helped with logistical needs. Unofficial collaborators were usually motivated on ideological, non-material grounds (although some were blackmailed into collaboration) and recruited mainly using the selection criteria qualification for the tasks at hand and trustworthiness (Müller-Enbergs 2008a). We collected information on the number of unofficial informers of the East German state-security service from Müller-Enbergs (2008b).<sup>9</sup> The data consists of the number of collaborators in the regional offices at the county level.<sup>10</sup> The ministry of state security distinguished different types of unofficial collaborators according to their main duties (e.g., Müller-Enbergs 2008a: 15-35). The majority, for example, were denoted unofficial collaborator for specific tasks (*Inoffizielle Mitarbeiter zur Sicherung des Verantwortungsbereichs, IMS*) and collected information, *inter alia*, within the state-owned companies and educational institutions. Other kinds of collaborators

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<sup>9</sup>Jacob and Tyrell (2010) rely on the same data source in studying the association of surveillance and (i) electoral participation, (ii) sports-club membership, and (iii) organ donations.

<sup>10</sup>In addition to unofficial collaborators at the county level, informants worked at the higher regional level (*Bezirk*). Since we lack information about how to allocate these collaborators to the different counties, we focused on the number of unofficial informants at the county level. For the end of 1988, Müller-Enbergs reports 46,857 collaborators at the *Bezirk* level while more than 117,000 informants (about 65% of the total) worked for the state-security services at the county level.

Table 2: Descriptive Statistics by treatment status

	(1)		(2)		(3)	(4)
	FRG		GDR		t-test	absolute value
	count	mean	count	mean	p-value	normalized difference
Locus of control	22366	4.870	9579	4.798	0.000	0.063
Neuroticism	23714	3.894	10103	4.021	0.000	0.071
Conscientiousness	23625	5.830	10071	5.897	0.000	0.048
Openness	23596	4.427	10066	4.363	0.008	0.036
Extraversion	23711	4.782	10094	4.791	0.701	0.005
Agreeableness	23723	5.369	10091	5.400	0.107	0.021
PosReciprocity	22860	5.829	9722	5.842	0.463	0.010
NegReciprocity	22788	3.093	9723	3.137	0.147	0.020
moved West	34137	0	14554	0.164	–	–
age	34137	51.00	14554	48.80	0.000	0.083
male	34137	0.483	14554	0.477	0.624	0.008
large city	34137	0.225	14554	0.202	0.014	0.038
medium city	34137	0.176	14554	0.182	0.564	0.009
small city	34137	0.206	14554	0.229	0.018	0.037
mother Haupt	34137	0.678	14554	0.539	0.000	0.194
mother Real	34137	0.153	14554	0.279	0.000	0.206
mother Abi	34137	0.0508	14554	0.0594	0.118	0.025
mother no voc	34137	0.386	14554	0.212	0.000	0.266
mother voc	34137	0.437	14554	0.551	0.000	0.155
mother tech school	34137	0.00668	14554	0.0498	0.000	0.169
mother uni	34137	0.0283	14554	0.0505	0.000	0.076
father Haupt	34137	0.643	14554	0.525	0.000	0.163
father Real	34137	0.120	14554	0.241	0.000	0.210
father Abi	34137	0.106	14554	0.0910	0.022	0.035
father no voc	34137	0.119	14554	0.0645	0.000	0.130
father voc	34137	0.670	14554	0.678	0.430	0.012
father tech school	34137	0.0168	14554	0.0415	0.000	0.097
father uni	34137	0.0799	14554	0.0854	0.397	0.013
married	34137	0.551	14554	0.505	0.000	0.063
divorced	34137	0.0946	14554	0.115	0.005	0.044
widowed	34137	0.0934	14554	0.0785	0.011	0.036
years of education	32611	12.05	13961	12.23	0.001	0.052
emp full-time	34137	0.384	14554	0.394	0.339	0.014
emp part-time	34137	0.104	14554	0.0896	0.019	0.032
emp vocational	34137	0.0170	14554	0.0252	0.003	0.038
unemployed	34137	0.0407	14554	0.108	0.000	0.170
pensioner	34137	0.291	14554	0.273	0.061	0.027
self-emp	34137	0.0584	14554	0.0517	0.161	0.020
blue collar	34137	0.138	14554	0.181	0.000	0.079
civil servant	34137	0.0434	14554	0.0218	0.000	0.084
net income	32071	2620.0	14018	2013.2	0.000	0.306
exp full-time	34098	17.73	14547	19.38	0.000	0.076
exp part-time	34098	3.273	14547	1.998	0.000	0.160
exp unemp	34098	0.679	14547	1.628	0.000	0.252
bad health	34058	0.194	14520	0.198	0.587	0.007

Notes: We use SOEP data from 2005, 2009, 2010. SOEP-weights are applied.

provided housing, phone connections or simply postal addresses for the work of the state-security services. For our main variable (*IM*), we included these different types of secret collaborators. We also use a broader measure (*IM & public collaborators*) in order to approximate the surveillance intensity which additionally includes collaborators whose task was to openly agitate in favor of the socialist party and the state (Kowalczyk 2013: 220). At the end of 1988, such publicly recognizable collaborators amounted to 18,145 individuals which accounts for 20% of all collaborators at the county level. To assign the number of collaborators in the county offices to the counties in existence around the unification of Germany, we rely on the exact location of the regional offices.<sup>11</sup> We have observations for about 90 percent of the counties (relying on Müller-Enbergs 2008b; see Figures 1 and 2). To deal with the fact that the data in Müller-Enbergs is not consistently reported for all counties and points in time, we use averages across the 1980s and scale the number of collaborators by the population living in the counties at the time.<sup>12</sup> Table 3 shows that there is notable variation in the secret-service surveillance intensity across counties. To give just one example, the number of unofficial collaborators in Cottbus was particularly high in the 1980s and about twice as high as the numbers in Halle or Leipzig.

Table 3: Descriptive statistics for the number of unofficial collaborators per 1.000 inhabitants

	(1)	(2)	(3)	(4)
	Mean	SD	Min	Max
<i>IM</i>	4.19	1.52	1.27	8.46
<i>IM &amp; public collaborators</i>	5.36	2.04	1.41	10.4

Notes: We compiled our secret service data using Müller-Enbergs (2008b).

We link this data on the number of unofficial collaborators with our SOEP working sample described above as follows: We select the subsample of people from our main working sample who (i) lived in East Germany in 1989, (ii) participated in the first wave of the SOEP in 1990 before the German reunification, and (iii) provided valid county identifier information in 1990. These three criteria ensure that all sample members were treated by state-security surveillance. Next, we merge both data sets using the county level identifier.<sup>13</sup> This second working sample of former GDR citizens contains all variables of our main working sample. Furthermore, we generate some covariates specific to our analysis of the within-treatment heterogeneity of former GDR citizens. In spring 1990, respondents of the new East German SOEP sample had to answer questions about

<sup>11</sup>We used the counties in East Germany that existed before the reforms of counties in Saxony in 2008, Saxony-Anhalt in 2007 and Mecklenburg-Vorpommern in 2011.

<sup>12</sup>More specifically, we used the average population reported to have been living in the counties of the German Democratic Republic during the 1980s from the *Statistisches Jahrbuch der DDR* (see [www.digizeitschriften.de/dms/toc/?PPN=PPN514402644](http://www.digizeitschriften.de/dms/toc/?PPN=PPN514402644) for details.)

<sup>13</sup>Since the county level identifier of the SOEP are confidential, this must be done by submitting STATA jobs via e-mail to the secured SOEPremote system at DIW Berlin. For details about data access, refer to Goebel (2014).



whether they have regularly received presents or allowances from relatives or friends living in the FRG in the last years. We use this information to generate (i) a dummy variable indicating whether or not an individual has received presents or allowances when the individual stated that it is difficult to state their monetary equivalent and (ii) a continuous variable indicating the value of these transfers otherwise. About 27% of our respondents received presents or allowances from FRG citizens of which 55% stated their value. The mean (median) value of allowances per annum is 419 (50) euros. Moreover, we also include the contemporaneous unemployment rate at the county level for our within-treatment analysis.

## 4 Personality and the GDR's socialist regime: Empirical analysis

Our results about whether or not the political regime of the GDR has had a significant influence on personality are presented in this section. We will proceed in several steps. In the next section, we present results from our baseline estimations about the direct effect of the GDR's regime and possible convergence effects. Throughout we will rely on ordinary least squares regressions where the dependent variables are the standardized personality measures, standard errors are clustered at the individual level, and SOEP weights are used. After showing our baseline estimates, we will present results for different age cohorts, as it is likely that the exposure to the political regime is important for whether or not the personality was affected by the GDR system. In order to establish that we are not merely capturing regional differences with regard to personality, we present robustness checks that consider different subsamples of the data in Section 4.3.

### 4.1 Main results

We first turn to the influence of the socialist regime on the locus of control. The political regime severely restricted the discretion with regard to what activities may be undertaken. In many scenarios, external circumstances predicted that a specific outcome will obtain. For example, the possibility to attend university was barred for many young adults when their parents were somewhat suspect for official decision-makers.<sup>14</sup> For other domains of life, Fulbrook (2005: 54, 76) notes that one of the greatest sources of frustration was the widespread dependence on the state with respect to housing and holidays, to name just two examples. The clear prediction with respect to the locus of control that follows from these statements is confirmed by our data, as illustrated in Table 4 (for detailed regressions results, see Table 8 in the appendix). People

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<sup>14</sup>For example, the children of the present German president Gauck were not allowed to study (Fuchs-Schündeln and Masella 2014).

who have lived in the GDR have a lower locus of control score, which implies that they attribute consequences more to sources outside their control. In quantitative terms, our results indicate that having experienced the GDR's socialist regime leads to a reduction in the locus of control score of about a tenth of a standard deviation. The significant coefficient of the "moved West" dummy variable indicates that the difference in the locus of control is not present for subjects who moved to West Germany after the reunification.<sup>15</sup> When we include the interaction of GDR and the year 2010, we find no effect for this variable. In other words, there is no sign of convergence with regard to the locus of control (as for the other personality traits to come).

The GDR's influence on personalities as measured by the Big 5 inventory of personality traits is considered next. We first turn to neuroticism which is a broad domain of negative affect, including predispositions to experience anxiety, anger, shame, and other distressing emotions. Our empirical results show that former GDR residents have higher levels of neuroticism (see Table 4). This result may be attributed to different aspects of the GDR's political regime. As explained before, the reliance of the state-security services on a wide web of unofficial collaborators caused people to distrust a great number of individuals and destabilized the social kit of society (Kowalczyk 2013). In addition, people repeatedly had to experience bad and often unexpected events. For example, one critical remark in class may have led to the sudden ex-matriculation of the commenting student (Jahn 2014: 23) or an inappropriate hair length could have led to being taken to a compulsory haircut (Fulbrook 2005: 71). There also were circumstances in which the state-security services fabricated wrongdoings (Kowalczyk 2013: 9, Müller-Enbergs 2008a: 3). As for the locus of control, whether or not a former GDR resident has moved westwards is consequential (i.e., the effects for subjects who moved to West Germany cancel out).<sup>16</sup>

Next, we address the personality trait conscientiousness. Famously, the GDR regime idealized labor and the worker class (Fulbrook 2005: 214). Moreover, the greater scarcity of goods that quickly became an everyday reality in the GDR required that people get organized and carefully plan ahead. The shortages were so drastic as to make people steal materials from the workplace in very noticeable amounts (Fulbrook 2005: 57). The infiltration by unofficial collaborators induced great care with regard to what can be told and to whom, and incentivized controlling impulses. More generally, abiding by conventional rules and norms was also relatively more important in the GDR, and the willingness to do so is closely related to conscientiousness (Costa and McCrae 1992). In fact, many people in the GDR simply followed rules and norms without questioning, accepting them as "that is how it works" (e.g., Jahn 2014). All of these aspects make us expect that former GDR residents show a greater level of conscientiousness, which is exactly what we find (see Table 4). With regard to conscientiousness, the "moved West" dummy variable is insignificant.

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<sup>15</sup>Results from t-tests support this conclusion.

<sup>16</sup>The other coefficients are in line with previous findings (see Table 8 in the appendix). For example, the result that women on average have higher scores regarding neuroticism (e.g., Costa et al. 2001).

Table 4: Personality traits and GDR treatment

	(1) Specification 1	(2) Specification 2	(3) Specification 3
<b>Locus of control</b>			
GDR	-0.129** (-6.16)	-0.0869** (-3.67)	-0.0668** (-2.58)
moved West		0.142** (2.95)	0.145** (3.00)
<i>N</i>	31945	28793	28793
<b>Neuroticism</b>			
GDR	0.124** (5.97)	0.104** (4.60)	0.113** (4.60)
moved West		-0.105* (-2.00)	-0.104* (-1.98)
<i>N</i>	33817	30524	30524
<b>Conscientiousness</b>			
GDR	0.104** (5.10)	0.100** (4.39)	0.104** (4.13)
moved West		-0.0216 (-0.41)	-0.0212 (-0.40)
<i>N</i>	33696	30419	30419
<b>Openness</b>			
GDR	-0.0981** (-4.88)	-0.0770** (-3.36)	-0.0915** (-3.63)
moved West		0.0402 (0.71)	0.0386 (0.68)
<i>N</i>	33662	30396	30396
<b>Extraversion</b>			
GDR	-0.00875 (-0.41)	-0.00486 (-0.20)	0.0119 (0.45)
moved West		0.123* (2.09)	0.125* (2.12)
<i>N</i>	33805	30506	30506
<b>Agreeableness</b>			
GDR	0.0446* (2.23)	0.0370 (1.62)	0.0473+ (1.83)
moved West		0.0258 (0.50)	0.0270 (0.52)
<i>N</i>	33814	30514	30514
<b>Positive reciprocity</b>			
GDR	0.0157 (0.77)	0.0361 (1.48)	0.0282 (1.06)
moved West		-0.000202 (-0.00)	-0.000202 (-0.00)
<i>N</i>	32582	29316	29316
<b>Negative reciprocity</b>			
GDR	0.0307 (1.46)	0.0356 (1.45)	0.0377 (1.42)
moved West		-0.115* (-2.36)	-0.115* (-2.36)
<i>N</i>	32511	29263	29263

*Notes:* We use SOEP data from 2005, 2009, and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the respective standardized personality measure. Spec 1 includes all covariates from the upper part of Table 2 except for *moved West*. Spec 2 includes all covariates in Table 2 and a dummy for the year 2009 or 2010. Spec 3 additionally includes an interaction term of the GDR dummy and the dummy for either 2009 or 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ . For more detailed regression results, refer to Tables 8-14.

The personality trait openness is meant to capture aspects such as creativity, originality, and open-mindedness for new experiences. Needless to say, the political regime of the GDR severely restricted the individual freedom within the private and the work domain. In the GDR all issues were interpreted in political terms (Fulbrook 2005: 49), which narrowed the individual leeway even in private matters. Non-standard ways of behavior usually drew the unwanted attention of state authorities (e.g., Jahn 2014: 39). Accordingly, it is intuitive that we find that GDR residents show lower openness ratings (see Table 4).

Next, we study the regime's influence on extraversion, which is an important interpersonal trait. Extraverts are said to be enthusiastic, talkative, gregarious, and concerned with obtaining gratification from what is outside the self. For the GDR, it has been argued that many citizens sought refuge in the private domain. Moreover, the potential presence of unofficial collaborators made people keep things rather to themselves. For example, although most people watched television from West Germany or at least desired to do so, it was imperative not to disclose this reality to avoid repression.<sup>17</sup> These arguments suggest that GDR residents show a lower extraversion score on average. Our empirical results do not confirm this hypothesis (see Table 4).

Agreeableness is a personality trait that is usually associated with warmth, friendliness, and kindness. Women usually have higher ratings in this dimension (Costa et al. 2001), which also holds true for our sample (see Table 13 in the appendix). When it comes to the influence of the GDR's socialist regime, it is not easy to arrive at a prediction because the relatively greater ruthlessness faced in the somewhat anonymous outer world with the constant threat of repression might have been compensated by greater warmth in the inner circle. In our baseline estimations, we find a positive influence of having lived in the GDR on the agreeableness score that is significant only at the 10% level in the model including all covariates (see Table 4).

Finally, we address whether or not reciprocity scores are different for GDR residents. For example, Charness and Rabin (2002) have emphasized the importance of reciprocity concerns for social preferences. With respect to social preferences, for instance, Heineck and Süßmuth (2013) argue that GDR's socialist regime proclaimed the desirability of altruism but instead ingrained selfishness. The results of Brosig-Koch et al. (2011) and Ockenfels and Weimann (1999) may be interpreted as consistent in the sense that subjects from East Germany both showed and expected less solidarity from others, giving a clear indication of a different social norm in this regard. Instead of unconditional help and cooperation, people in the GDR may have relied to a greater extent on conditionality to sustain cooperation in small and nonanonymous groups that were important to get by in the GDR's regime (for exchange of goods, swapping of flats, etc.). It may thus be expected that the levels of positive and negative reciprocity show an impact of the

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<sup>17</sup>Bursztyn and Cantoni (forthcoming) present a very interesting analysis of the repercussions of watching television from West Germany on consumption patterns after the reunification.

GDR’s political regime. In our baseline estimations, the coefficients are aligned with intuition but are – at conventional levels – not significant (see Table 4).

We summarize the findings from our baseline analysis as follows:

**Result 1** *In comparison to residents of the FRG, we find that former GDR residents who live in East Germany have: (i) a more external locus of control, (ii) a higher neuroticism score, (iii) a higher conscientiousness score, and (iv) a lower openness score. Our results for the trait agreeableness indicate only a weak positive relationship, whereas former GDR residents’ ratings with regard to extraversion and reciprocity are not significantly different.*

## 4.2 The effect of variation in the exposure to the GDR’s regime: Cohort analysis

We now consider the effect of the number of years spent under socialism on personality traits. In particular, we define four groups according to the year of birth: born before 1945, born between 1945 and 1960, born between 1960 and 1975, and born between 1975 and 1989. We split the whole main sample and run ordinary least squares regressions for every cohort, using the GDR dummy as our variable of main interest. All estimations include the covariates from the upper part of Table 2 used before (where results are qualitatively unaffected by the consideration of the full set of covariates). Table 5 summarizes the regime coefficients, whereas all regression results are included in the appendix (see Tables 15-22).

The cohort comprising people born before 1945 have spent most of their lives in the GDR, making them the group with the longest exposure to the GDR’s socialist regime. However, not all individuals from this cohort have received all of their schooling in the GDR’s regime. The cohort including subjects born between 1945 and 1960 have obtained all of their education and socialization in the GDR. For people born between 1960 and 1975, this will also be true for most of the subjects. In contrast, individuals born after 1975 have not necessarily experienced all the important steps in the *socialist upbringing*. From this description, one might assume that the two cohorts comprising people born before 1960 should show the strongest effects.

We find that the significant negative effect of the GDR dummy variable on the locus of control shows for all cohorts. Importantly, the effect appears to be stronger for individuals with a longer regime exposure.<sup>18</sup>

The higher neuroticism score can also be established for all cohorts. The level of conscientiousness is significantly related to having lived under the GDR’s socialist regime for three out of the

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<sup>18</sup>For example, comparing the locus of control coefficients for the cohorts 1945-60 and 1960-75, we can reject the null hypothesis that they are the same at  $\alpha = 0.09$ . The estimated GDR coefficient for the cohort 1945-60 indicates a reduction of the locus of control score due to the GDR treatment of about one-fifth of a standard deviation.

Table 5: Personality traits and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
<b>Locus of control</b>				
GDR	-0.153**	-0.198**	-0.104*	-0.126*
	(-4.11)	(-4.67)	(-2.32)	(-2.12)
<i>N</i>	8737	8585	8651	5972
<b>Neuroticism</b>				
GDR	0.135**	0.138**	0.154**	0.133*
	(4.06)	(3.30)	(3.31)	(2.33)
<i>N</i>	9334	8955	9139	6389
<b>Conscientiousness</b>				
GDR	0.112**	0.0637	0.0943*	0.173**
	(3.21)	(1.55)	(2.20)	(2.96)
<i>N</i>	9238	8945	9138	6375
<b>Openness</b>				
GDR	-0.0347	-0.129**	-0.182**	0.00445
	(-1.00)	(-3.22)	(-4.22)	(0.08)
<i>N</i>	9236	8940	9112	6374
<b>Extraversion</b>				
GDR	0.0684*	-0.0215	-0.106*	-0.0663
	(2.05)	(-0.51)	(-2.14)	(-1.09)
<i>N</i>	9324	8955	9140	6386
<b>Agreeableness</b>				
GDR	0.0790*	0.0323	0.0375	0.0414
	(2.36)	(0.79)	(0.86)	(0.73)
<i>N</i>	9350	8955	9127	6382
<b>Positive reciprocity</b>				
GDR	0.0179	0.00872	0.0457	-0.0177
	(0.49)	(0.18)	(1.12)	(-0.33)
<i>N</i>	8999	8725	8775	6083
<b>Negative reciprocity</b>				
GDR	-0.00906	0.0265	0.0987*	0.179**
	(-0.25)	(0.53)	(2.03)	(3.40)
<i>N</i>	8974	8722	8751	6064

*Notes:* We use SOEP data from 2005, 2009, and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the respective standardized personality measure. The specification includes all covariates from the upper part of Table 2. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ . For more detailed regression results, refer to Tables 15-22.

four cohorts, whereas the openness score is affected for people born between 1945 and 1975 who have been raised and educated in the GDR. The cohort analysis mirrors our baseline estimates in that positive reciprocity is not significantly different for GDR residents, whereas we find a higher negative reciprocity for subjects born after 1960.

Overall, focusing on cohorts suggests that longer exposure to the political regime of the GDR and having obtained all of the education and socialization in the GDR makes the treatment effect somewhat more pronounced. The result that the length of the exposure to the socialist regime matters shows clearly for the locus of control, neuroticism and agreeableness when we use all covariates from Table 2 in our cohort regression exercises. Related results were obtained by Alesina and Fuchs-Schündeln (2007), for instance.

### **4.3 Robustness checks: North-south, religiosity, and state-specific effects**

The results presented before stem from ordinary least squares regressions. Findings are comparable when we use random-effects specifications with a time invariant individual variance component. Moreover, the results presented qualitatively do not depend on whether we run regressions separately for each trait or simultaneously. In this section, we present the results of three additional robustness checks.

In the first one, we split the sample into a North subsample and a Southern one. While the GDR-FRG split is unambiguous, classification with respect to North and South is somewhat arbitrary. The definition we use for South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia because they geographically represent the southern half of the country. This check is meant to convey that we are not merely measuring regional differences. The regression results are included in the appendix (see Tables 23-30). When we run specifications (using the set of covariates from the upper part of Table 2), we obtain findings that reproduce our baseline estimates with regard to the locus of control, conscientiousness, neuroticism, and openness. The positive weak influence on agreeableness shows for the South sample, whereas the North sample highlights positive effects for reciprocity. When we include the full set of covariates, we find that conditioning our analysis on either the North or the South subsample is more or less inconsequential for the majority of results. The findings with regard to conscientiousness and neuroticism are significant with the sign reported above and coefficients of about the same magnitude in both estimations. Some results are no longer significant at conventional levels. For example, when analyzing the locus of control score, we find that the negative coefficient of the GDR dummy variable has a p-value of .144 for the South subsample while that for the North subsample is still significantly negative. Similarly, the impact on openness is no

longer significant for the South subsample. In contrast, there is a significant positive effect of the political regime on negative reciprocity in the North subsample, which accords with results from the cohort and the state-security services analyses.

We now move on to the second additional robustness check. East and West Germany are very different when it comes to religion. This may be considered as an outcome of the political regimes in the two parts of Germany, since religiosity was suppressed in the GDR. Before the imposition of the political regime, residents who lived in the area of what became the GDR were mostly protestant, whereas individuals living in West Germany may be either protestant or catholic (Bauernschuster and Rainer 2012). In order to provide another robustness check that accounts for this fact, we restrict our sample to regions that were unambiguously protestant and leave out observations from Bavaria, Baden-Wuerttemberg, Northrhine-Westfalia, Rhineland-Palatinate, and Saarland. Assuringly, our findings for the influence of the GDR’s political regime are robust to this consideration (see Table 31). In other words, the same results described in our baseline estimate section obtain.

Finally, we consider the possibility of state-specific effects (as in, for example, Friehe and Mechtel 2014). While we argue that we are capturing an influence of GDR’s socialist regime, it is principally possible that it is in fact only a few particular states from the former GDR that drive the reported personality differences, calling our fundamental argument into doubt. In order to try to rule out this possibility, we consider specifications that comprise state-specific interaction effects for each state from East Germany, using survey respondents without state information as reference category. Assuringly, the results do not reveal significant heterogeneity across states (see Tables 32-39), such that almost all interaction terms are insignificant. Our main results regarding the implications of the GDR regime as measured by the direct effect on the locus of control, neuroticism, conscientiousness, and openness are robust to this extension of the empirical model. Moreover, the small heterogeneity we find is not consistent across personality constructs. For example, the coefficient of the interaction of GDR and Saxony Anhalt is positive and significant for negative reciprocity, but not significant with respect to all other personality traits considered. These findings make us believe that the significant differences in personality traits are due to the experience with the socialist regime, which was shared by all East German states.<sup>19</sup>

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<sup>19</sup>Our reported results are interesting in another regard as well. The GDR was divided with respect to whether or not people could watch FRG television programs. This division has been shown to be important when it comes to aspirations and consumption (Bursztyn and Cantoni forthcoming, Hyll and Schneider 2013). As a result of the positioning of transmitters, the so-called “valley of the innocent” was very much concentrated in Saxony. Our results do not suggest that the reception of Western television was an important factor regarding how the regime impacted personality traits.



## 5 Secret-service infiltration as a driver of personality differences? An empirical analysis

Our analysis shows that the GDR’s political regime in fact left a footprint in the personalities of those living in reunified Germany today. To follow up on a possible channel, we explore the implications of variation in one of the most noticeable aspects of the GDR regime. Most people think of the massive state-security apparatus, the draconian methods applied by it, and its extensive reliance on unofficial collaborators as the most blatant aspect of the GDR’s socialist system. The omnipresence of state security in all of its dark facets became clear after the fall of the Berlin Wall, but was already anticipated by all (and learned the hard way by some) GDR citizens before (Kowalczyk 2013: 277-281). With regard to repression, state-security services in many cases set *examples* and relied on the fact that “word travels fast” (Müller-Enbergs 2008a: 3). Importantly, whereas many aspects of the political regime applied more or less uniformly throughout the GDR (e.g., indoctrination in school and youth organizations), there is trackable regional variation in surveillance as approximated by the number of unofficial collaborators per 1,000 inhabitants. Figure 1 (2) illustrates the regional distribution of surveillance intensity at the county level for our secret-service variable *IM* (*IM* & *public collaborators*).

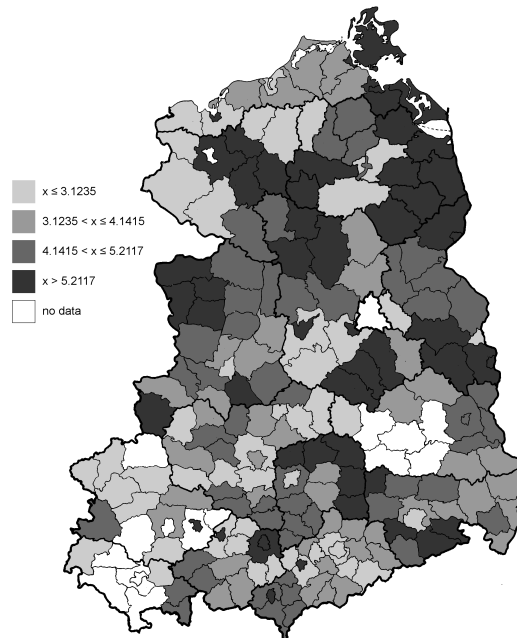


Figure 1: Surveillance intensity across GDR counties for unofficial collaborators

*Notes:* The category limits result from the 25th, 50th, and 75th percentile. The data stems from Müller-Enbergs (2008b).

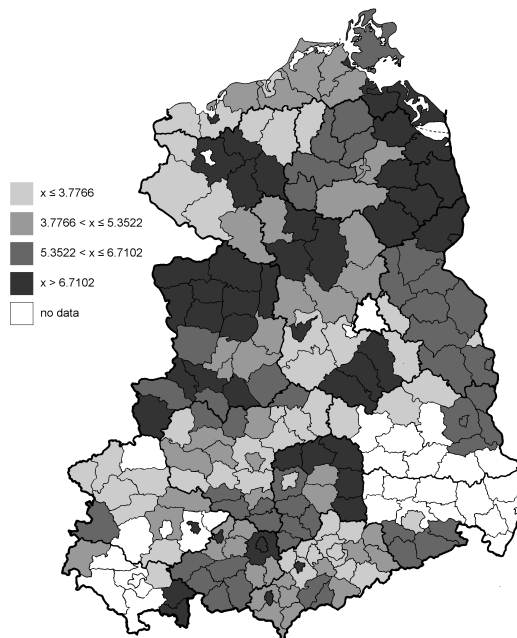


Figure 2: Surveillance intensity across GDR counties for unofficial & public collaborators  
*Notes:* The category limits result from the 25th, 50th, and 75th percentile. The data stems from Müller-Enbergs (2008b).

Regional secret-service surveillance intensity, measured by the number of unofficial collaborators per capita (our measure  $IM$ ), varies remarkably across counties. Figure 1 indicates that there is no obvious systematic regional pattern. For example, counties with high surveillance intensity are neither clustered along the border to the FRG nor is surveillance intensity always particularly high in large cities. Moreover, simple inspection of the figures does not lead to the conclusion that surveillance intensity is higher in the GDR's industrial centers even though it is known that collaborators often were recruited in the main industrial centers (Müller-Enbergs 2008a).<sup>20</sup> Nevertheless, one may be concerned about the possibility that the allocation of unofficial collaborators across different counties is influenced either by surveillance intensity responding to the people in the county or the people in the county responding to the surveillance intensity by moving elsewhere. Such behavioral responses by the state-security services or by the treated citizens would call our identification strategy concerning the within-treatment heterogeneity into question. With regard to the concern that the number of state-security collaborators is endogenously determined by the behavior of the local population, it should be pointed out that the number of unofficial collaborators varied little over time. For example, the regional office in Eisenhüttenstadt had the same number of collaborators in 1980 and 1989. In the same vein, Giesecke (2014), for example, reports that the number of unofficial collaborators was stable from 1975 onwards. Moreover, it is

<sup>20</sup>For example, surveillance intensity is high in industrial centers like Eisenhüttenstadt or Schwedt, but moderate in Rostock or Bitterfeld.

not to be expected that characteristics of the county population were central for the recruitment because a request was rarely declined due to the fear of adverse consequences (e.g., Mueller-Enbergs 2008a: 45). With regard to the concern that people may have responded to surveillance by migrating elsewhere, it is important to remember that spatial mobility was seriously restricted in the GDR. Both the allocation of people across occupations and the allocation of employees across counties was critically influenced by the social and economic objectives set by the planning committees (see, e.g., Bursztyn and Cantoni forthcoming). The infamous housing shortages provided an additional impediment. In this vein, according to Grundmann (1998: 98), on average only 2.5 out of 100 GDR citizens changed their residence in the years 1970 to 1990, implying a rate of spatial mobility three times lower than the corresponding value for the FRG. Reassured by these pieces of evidence, we next present results from an empirical analysis using information about the secret-service surveillance at the county level.

When we include the intensity measure as a continuous variable in our empirical model, we find that people who have lived in GDR counties with a greater number of unofficial collaborators have a locus of control that is more external fifteen to twenty years later on (see Table 6 and for more details the tables in our appendix). When external influences (measured by a greater presence of state security) have a greater say, then individuals associate outcomes that they experience more with aspects outside of their control. This result is thus in perfect alignment with the findings presented before and reveals notable treatment heterogeneity within the treatment group. In addition, there is a significant positive relationship between the number of state-security collaborators and negative reciprocity. This association is very intuitive. In our baseline estimations, the influence of the regime on negative reciprocity was positive but not significant at conventional levels, whereas it also showed in the cohort analysis and the North-South robustness check. The reported findings for state-security surveillance also result when we use a dummy variable that is equal to one when the number of collaborators in a district exceeds the median number for all districts instead of simply including the number directly as a control variable.<sup>21</sup>

We have argued in Section 4.2 that variation regarding the exposure to the GDR's regime helps to understand our main results. Such a cohort analysis may also be applied to the question at hand, that is, the impact of variation in the surveillance intensity on personality. Doing so, we obtain the intuitive result that the personality of individuals who have not only had a long exposure to the regime but also received their education in the GDR are strongly influenced by the measure of the surveillance intensity in their county of residence. This applies in particular to individuals born between 1945 and 1960. In contrast, the personality traits of members of the last cohort (comprising individuals born between 1975 and 1989) are not much affected by surveillance

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<sup>21</sup>We do not include the tables for the other personality traits because the surveillance level does not show as a significant covariate in the respective regressions.

Table 6: Personality traits and surveillance intensity

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<b>Continuous measure of surveillance intensity</b>				
Locus of control				
<i>IM</i>	-0.02672 <sup>+</sup>	-0.03269*		
	(-1.71)	(-2.05)		
<i>IM</i> & <i>public collaborators</i>			-0.01852	-0.02377 <sup>+</sup>
			(-1.50)	(-1.92)
<i>N</i>	3861	3560	3627	3357
Negative reciprocity				
<i>IM</i>	0.0339*	0.02369		
	(2.09)	(1.46)		
<i>IM</i> & <i>public collaborators</i>			0.03378**	0.02785*
			(2.64)	(2.19)
<i>N</i>	3911	3599	3675	3395
<b>Dummy variable for surveillance intensity</b>				
Locus of control				
Dummy <i>IM</i>	-0.118*	-0.123*		
	(-1.99)	(-2.10)		
Dummy <i>IM</i> & <i>public collaborators</i>			-0.117 <sup>+</sup>	-0.0903
			(-1.83)	(-1.45)
<i>N</i>	3861	3560	3627	3357
Negative reciprocity				
Dummy <i>IM</i>	0.115*	0.0556		
	(2.05)	(1.00)		
Dummy <i>IM</i> & <i>public collaborators</i>			0.222**	0.169**
			(3.68)	(2.80)
<i>N</i>	3911	3599	3675	3395

*Notes:* We use SOEP data from 2005, 2009, and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the respective standardized personality measure. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009/2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ . For more detailed regression results, refer to Tables 40-43.

intensity. These findings thus accord with the cohort analysis presented before.

The surveillance appears to be a rather influential facet of the GDR's socialist regime when it comes to personality. In order to explore its influence more, we combine it with information about the presents and allowances GDR residents received from relatives or friends living in the FRG. We consider presents and allowances to be a proxy of the linkages that GDR residents have to people living outside the socialist regime, and expect that individuals with greater linkages perceive the political regime differently from individuals with no or little relationship to FRG residents. Moreover, it is important to consider the interaction of surveillance and allowances because the parcels sent from West Germany were often searched by GDR's state-security services without serious effort at hiding the search, making the surveillance more prominent and more obtrusive for these individuals. We run regressions adding three variables to the specifications discussed above, namely (i) a dummy equal to one when an individual has received presents or allowances but responds that it is difficult to state their monetary equivalent, (ii) the value of these transfers when they are given, and (iii) an interaction of the surveillance intensity and the value of the presents/allowances. With regard to the locus of control, we find that the interaction term has a negative and significant coefficient, whereas it is significant and positive when we consider conscientiousness (see Table 7). For negative reciprocity (like the other personality traits), the coefficient of the interaction term is not significant. However, for negative reciprocity, the results for the main effect hold. All in all, this may be interpreted as evidence that having contact to people living outside the socialist regime aggravates the influence of the surveillance aspect of the GDR's political regime.<sup>22</sup>

In the previous regression exercises, we cluster standard errors at the individual level, since we use individual panel data and the estimated within-individual correlation of the errors is between 0.48 and 0.55. However, our key variables of interest *IM* and *IM & public collaborators* are averages for the 1980s at the GDR county level. Hence, although we observe our personality traits at least fifteen to twenty years later, one might be concerned that standard errors are clustered at the regional level for a given year. The estimated within-group correlation of the errors at the county level in the relevant years is rather small (0.01 to 0.04). Nevertheless, correlated errors at the county level may possibly lead to overstated estimator precision (see, e.g., Baum et al. 2011, Cameron and Miller 2015). As a robustness check, we implement two-way-cluster-robust inference (i.e., we allow for clustering at the individual and the county times year level). When we compare the resulting estimates with the findings presented above, we find that our main results are overall unaffected. Specifically, the significance of the results for negative reciprocity

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<sup>22</sup>Instead of interacting the continuous measure of surveillance intensity with the information on the value of the transfers, we can also use the interaction of the surveillance dummy variable and the transfer value without changing the results. However, doing this in the specification for the locus of control yields main effects of *IM* significantly different from zero in addition to the results described above.

Table 7: Personality traits and interactions of surveillance intensity and contacts to FRG citizens

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<b>Locus of control</b>				
<i>IM</i>	-0.02095 (-1.35)	-0.02365 (-1.52)		
<i>IM</i> & public collaborators			-0.01397 (-1.13)	-0.01732 (-1.41)
transfer without value stated	-0.0519 (-0.63)	-0.0336 (-0.42)	0.0185 (0.22)	0.000569 (0.01)
value of transfers	0.00026 (1.37)	0.000384 <sup>+</sup> (1.82)	0.000193 (1.18)	0.000295 <sup>+</sup> (1.70)
<i>IM</i> * value of transfer	-0.0000721 <sup>+</sup> (-1.96)	-0.000101* (-2.47)		
<i>IM</i> & public collaborators* transfer value			-0.0000517 <sup>+</sup> (-1.85)	-0.0000729* (-2.47)
<i>N</i>	3861	3560	3627	3357
<b>Conscientiousness</b>				
<i>IM</i>	-0.01670 (-1.02)	-0.01757 (-1.08)		
<i>IM</i> & public collaborators			-0.011 (-0.87)	-0.01228 (-0.98)
transfer without value stated	-0.142 <sup>+</sup> (-1.84)	-0.141 <sup>+</sup> (-1.74)	-0.101 (-1.17)	-0.118 (-1.30)
value of transfers	-0.000751* (-2.00)	-0.000664 <sup>+</sup> (-1.83)	-0.000643 <sup>+</sup> (-1.80)	-0.00055 (-1.60)
<i>IM</i> * value of transfer	0.000154* (2.13)	0.000136 <sup>+</sup> (1.95)		
<i>IM</i> & public collaborators* transfer value			0.000116 <sup>+</sup> (1.93)	0.0000988 <sup>+</sup> (1.72)
<i>N</i>	4030	3733	3791	3523
<b>Negative reciprocity</b>				
<i>IM</i>	0.03425* (2.08)	0.02248 (1.37)		
<i>IM</i> & public collaborators			0.03287* (2.52)	0.02590* (2.00)
transfer without value stated	-0.0144 (-0.19)	-0.0479 (-0.65)	-0.0545 (-0.69)	-0.0819 (-1.05)
value of transfers	-0.000094 (-0.58)	-0.0000841 (-0.49)	-0.000121 (-0.84)	-0.000119 (-0.79)
<i>IM</i> * value of transfer	0.00000883 (0.28)	0.0000128 (0.39)		
<i>IM</i> & public collaborators* transfer value			0.0000122 (0.50)	0.0000169 (0.66)
<i>N</i>	3911	3599	3675	3395

Notes: We use SOEP data from 1990, 2005, 2009, and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the respective standardized personality measure. Specification 1 (2) includes all covariates from the upper part of Table 2 except for *moved West* (all covariates in Table 2 and a dummy for the year 2009/2010). Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ . For more detailed regression results, refer to Tables 44-46.

and conscientiousness do not change. For the locus of control, we observe only one significant coefficient for the linear *IM*-variable instead of three (as in the specifications documented in Table 6), and only two significant coefficients instead of three for the dummy specification. In our specifications with allowances, the significance levels for the coefficients of interest do not change at all (i.e., are as in Table 7).

In summary, when considering the number of unofficial collaborators, we find remarkable within-treatment heterogeneity very much in line with our main results. Our results highlight a channel via which the repressive political regime has had a profound impact on the personalities of its citizens. The GDR's socialist regime has indeed left footprints, and this more so when one characterizing aspects of the regime played a greater role.

**Result 2** *Considering a sample of former GDR citizens, we find that variation in secret-service surveillance across GDR counties is a driver of personality differences particularly with respect to the locus of control and negative reciprocity. More unofficial collaborators per capita in a county are associated with a lower internal locus of control and a greater negative reciprocity.*

## 6 Implications of the shadows of the past: The relationship of personality and life outcomes

Our empirical analysis has established that native Germans who lived in the GDR in 1989 are (still) different from those who lived in West Germany when it comes to personality. In this section, we discuss the potential economic consequences of this long-lasting impact of the GDR's political regime on personality. We also present some rough quantitative estimates. Specifically, building on the results of the existing literature about the implications of a standard deviation in personality traits on life outcomes, we may use our estimated impact of the GDR's socialist regime on a particular personality trait to arrive at approximations in concrete dimensions.

Former citizens of the GDR exhibit a more external locus of control. Becker et al. (2012), for example, report about results that a more internal locus of control is associated with a better health status, more years of education, higher gross wages, a lower chance of unemployment, and overall a higher life satisfaction. In a recent survey, Cobb-Clark (2014) summarizes that the locus of control is indeed one of the core determinants of labor market success because important individual decisions (e.g., about the acquisition of human capital, seeking out new challenges or working hard) have all been linked to the extent to which they believe that what they do has consequences. Taking our results at face value, the difference in the locus of control that is attributable to the GDR system would imply a wage penalty of about 0.7% (building on Heineck and Anger 2010), a job finding rate that is lower by about 0.4% (Caliendo et al. 2015), and a

probability of self-employment that is lower by about 2% (building on Caliendo et al. 2014).

In addition, the political regime of the GDR still shows in a higher conscientiousness score. Becker et al. (2012), for example, assert that a higher conscientiousness score correlates with a better health status, more years of education, a lower chance of unemployment, and overall a higher life satisfaction. Intuitive significant relationships exist, for example, with respect to college grades (Borghans et al. 2008). The results presented by Uysal and Pohlmeier (2011) suggest that the difference in conscientiousness due to the GDR system increases the probability of finding a job by about 0.9% and lowers the chance of losing employment by about 0.75%.

Moreover, our findings indicate that the GDR's socialist regime has made East Germans more neurotic. A higher neuroticism score is clearly disadvantageous. Becker et al. (2012), for example, report results that *less* neurotic individuals are more likely to have a better health status, more years of education, higher gross wages, a lower chance of unemployment, and overall a higher life satisfaction. Looking more closely, neuroticism is influential, for instance, with respect to job search efforts (Almlund et al. 2011).

Finally, the openness of former GDR citizens is lower. Becker et al. (2012), for example, report findings that higher openness is associated with a better health status, more years of education, higher gross wages, a lower chance of unemployment, and overall a higher life satisfaction. Relying on the results by Caliendo et al. (2014), the difference in openness due to the GDR system lowers the probability of self-employment by about 2%.

**Result 3** *The footprints of the GDR's socialist regime in its citizens' personalities are in some ways favorable for life outcomes (higher conscientiousness), whereas others are clearly to the disadvantage of former GDR residents living in East Germany today (higher neuroticism score, lower openness, and a more external locus of control).*

## 7 Conclusion

This paper takes advantage of the natural experiment created by the division and reunification of Germany to analyze whether political regimes influence personalities. We find that the GDR's socialist regime is via its footprint in personalities – more than 25 years after its demolition – still relevant in important ways today and well into the future. This follows from the fact that personalities are relatively stable over time and to some extent passed on to the next generation. Our empirical analysis uncovers lasting implications of the GDR system in terms of personalities. People who lived in the GDR in 1989 are – when compared to people from the FRG – more neurotic, less open, more conscientious, and have a more external locus of control.

Building on the well-established relationships of personality traits and life outcomes, the shadows of the past are economically significant. Repercussions can be felt individually but also at the



regional level since our findings may contribute to an explanation of the relatively disappointing economic development of some of the regions that formerly made up the GDR. The finding that personalities are to some extent malleable by investment opens up unconventional possibilities for economic policy aimed at narrowing the gap between East and West Germany.

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# Appendix

## Main effects

In the following, we present tables showing regression results regarding our main effects with more information than in table 4.

Table 8: Locus of Control and GDR treatment

	(1)	(2)	(3)
GDR	-0.129** (-6.16)	-0.0869** (-3.67)	-0.0668** (-2.58)
moved West		0.142** (2.95)	0.145** (3.00)
GDR*2010			-0.0414 (-1.38)
age	-0.00209 (-0.74)	-0.0285** (-6.37)	-0.0285** (-6.37)
age <sup>2</sup>	0.0000315 (1.17)	0.000254** (6.25)	0.000254** (6.25)
male	0.0825** (4.50)	-0.0000770 (-0.00)	-0.000159 (-0.01)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2010		Yes	Yes
<i>N</i>	31945	28793	28793
<i>R</i> <sup>2</sup>	0.013	0.086	0.086

*Notes:* We use SOEP data from 2005 and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized locus of control score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2010. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 9: Neuroticism and GDR treatment

	(1)	(2)	(3)
GDR	0.124** (5.97)	0.104** (4.60)	0.113** (4.60)
moved West		-0.105* (-2.00)	-0.104* (-1.98)
GDR*2009			-0.0183 (-0.67)
age	0.00737** (2.66)	0.0200** (4.42)	0.0200** (4.42)
age <sup>2</sup>	-0.0000671* (-2.54)	-0.000210** (-5.29)	-0.000210** (-5.29)
male	-0.379** (-20.81)	-0.324** (-14.42)	-0.324** (-14.42)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2009		Yes	Yes
<i>N</i>	33817	30524	30524
<i>R</i> <sup>2</sup>	0.043	0.103	0.103

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized neuroticism score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2009. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 10: Conscientiousness and GDR treatment

	(1)	(2)	(3)
GDR	0.104** (5.10)	0.100** (4.39)	0.104** (4.13)
moved West		-0.0216 (-0.41)	-0.0212 (-0.40)
GDR*2009			-0.00782 (-0.27)
age	0.0489** (15.11)	0.0132** (2.75)	0.0132** (2.75)
age <sup>2</sup>	-0.000424** (-13.95)	-0.0000923* (-2.15)	-0.0000924* (-2.15)
male	-0.128** (-6.94)	-0.204** (-8.58)	-0.204** (-8.59)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2009		Yes	Yes
<i>N</i>	33696	30419	30419
<i>R</i> <sup>2</sup>	0.049	0.064	0.064

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized conscientiousness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2009. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 11: Openness and GDR treatment

	(1)	(2)	(3)
GDR	-0.0981** (-4.88)	-0.0770** (-3.36)	-0.0915** (-3.63)
moved West		0.0402 (0.71)	0.0386 (0.68)
GDR*2009			0.0294 (1.02)
age	0.0130** (4.41)	0.00173 (0.36)	0.00171 (0.36)
age <sup>2</sup>	-0.000156** (-5.49)	-0.0000528 (-1.23)	-0.0000527 (-1.22)
male	-0.102** (-5.57)	-0.127** (-5.40)	-0.127** (-5.39)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2009		Yes	Yes
<i>N</i>	33662	30396	30396
<i>R</i> <sup>2</sup>	0.037	0.069	0.069

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized openness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2009. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 12: Extraversion and GDR treatment

	(1)	(2)	(3)
GDR	-0.00875 (-0.41)	-0.00486 (-0.20)	0.0119 (0.45)
moved West		0.123* (2.09)	0.125* (2.12)
GDR*2009			-0.0340 (-1.19)
age	-0.00541 <sup>+</sup> (-1.88)	-0.0204** (-4.46)	-0.0204** (-4.45)
age <sup>2</sup>	-0.00000371 (-0.14)	0.000113** (2.77)	0.000113** (2.77)
male	-0.173** (-9.20)	-0.189** (-7.77)	-0.189** (-7.78)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2009		Yes	Yes
<i>N</i>	33805	30506	30506
<i>R</i> <sup>2</sup>	0.023	0.040	0.040

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized extraversion score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2009. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 13: Agreeableness and GDR treatment

	(1)	(2)	(3)
GDR	0.0446*	0.0370	0.0473 <sup>+</sup>
	(2.23)	(1.62)	(1.83)
moved West		0.0258	0.0270
		(0.50)	(0.52)
GDR*2009			-0.0209
			(-0.74)
age	-0.0108**	-0.00530	-0.00528
	(-3.63)	(-1.19)	(-1.18)
age <sup>2</sup>	0.000156**	0.000120**	0.000120**
	(5.47)	(3.01)	(3.01)
male	-0.331**	-0.272**	-0.272**
	(-18.00)	(-11.77)	(-11.77)
Additional controls?			
Childhood town size	Yes	Yes	Yes
Parental education	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes
Employment status & history		Yes	Yes
Marital status		Yes	Yes
Dummy 2009		Yes	Yes
<i>N</i>	33814	30514	30514
<i>R</i> <sup>2</sup>	0.042	0.061	0.061

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized agreeableness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2009. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 14: Reciprocity and GDR treatment

	(1)	(2)	(3)	(4)	(5)	(6)
	PosRec	PosRec	PosRec	NegRec	NegRec	NegRec
GDR	0.0176 (0.83)	0.0361 (1.48)	0.0282 (1.06)	0.0404 <sup>+</sup> (1.88)	0.0356 (1.45)	0.0377 (1.42)
moveWest		0.00759 (0.14)	0.00652 (0.12)		-0.116* (-2.39)	-0.116* (-2.38)
GDR*2010			0.0162 (0.47)			-0.00425 (-0.13)
age	0.0128** (4.37)	0.00340 (0.72)	0.00340 (0.72)	-0.00713* (-2.53)	-0.000628 (-0.14)	-0.000627 (-0.14)
age <sup>2</sup>	-0.000106** (-3.84)	-0.0000421 (-1.01)	-0.0000422 (-1.01)	-0.0000121 (-0.46)	-0.0000870* (-2.16)	-0.0000870* (-2.16)
male	0.0231 (1.24)	-0.0120 (-0.51)	-0.0120 (-0.50)	0.273** (14.80)	0.252** (10.96)	0.252** (10.96)
Additional controls?						
Childhood town size	Yes	Yes	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes	Yes		Yes	Yes
Employment status & history		Yes	Yes		Yes	Yes
Marital status		Yes	Yes		Yes	Yes
Dummy 2010		Yes	Yes		Yes	Yes
<i>N</i>	32582	29316	29316	32511	29263	29263
<i>R</i> <sup>2</sup>	0.004	0.011	0.011	0.042	0.063	0.063

*Notes:* We use SOEP data from 2005 and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized reciprocity score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Specification 3 additionally includes an interaction term of the GDR dummy and the dummy for 2010. Robust standard errors are clustered at the individual level SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

## Cohort analysis

In the following, we present tables showing regression results regarding our cohort analysis with more information than in table 5.

Table 15: Locus of Control and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	-0.153** (-4.11)	-0.198** (-4.67)	-0.104* (-2.32)	-0.126* (-2.12)
moved West	-0.00233 (-0.01)	0.123 (1.05)	0.240** (3.22)	0.162+ (1.85)
age	0.0347 (0.99)	-0.284** (-4.75)	0.111** (2.69)	-0.0270 (-0.64)
age <sup>2</sup>	-0.000199 (-0.84)	0.00265** (4.82)	-0.00144** (-2.78)	0.000631 (0.74)
male	0.160** (4.69)	0.0647+ (1.76)	0.0990** (2.98)	-0.0167 (-0.39)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	8737	8585	8651	5972
<i>R</i> <sup>2</sup>	0.024	0.025	0.015	0.026

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 16: Conscientiousness and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	0.112** (3.21)	0.0637 (1.55)	0.0943* (2.20)	0.173** (2.96)
moved West	-0.0412 (-0.25)	0.179* (2.00)	-0.00772 (-0.09)	-0.105 (-1.10)
age	0.0146 (0.32)	-0.0643 (-0.99)	0.0918+ (1.77)	0.158** (2.99)
age <sup>2</sup>	-0.000143 (-0.46)	0.000571 (0.94)	-0.00113+ (-1.72)	-0.00223* (-2.12)
male	-0.0653* (-1.99)	-0.121** (-3.49)	-0.0801* (-2.37)	-0.258** (-5.43)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	9238	8945	9138	6375
<i>R</i> <sup>2</sup>	0.010	0.022	0.015	0.072

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 17: Neuroticism and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	0.135** (4.06)	0.138** (3.30)	0.154** (3.31)	0.133* (2.33)
moved West	-0.380* (-2.20)	-0.155 (-1.25)	-0.234** (-2.86)	0.0458 (0.52)
age	0.0766* (2.20)	0.143* (2.13)	-0.0312 (-0.59)	0.0749 (1.59)
age <sup>2</sup>	-0.000573* (-2.44)	-0.00131* (-2.11)	0.000370 (0.55)	-0.00156 (-1.62)
male	-0.376** (-12.11)	-0.305** (-8.06)	-0.429** (-12.09)	-0.429** (-10.17)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	9334	8955	9139	6389
<i>R</i> <sup>2</sup>	0.048	0.034	0.057	0.058

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 18: Openness and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	-0.0347 (-1.00)	-0.129** (-3.22)	-0.182** (-4.22)	0.00445 (0.08)
moved West	0.278* (2.10)	0.0898 (0.72)	0.0138 (0.17)	-0.0722 (-0.76)
age	-0.0505 (-1.25)	-0.0555 (-0.87)	-0.0163 (-0.33)	-0.0922 <sup>+</sup> (-1.80)
age <sup>2</sup>	0.000239 (0.87)	0.000443 (0.74)	0.000141 (0.22)	0.00161 (1.53)
male	-0.0347 (-1.05)	-0.150** (-4.10)	-0.0720* (-2.07)	-0.207** (-4.86)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
$N$	9236	8940	9112	6374
$R^2$	0.059	0.043	0.025	0.044

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used.  $t$  statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 19: Agreeableness and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	0.0790*	0.0323	0.0375	0.0414
	(2.36)	(0.79)	(0.86)	(0.73)
moved West	-0.145	0.219*	0.0486	-0.0722
	(-0.84)	(2.17)	(0.59)	(-0.84)
age	0.0175	-0.134*	-0.0616	-0.101*
	(0.37)	(-1.96)	(-1.19)	(-2.19)
age <sup>2</sup>	-0.0000197	0.00124 <sup>+</sup>	0.000638	0.00185*
	(-0.06)	(1.94)	(0.97)	(1.98)
male	-0.390**	-0.356**	-0.295**	-0.254**
	(-12.51)	(-9.30)	(-8.24)	(-6.03)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	9350	8955	9127	6382
<i>R</i> <sup>2</sup>	0.055	0.042	0.029	0.023

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 20: Extraversion and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	0.0684* (2.05)	-0.0215 (-0.51)	-0.106* (-2.14)	-0.0663 (-1.09)
moved West	0.0654 (0.38)	0.214 (1.48)	0.198* (2.12)	0.0934 (0.99)
age	-0.0327 (-0.90)	-0.106 (-1.63)	0.0852+ (1.67)	-0.0580 (-1.17)
age <sup>2</sup>	0.000171 (0.70)	0.000931 (1.53)	-0.00115+ (-1.77)	0.000962 (0.95)
male	-0.141** (-4.48)	-0.159** (-4.29)	-0.232** (-6.20)	-0.152** (-3.27)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	9324	8955	9140	6386
<i>R</i> <sup>2</sup>	0.020	0.017	0.026	0.018

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 21: Positive reciprocity and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	0.0179 (0.49)	0.00872 (0.18)	0.0457 (1.12)	-0.0177 (-0.33)
moved West	0.00254 (0.02)	0.0255 (0.22)	0.00421 (0.05)	0.0772 (0.90)
age	0.0263 (0.71)	0.0206 (0.31)	-0.0537 (-1.20)	0.0200 (0.49)
age <sup>2</sup>	-0.000209 (-0.84)	-0.000189 (-0.31)	0.000595 (1.05)	-0.000111 (-0.14)
male	0.0304 (0.91)	0.0247 (0.65)	0.0676 <sup>+</sup> (1.89)	-0.0549 (-1.27)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	8999	8725	8775	6083
<i>R</i> <sup>2</sup>	0.010	0.008	0.007	0.021

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 22: Negative reciprocity and GDR treatment: Cohort Analysis

	(1)	(2)	(3)	(4)
	<1945	1945-60	1960-75	1975-89
GDR	-0.00906 (-0.25)	0.0265 (0.53)	0.0987* (2.03)	0.179** (3.40)
moved West	-0.136 (-0.69)	-0.0955 (-0.86)	-0.200* (-2.44)	-0.0696 (-0.94)
age	0.0156 (0.43)	0.0635 (0.98)	-0.0417 (-0.94)	-0.0991* (-2.42)
age <sup>2</sup>	-0.000225 (-0.91)	-0.000588 (-0.98)	0.000406 (0.74)	0.00160* (1.97)
male	0.258** (7.88)	0.288** (7.41)	0.302** (8.46)	0.224** (5.66)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
<i>N</i>	8974	8722	8751	6064
<i>R</i> <sup>2</sup>	0.040	0.028	0.039	0.054

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to year of birth into one out of four cohorts. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

# Robustness checks

In this section, we present more comprehensive tables showing the results of our three robustness checks.

Table 23: Locus of Control and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	-0.136** (-4.52)	-0.124** (-4.24)	-0.121** (-3.68)	-0.0499 (-1.46)
moved West			0.148* (2.09)	0.132* (2.05)
age	-0.000974 (-0.25)	-0.00308 (-0.77)	-0.0226** (-3.69)	-0.0345** (-5.38)
age <sup>2</sup>	0.0000283 (0.77)	0.0000320 (0.82)	0.000209** (3.84)	0.000296** (4.96)
male	0.0755** (2.93)	0.0902** (3.46)	0.00751 (0.24)	-0.0151 (-0.49)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2010			Yes	Yes
<i>N</i>	15936	16009	14292	14501
<i>R</i> <sup>2</sup>	0.011	0.019	0.080	0.102

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 24: Conscientiousness and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.111** (4.00)	0.0941** (3.14)	0.0913** (2.93)	0.108** (3.25)
moved West			0.0312 (0.50)	-0.0849 (-1.03)
age	0.0514** (11.07)	0.0456** (10.24)	0.0119+ (1.86)	0.0136+ (1.95)
age <sup>2</sup>	-0.000444** (-10.17)	-0.000400** (-9.54)	-0.0000752 (-1.30)	-0.000108+ (-1.73)
male	-0.156** (-6.10)	-0.0926** (-3.54)	-0.248** (-7.54)	-0.154** (-4.59)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2009			Yes	Yes
<i>N</i>	16834	16862	15090	15329
<i>R</i> <sup>2</sup>	0.053	0.050	0.077	0.062

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 25: Neuroticism and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.119** (4.03)	0.134** (4.56)	0.124** (3.89)	0.0920** (2.87)
moved West			-0.140+ (-1.85)	-0.0860 (-1.19)
age	0.00179 (0.45)	0.0134** (3.52)	0.0148* (2.34)	0.0247** (3.91)
age <sup>2</sup>	-0.0000226 (-0.59)	-0.000115** (-3.14)	-0.000174** (-3.10)	-0.000243** (-4.38)
male	-0.372** (-14.56)	-0.389** (-15.12)	-0.318** (-10.12)	-0.333** (-10.61)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2009			Yes	Yes
<i>N</i>	16882	16935	15133	15391
<i>R</i> <sup>2</sup>	0.040	0.049	0.100	0.115

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 26: Openness and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	-0.0795** (-2.83)	-0.112** (-3.90)	-0.109** (-3.45)	-0.0316 (-0.95)
moved West			0.0672 (0.84)	0.000859 (0.01)
age	0.0161** (3.92)	0.0101* (2.41)	0.00732 (1.07)	-0.00378 (-0.58)
age <sup>2</sup>	-0.000187** (-4.71)	-0.000127** (-3.17)	-0.000112 <sup>+</sup> (-1.78)	0.00000358 (0.06)
male	-0.109** (-4.31)	-0.0934** (-3.59)	-0.158** (-4.73)	-0.0996** (-3.06)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2009			Yes	Yes
<i>N</i>	16806	16856	15074	15322
<i>R</i> <sup>2</sup>	0.042	0.036	0.073	0.073

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 27: Agreeableness and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.0354 (1.27)	0.0502 <sup>+</sup> (1.74)	0.0279 (0.87)	0.0372 (1.13)
moved West			0.0237 (0.33)	0.0183 (0.25)
age	-0.00458 (-1.01)	-0.0167** (-4.41)	0.00286 (0.45)	-0.0128* (-2.06)
age <sup>2</sup>	0.0000932* (2.15)	0.000217** (5.99)	0.0000392 (0.69)	0.000197** (3.54)
male	-0.328** (-12.66)	-0.333** (-12.85)	-0.284** (-8.72)	-0.260** (-8.07)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2009			Yes	Yes
<i>N</i>	16896	16918	15141	15373
<i>R</i> <sup>2</sup>	0.040	0.048	0.061	0.067

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 28: Extraversion and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.00260 (0.09)	-0.0213 (-0.68)	-0.0321 (-0.98)	0.0268 (0.75)
moved West			0.176* (2.25)	0.0717 (0.85)
age	0.000810 (0.20)	-0.0119** (-2.93)	-0.0129* (-2.00)	-0.0276** (-4.29)
age <sup>2</sup>	-0.0000637 <sup>+</sup> (-1.67)	0.0000585 (1.51)	0.0000436 (0.76)	0.000178** (3.10)
male	-0.178** (-6.83)	-0.166** (-6.18)	-0.222** (-6.56)	-0.155** (-4.48)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2009			Yes	Yes
<i>N</i>	16891	16914	15130	15376
<i>R</i> <sup>2</sup>	0.024	0.025	0.041	0.044

*Notes:* We use SOEP data from 2005 and 2009 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 29: Positive Reciprocity and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.0562*	-0.0220	0.0495	0.0247
	(2.03)	(-0.68)	(1.58)	(0.65)
moved West			0.0136	0.00312
			(0.19)	(0.04)
age	0.0123**	0.0134**	0.00615	0.0000535
	(3.04)	(3.16)	(1.02)	(0.01)
age <sup>2</sup>	-0.0000990**	-0.000113**	-0.0000585	-0.0000203
	(-2.65)	(-2.78)	(-1.10)	(-0.32)
male	0.0416	0.00320	0.0106	-0.0426
	(1.62)	(0.12)	(0.34)	(-1.22)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2010			Yes	Yes
<i>N</i>	16275	16307	14558	14758
<i>R</i> <sup>2</sup>	0.006	0.004	0.013	0.014

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 30: Negative Reciprocity and GDR treatment: North/South

	(1)	(2)	(3)	(4)
	North	South	North	South
GDR	0.0594 <sup>+</sup> (1.90)	0.0223 (0.76)	0.0672 <sup>+</sup> (1.94)	0.00376 (0.11)
moved West			-0.110 (-1.51)	-0.114 <sup>+</sup> (-1.81)
age	-0.00913* (-2.25)	-0.00521 (-1.35)	0.00231 (0.34)	-0.00403 (-0.67)
age <sup>2</sup>	0.0000108 (0.28)	-0.0000340 (-0.94)	-0.0000959 (-1.61)	-0.0000737 (-1.38)
male	0.282** (10.78)	0.265** (10.11)	0.258** (7.94)	0.250** (7.78)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income			Yes	Yes
Employment status & history			Yes	Yes
Marital status			Yes	Yes
Dummy 2010			Yes	Yes
<i>N</i>	16224	16287	14524	14739
<i>R</i> <sup>2</sup>	0.044	0.044	0.070	0.064

*Notes:* We use SOEP data from 2005 and 2010 (main sample), and cluster subjects according to their place of residence. Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the personality trait at hand. South Germany includes Bavaria, Baden-Wuerttemberg, Hesse, Rhineland-Palatinate, Saarland, Saxony, and Thuringia. Robust standard errors are clustered at the individual level. SOEP weights are used. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 31: Protestant States only

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	LOC	Neuroticism	Conscientiousness	Openness	Agreeableness	Extraversion	PosRec	NegRec
GDR	-0.180** (-6.58)	0.136** (4.87)	0.115** (4.25)	-0.140** (-5.26)	0.00480 (0.17)	-0.0443 (-1.61)	-0.0105 (-0.38)	0.0682* (2.37)
moved West								
age	-0.00511 (-1.12)	0.00219 (0.47)	0.0365** (8.14)	0.0202** (4.61)	-0.0100* (-2.14)	-0.00754+ (-1.71)	0.0103* (2.25)	0.00133 (0.29)
age <sup>2</sup>	0.0000587 (1.40)	-0.0000199 (-0.47)	-0.000305** (-7.22)	-0.000217** (-5.27)	0.000148** (3.38)	0.0000142 (0.35)	-0.0000814+ (-1.91)	-0.0000832+ (-1.92)
male	0.0717** (2.66)	-0.404** (-14.73)	-0.121** (-4.62)	-0.106** (-4.07)	-0.337** (-12.43)	-0.162** (-6.04)	0.0672* (2.47)	0.279** (10.16)
Additional controls?								
Childhood town size	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	14463	15355	15306	15305	15348	15348	14691	14676
R <sup>2</sup>	0.017	0.051	0.035	0.047	0.045	0.023	0.005	0.043

Notes: We use SOEP data from 2005, 2009, and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for the respective personality. We do not include the Catholic states: Bavaria, Baden-Wuerttemberg, Northrhine-Westfalia, Rhineland-Palatinate, and Saarland. Robust standard errors are clustered at the individual level. SOEP weights are used.  $t$  statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 32: Locus of Control and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	-0.123** (-4.71)	-0.0973** (-3.43)
GDR * Berlin	0.197+ (1.87)	0.247* (2.30)
GDR * Brandenburg	-0.0175 (-0.28)	-0.0111 (-0.17)
GDR * Saxony	-0.119* (-2.54)	-0.0635 (-1.33)
GDR * Saxony-Anhalt	-0.00214 (-0.03)	0.0791 (1.30)
GDR * Mecklenburg Western Pomerania	0.152* (2.23)	0.188** (2.74)
GDR * Thuringia	-0.0666 (-1.03)	-0.00749 (-0.11)
moved West		0.135** (2.77)
age	-0.00223 (-0.79)	-0.0285** (-6.38)
age <sup>2</sup>	0.0000330 (1.23)	0.000254** (6.26)
male	0.0826** (4.50)	-0.000369 (-0.02)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2010		Yes
<i>N</i>	31945	28793
<i>R</i> <sup>2</sup>	0.014	0.087

*Notes:* We use SOEP data from 2005 and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized score for locus of control. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 33: Conscientiousness and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	0.103** (4.17)	0.102** (3.82)
GDR * Berlin	-0.0285 (-0.32)	0.00763 (0.08)
GDR * Brandenburg	0.0211 (0.33)	0.0124 (0.18)
GDR * Saxony	-0.0582 (-1.24)	-0.0793+ (-1.66)
GDR * Saxony-Anhalt	-0.0196 (-0.31)	0.00450 (0.07)
GDR * Mecklenburg Western Pomerania	0.205** (2.80)	0.170* (2.31)
GDR * Thuringia	-0.0000940 (-0.00)	-0.00323 (-0.06)
moved West		-0.0285 (-0.54)
age	0.0488** (15.10)	0.0131** (2.74)
age <sup>2</sup>	-0.000424** (-13.94)	-0.0000916* (-2.13)
male	-0.127** (-6.92)	-0.204** (-8.58)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2009		Yes
<i>N</i>	33696	30419
<i>R</i> <sup>2</sup>	0.049	0.065

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized conscientiousness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 34: Neuroticism and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	0.0947** (3.61)	0.0927** (3.36)
GDR * Berlin	0.147 (1.51)	0.0830 (0.82)
GDR * Brandenburg	0.0982+ (1.74)	0.0499 (0.87)
GDR * Saxony	0.0734 (1.61)	0.0148 (0.32)
GDR * Saxony-Anhalt	0.105+ (1.84)	0.0265 (0.47)
GDR * Mecklenburg Western Pomerania	0.0229 (0.31)	0.0351 (0.47)
GDR * Thuringia	0.0707 (1.26)	0.0230 (0.40)
moved West		-0.101+ (-1.92)
age	0.00743** (2.68)	0.0200** (4.42)
age <sup>2</sup>	-0.0000681* (-2.57)	-0.000210** (-5.28)
male	-0.379** (-20.83)	-0.324** (-14.42)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2009		Yes
<i>N</i>	33817	30524
<i>R</i> <sup>2</sup>	0.043	0.103

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized neuroticism score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 35: Openness and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	-0.111** (-4.54)	-0.0875** (-3.24)
GDR * Berlin	0.0780 (0.81)	0.0459 (0.55)
GDR * Brandenburg	0.00123 (0.02)	-0.0234 (-0.37)
GDR * Saxony	0.0126 (0.27)	-0.000346 (-0.01)
GDR * Saxony-Anhalt	0.0389 (0.61)	0.0341 (0.54)
GDR * Mecklenburg Western Pomerania	0.0546 (0.78)	0.0668 (0.94)
GDR * Thuringia	0.0833 (1.51)	0.1000 <sup>+</sup> (1.80)
moved West		0.0421 (0.74)
age	0.0131** (4.43)	0.00187 (0.39)
age <sup>2</sup>	-0.000156** (-5.51)	-0.0000540 (-1.25)
male	-0.102** (-5.57)	-0.127** (-5.39)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2009		Yes
<i>N</i>	33662	30396
<i>R</i> <sup>2</sup>	0.037	0.069

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized openness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 36: Extraversion and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	-0.0103 (-0.39)	-0.00735 (-0.25)
GDR * Berlin	0.109 (0.98)	0.0928 (0.91)
GDR * Brandenburg	-0.110 (-1.64)	-0.130* (-2.00)
GDR * Saxony	-0.0627 (-1.26)	-0.0490 (-0.94)
GDR * Saxony-Anhalt	0.0288 (0.45)	0.0406 (0.61)
GDR * Mecklenburg Western Pomerania	0.00557 (0.07)	-0.0199 (-0.23)
GDR * Thuringia	0.174** (2.84)	0.199** (3.14)
moved West		0.123* (2.06)
age	-0.00535+ (-1.86)	-0.0201** (-4.40)
age <sup>2</sup>	-0.00000424 (-0.16)	0.000110** (2.71)
male	-0.173** (-9.20)	-0.189** (-7.78)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2009		Yes
<i>N</i>	33805	30506
<i>R</i> <sup>2</sup>	0.024	0.041

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized extraversion score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 37: Agreeableness and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	0.0494*	0.0480 <sup>+</sup>
	(2.05)	(1.77)
GDR * Berlin	0.0256	0.0484
	(0.26)	(0.53)
GDR * Brandenburg	-0.0466	-0.0642
	(-0.77)	(-0.98)
GDR * Saxony	-0.0457	-0.0584
	(-0.97)	(-1.18)
GDR * Saxony-Anhalt	0.0414	0.0413
	(0.74)	(0.70)
GDR * Mecklenburg Western Pomerania	0.0858	0.0444
	(1.39)	(0.68)
GDR * Thuringia	-0.0692	-0.0974
	(-1.20)	(-1.64)
moved West		0.0178
		(0.34)
age	-0.0109**	-0.00542
	(-3.65)	(-1.21)
age <sup>2</sup>	0.000157**	0.000121**
	(5.49)	(3.03)
male	-0.330**	-0.272**
	(-17.99)	(-11.76)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2009		Yes
<i>N</i>	33814	30514
<i>R</i> <sup>2</sup>	0.042	0.061

*Notes:* We use SOEP data from 2005 and 2009 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized agreeableness score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 38: Positive reciprocity and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	0.0384 (1.46)	0.0578 <sup>+</sup> (1.95)
GDR * Berlin	-0.0567 (-0.68)	-0.0677 (-0.78)
GDR * Brandenburg	-0.122 <sup>+</sup> (-1.87)	-0.131 <sup>+</sup> (-1.93)
GDR * Saxony	-0.0132 (-0.27)	-0.000380 (-0.01)
GDR * Saxony-Anhalt	-0.0698 (-1.15)	-0.0711 (-1.13)
GDR * Mecklenburg Western Pomerania	-0.00742 (-0.11)	-0.0271 (-0.41)
GDR * Thuringia	-0.116 <sup>+</sup> (-1.66)	-0.111 (-1.52)
moved West		-0.000979 (-0.02)
age	0.0127** (4.34)	0.00336 (0.72)
age <sup>2</sup>	-0.000105** (-3.81)	-0.0000420 (-1.01)
male	0.0230 (1.23)	-0.0124 (-0.52)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2010		Yes
<i>N</i>	32582	29316
<i>R</i> <sup>2</sup>	0.004	0.011

*Notes:* We use SOEP data from 2005 and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized positive reciprocity score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 39: Negative reciprocity and GDR treatment: GDR-states interactions

	(1)	(2)
GDR	0.0220 (0.81)	0.0201 (0.66)
GDR * Berlin	-0.185* (-2.10)	-0.167+ (-1.81)
GDR * Brandenburg	0.0509 (0.84)	0.0625 (1.00)
GDR * Saxony	0.0240 (0.51)	0.0224 (0.45)
GDR * Saxony-Anhalt	0.243** (3.90)	0.196** (3.17)
GDR * Mecklenburg Western Pomerania	-0.0287 (-0.40)	-0.0796 (-1.14)
GDR * Thuringia	0.0977 (1.63)	0.0804 (1.30)
moved West		-0.103* (-2.10)
age	-0.00696* (-2.48)	-0.000439 (-0.10)
age <sup>2</sup>	-0.0000140 (-0.53)	-0.0000883* (-2.19)
male	0.274** (14.85)	0.253** (11.02)
Childhood town size	Yes	Yes
Parental education	Yes	Yes
Education, health status, and net income		Yes
Employment status & history		Yes
Marital status		Yes
Dummy 2010		Yes
<i>N</i>	32511	29263
<i>R</i> <sup>2</sup>	0.043	0.064

*Notes:* We use SOEP data from 2005 and 2010 (main sample). Parameter estimates are from ordinary least squares specifications. The dependent variable is the standardized negative reciprocity score. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

This concludes the detailed description of our robustness checks. In the next section, we will present the detailed regression results for the exploration of secret-service surveillance as a driver of differences in personality.

# Secret service infiltration

Table 40: Locus of control and surveillance intensity: Continuous measure for intensity

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<i>IM</i>	-0.02672 <sup>+</sup> (-1.71)	-0.03269* (-2.05)		
<i>IM &amp; public collaborators</i>			-0.01852 (-1.50)	-0.02377 <sup>+</sup> (-1.92)
moved West		0.294** (2.59)		0.305** (2.66)
age	0.0108 (1.37)	0.00759 (0.57)	0.0116 (1.42)	0.00677 (0.49)
age <sup>2</sup>	-0.000133 <sup>+</sup> (-1.83)	-0.000128 (-1.16)	-0.000139 <sup>+</sup> (-1.85)	-0.000126 (-1.13)
male	-0.0224 (-0.45)	-0.0122 (-0.22)	0.00134 (0.03)	-0.000572 (-0.01)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3861	3560	3627	3357
<i>R</i> <sup>2</sup>	0.043	0.105	0.049	0.113

*Notes:* We use SOEP data from 2005 and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 41: Negative reciprocity and surveillance intensity: Continuous measure for intensity

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<i>IM</i>	0.0339* (2.09)	0.02369 (1.46)		
<i>IM &amp; public collaborators</i>			0.03378** (2.64)	0.02785* (2.19)
moved West		-0.255* (-2.28)		-0.274* (-2.44)
age	-0.0133+ (-1.67)	-0.0135 (-0.90)	-0.0136 (-1.62)	-0.0101 (-0.65)
age <sup>2</sup>	0.0000269 (0.36)	-0.0000138 (-0.12)	0.0000225 (0.29)	-0.0000363 (-0.29)
male	0.360** (7.35)	0.332** (6.17)	0.344** (6.77)	0.327** (5.89)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3911	3599	3675	3395
<i>R</i> <sup>2</sup>	0.077	0.106	0.082	0.110

*Notes:* We use SOEP data from 2005 and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 42: Locus of control and surveillance intensity: Dummy variable for intensity

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
Dummy <i>IM</i>	-0.118*	-0.123*		
	(-1.99)	(-2.10)		
Dummy <i>IM</i> & public collaborators			-0.117+	-0.0903
			(-1.83)	(-1.45)
moved West		0.284*		0.285*
		(2.53)		(2.52)
age	0.0102	0.00757	0.0113	0.00665
	(1.30)	(0.56)	(1.39)	(0.48)
age <sup>2</sup>	-0.000129+	-0.000128	-0.000137+	-0.000126
	(-1.78)	(-1.15)	(-1.82)	(-1.12)
male	-0.0235	-0.0114	-0.00195	-0.00168
	(-0.47)	(-0.20)	(-0.04)	(-0.03)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3861	3560	3627	3357
<i>R</i> <sup>2</sup>	0.044	0.106	0.050	0.112

*Notes:* We use SOEP data from 2005 and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. The key dummy variable is equal to one when the number of collaborators in a district exceeds the median number for all districts. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 43: Negative reciprocity and surveillance intensity: Dummy variable for intensity

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
Dummy <i>IM</i>	0.115*	0.0556		
	(2.05)	(1.00)		
Dummy <i>IM</i> & <i>public collaborators</i>			0.222**	0.169**
			(3.68)	(2.80)
moved West		-0.246*		-0.252*
		(-2.22)		(-2.24)
age	-0.0127	-0.0131	-0.0132	-0.0101
	(-1.59)	(-0.88)	(-1.59)	(-0.66)
age <sup>2</sup>	0.000022	-0.000018	0.0000202	-0.0000325
	(0.29)	(-0.15)	(0.26)	(-0.26)
male	0.361**	0.332**	0.350**	0.330**
	(7.38)	(6.16)	(6.97)	(5.99)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3911	3599	3675	3395
<i>R</i> <sup>2</sup>	0.078	0.105	0.086	0.113

*Notes:* We use SOEP data from 2005 and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. The key dummy variable is equal to one when the number of collaborators in a district exceeds the median number for all districts. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 44: Locus of control and interactions of surveillance intensity and contacts to FRG citizens

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<i>IM</i>	-0.02095 (-1.35)	-0.02365 (-1.52)		
<i>IM &amp; public collaborators</i>			-0.01397 (-1.13)	-0.01732 (-1.41)
moved West		0.281* (2.56)		0.301** (2.67)
age	0.00970 (1.24)	0.00568 (0.42)	0.0103 (1.27)	0.00475 (0.35)
age <sup>2</sup>	-0.00012 <sup>+</sup> (-1.67)	-0.000105 (-0.96)	-0.000123 <sup>+</sup> (-1.65)	-0.000101 (-0.91)
male	-0.0214 (-0.43)	-0.0184 (-0.33)	0.00183 (0.04)	-0.00721 (-0.13)
transfer without value stated	-0.0519 (-0.63)	-0.0336 (-0.42)	0.0185 (0.22)	0.000569 (0.01)
value of transfers	0.00026 (1.37)	0.000384 <sup>+</sup> (1.82)	0.000193 (1.18)	0.000295 <sup>+</sup> (1.70)
<i>IM</i> * value of transfer	-0.0000721 <sup>+</sup> (-1.96)	-0.000101* (-2.47)		
<i>IM &amp; public collaborators</i> * transfer value			-0.0000517 <sup>+</sup> (-1.85)	-0.0000729* (-2.47)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3861	3560	3627	3357
<i>R</i> <sup>2</sup>	0.051	0.118	0.056	0.125

*Notes:* We use SOEP data from 1990, 2005, and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 45: Conscientiousness and interactions of surveillance intensity and contacts to FRG citizens

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<i>IM</i>	-0.0167 (-1.02)	-0.01757 (-1.08)		
<i>IM &amp; public collaborators</i>			-0.011 (-0.87)	-0.01228 (-0.98)
moved West		0.351** (3.59)		0.360** (3.62)
age	0.0643** (7.61)	0.020 (1.20)	0.0667** (7.58)	0.0241 (1.41)
age <sup>2</sup>	-0.000587** (-7.29)	-0.000256 <sup>+</sup> (-1.89)	-0.000602** (-7.21)	-0.000280* (-2.01)
male	-0.224** (-4.36)	-0.324** (-5.21)	-0.228** (-4.25)	-0.321** (-4.93)
transfer without value stated	-0.142 <sup>+</sup> (-1.84)	-0.141 <sup>+</sup> (-1.74)	-0.101 (-1.17)	-0.118 (-1.30)
value of transfers	-0.000751* (-2.00)	-0.000664 <sup>+</sup> (-1.83)	-0.000643 <sup>+</sup> (-1.80)	-0.00055 (-1.60)
<i>IM</i> * value of transfer	0.000154* (2.13)	0.000136 <sup>+</sup> (1.95)		
<i>IM &amp; public collaborators</i> * transfer value			0.000116 <sup>+</sup> (1.93)	0.0000988 <sup>+</sup> (1.72)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2009		Yes		Yes
<i>N</i>	4030	3733	3791	3523
<i>R</i> <sup>2</sup>	0.085	0.118	0.083	0.116

*Notes:* We use SOEP data from 1990, 2005, and 2009 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2009. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Table 46: Negative reciprocity and interactions of surveillance intensity and contacts to FRG citizens

	(1)	(2)	(3)	(4)
	Spec 1	Spec 2	Spec 1	Spec 2
<i>IM</i>	0.03425*	0.02248		
	(2.08)	(1.37)		
<i>IM</i> & public collaborators			0.03287*	0.02590*
			(2.52)	(2.00)
moved West		-0.257*		-0.277*
		(-2.29)		(-2.45)
age	-0.0135 <sup>+</sup>	-0.0136	-0.0136	-0.0100
	(-1.69)	(-0.91)	(-1.63)	(-0.65)
age <sup>2</sup>	0.0000313	-0.0000121	0.0000252	-0.0000358
	(0.41)	(-0.10)	(0.32)	(-0.29)
male	0.362**	0.333**	0.347**	0.328**
	(7.39)	(6.18)	(6.84)	(5.91)
transfer without value stated	-0.0144	-0.0479	-0.0545	-0.0819
	(-0.19)	(-0.65)	(-0.69)	(-1.05)
value of transfers	-0.000094	-0.0000841	-0.000121	-0.000119
	(-0.58)	(-0.49)	(-0.84)	(-0.79)
<i>IM</i> * value of transfer	0.00000883	0.0000128		
	(0.28)	(0.39)		
<i>IM</i> & public collaborators* transfer value			0.0000122	0.0000169
			(0.50)	(0.66)
Additional controls?				
Childhood town size	Yes	Yes	Yes	Yes
Parental education	Yes	Yes	Yes	Yes
Education, health status, and net income		Yes		Yes
Employment status & history		Yes		Yes
Marital status		Yes		Yes
Dummy 2010		Yes		Yes
<i>N</i>	3911	3599	3675	3395
<i>R</i> <sup>2</sup>	0.079	0.107	0.084	0.111

*Notes:* We use SOEP data from 1990, 2005, and 2010 (East German working sample). Parameter estimates are from ordinary least squares specifications. Specification 1 includes all covariates from the upper part of Table 2 except for *moved West*. Specification 2 includes all covariates in Table 2 and a dummy for the year 2010. Robust standard errors are clustered at the individual level. SOEP weights are applied. *t* statistics in parentheses; <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$