CrossMark

ORIGINAL RESEARCH

Human Empowerment and Trust in Strangers: The Multilevel Evidence

Anna Almakaeva[1] · Christian Welzel[1,2] · Eduard Ponarin[1]

© Springer Science+Business Media B.V. 2017

Abstract For three decades, scholars have focused on generalized interpersonal trust as the key component of social capital and there is a wide consensus that trust in strangers is the prime indicator of people's general trust in others. However, little work with a specific focus on trust in strangers has been conducted in a comparative multilevel framework. The few existing studies are inconclusive because of deficiencies in both conceptualization and test strategy. Filling this gap, this article examines the determinants of trust in strangers on the broadest country base ever used in the study of trust, drawing on global cross-cultural evidence from the fifth and sixth rounds of the World Values Surveys—the first international surveys to include a direct question on trust in strangers. Reaching beyond conventional wisdom about the sources of generalized trust, we demonstrate that human empowerment at the country level is a powerful moderator of well-known individual-level determinants of trust. Specifically, in countries with lagging human empowerment, institutional trust, trust in known people, and material satisfaction are the only individual-level characteristics that enhance trust in strangers. We also detect an unexpected negative effect of education where human empowerment is lagging. In sharp contrast, in countries with advanced human empowerment, a much broader set of individual-level characteristics increases trust in strangers. This set includes ethnic tolerance, membership in voluntary associations, social movement activity, emancipative values, subjective well-being, age, and education. These insights inform a multilevel theory of trust, showing that human empowerment operates as a contextual activator of individual trust promoters.

Keywords Generalized trust · Trust radius · Trust theories · Human empowerment · Multilevel modeling · Moderation effect

✉ Anna Almakaeva
  almakaeva@gmail.com

1   Laboratory for Comparative Social Research, National Research University Higher School of Economics, Moscow, Russian Federation

2   Leuphana University, Lüneburg, Germany

🖄 Springer

1 Introduction

There is a wide consensus that generalized trust in others lowers the psychological costs in inter-human exchange, thus creating a solid basis for sustained cooperation. Therefore, the issue of what factors favor the creation of generalized trust plays a major role in ongoing debates on social capital. Countless studies of the determinants of trust have resulted in a voluminous literature (see recent reviews of Nannestad 2008; Stolle 2002; Welch et al. 2005). Although this literature improved our understanding of the sources of generalized trust, some issues are still not conclusively resolved and some omissions persist.

A number of studies have demonstrated that the sources of generalized trust vary across countries. Delhey and Newton (2003) introduced six theories of the origins of trust, and tested them against each other using the Euromodule surveys fielded between 1999 and 2001 in seven countries, including East and West Germany, Hungary, Slovenia, Spain, Switzerland and South Korea. According to their analyses, there are people with high and low generalized trust in every society but the individual-level characteristics that enhance people's generalized trust vary across countries. Specifically, the authors found that, in high-trust societies, personal success and subjective well-being strengthen generalized trust the most, while in low-trust societies, informal ties and satisfaction with one's material living conditions contributed to generalized trust. Surprisingly, membership in voluntary associations, which are commonly seen as "schools of trust", showed only a weak impact. Even this weak impact was significant in just three out of seven societies. Similarly, Freitag (2003) found that activity in voluntary organizations contributes to Japanese people's generalized trust but has no such effect among the Swiss. Moreover, the influence of individual values and other psychological variables also varied across these two countries (Freitag 2003).

These between-country differences in the individual-level determinants of generalized trust are poorly understood in comparisons of small numbers of countries. With only a handful of observations at the country level, one has too little control over confounding variables, so as to determine which country-level characteristics account for the differences in the individual-level determination of generalized trust. To resolve this question, one needs a maximum number of observations at the country level. Then one can use advanced multilevel tools to systematically study the country-level moderation of the individual-level determinants of trust. Evidencing such moderation patterns and making sense of them is the most promising way to enrich our theoretical understanding of the sources of generalized trust. Accordingly, Klein and Kozlowski (2000) as well as Beugelsdijk (2009) stress the need for a multilevel framework in studies of generalized trust, given that the individual-level determination of many psychological phenomena varies with characteristics at the country level. In other words, micro-level linkages are context-conditioned and vary with macro-level features. As it seems, individual-level trust promoters need contextual activators that unlock their promotive potential. But it requires large-N multilevel models to evidence this contextual dependence conclusively. For instance, Robbins (2011) noted that the effect of membership in voluntary associations on trust was greater in countries where institutions protected property rights more effectively. Park and Subramanian (2012) found that income inequality at the country level decreased the positive impact of voluntary membership on trust. More recently, Welzel and Delhey (2015) demonstrate that human empowerment at the country-level enhances the trust-generating effect of emancipatory characteristics at the individual level.

Another methodological concern relates to the measurement of generalized trust. For decades, scholars have been using the classic question: "Generally speaking, would you

say that most people can be trusted or that you need to be very careful in dealing with people?" But since a while, the validity of this question as a measure of generalized trust is doubted by a growing number of scholars (Sturgis and Smith 2010; Torpe and Lolle 2011; van Hoorn 2014). Theorizing on the "radius of trust" problem, Delhey et al. (2011, 2014) have convincingly shown that, in some countries, the classic trust question measures in-group trust instead of out-group trust. Furthermore, the extent to which the classic question measures in-group versus out-group trust varies greatly and systematically across countries. These results call into doubt all previous findings on the determinants of generalized trust and put these findings on probation until they are reconfirmed based on a valid measure of generalized trust.

Delhey et al. (2011, 2014) present such a valid measure, labeling it "radius-adjusted trust". It is evident that this measure provides indeed a significant validity improvement in measuring generalized trust. However the measure is complicated and is only available at the country level because it is created from country-level regressions of in-group trust and out-group trust on the classic trust question. The unavailability of "radius-adjusted trust" at the individual level makes it impossible to examine generalized trust in a multilevel framework. For the reasons outlined, this is a serious limitation of analytical possibilities, which also restricts potential theoretical gains. In recognition of this deficiency, Welzel and Delhey (2015) propose their measure of out-group trust as a surrogate for "radius-adjusted trust" because the former is available in disaggregate form at the individual level. We agree that their measure of out-group trust is an acceptable proxy for generalized trust. Nevertheless, there is room for considerable measurement improvement. As we will demonstrate, off the three items that Welzel and Delhey use to measure out-group trust (i.e., trust in strangers and trust in people of different belief and nationality), trust in strangers (a) behaves differently and (b) does so in ways that qualify it as the best single-item indicator of generalized trust. For these reasons, it is worthwhile to examine the sources of generalized trust with a specific focus on trust in strangers.

Filling this gap, our article provides the first large-N multilevel analyses of the macro and micro foundations of trust in strangers, using the broadest country selection ever examined in the study of trust. We take Delhey and Newton's six theories as a starting point and test them against each other as well as against human empowerment as a country-level moderator. Our database covers the two most recent—fifth and sixth—rounds of the World Values Survey (henceforth WVS), conducted in 2005–2008 and 2010–2014. These are the only cross-national surveys asking specifically for trust in strangers. Adopting a multilevel framework, we perform hierarchical-linear regressions with cross-level interaction effects.

Although several investigations of generalized trust have used a multilevel approach, various shortcomings question the conclusiveness of these studies: either they use the doubtful classic question on generalized trust (Geys 2012; Gheorghiu et al. 2009; Hamamura 2012; Park and Subramanian 2012; Paxton 2007; Robbins 2011) or, if they don't, they ignore interaction effects and are, hence, unable to uncover country-level moderations in the individual-level determinants of trust (Delhey and Welzel 2012). The remaining multilevel studies (e.g., Newton and Zmerli 2011) are limited in country coverage compared to the broad selection of countries we are examining here.

Welzel and Delhey's (2015) most recent work demonstrates that, among several dozen country-level indicators, "human empowerment" in its various manifestations is most important in making generalized trust widespread. We use their encompassing measure of human empowerment as our main country-level moderator. This measure covers three domains: (1) economic prosperity in the *existential* domain; (2) emancipative values in the

psychological domain; and (3) citizen rights in the *institutional* domain. The reliability and validity of the overall human empowerment index has been meticulously documented by its authors.

Arguably, such a broad measure has a wide grip on social reality and, thus, is highly indicative of a broad range of life quality aspects and societal well-being. We hypothesize that, depending on whether human empowerment at the country level is lagging or advanced, the individual-level determinants of trust in strangers will vary. More specifically, we hypothesize that country-level progress in human empowerment amplifies the influence of pro-social values and informal relations, weakens the impact of perceived social conditions, community characteristics, success and well-being and does not change the link between psychological traits and generalized trust.

Our article is organized in four sections. In section one, we review individual-level determinants of trust, focusing on human empowerment as a key country-level activator of these determinants' trust-promoting role. Section two summarizes the limitations of the classic trust question, discusses alternative ways of measuring generalized trust, and describes the data, variables and methods. Section three demonstrates country-level relationships between trust in strangers and human empowerment and presents the multilevel evidence. The last section discusses the theoretical implications of the main findings.

2 Determination of Generalized Trust

2.1 Individual-Level Determinants of Generalized Trust

Delhey and Newton (2003) stress the multidimensional nature of trust, suggesting four groups of individual-level determinants, namely influences emanating from (1) *personality,* (2) *success and well-being*, (3) *membership activity,* and (4) *network ties*. In addition, the authors locate (5) *community*-related characteristics at the group level and (6) *societal conditions* at the country level.

From the viewpoint of personality, trust is a psychological trait shaped by formative experiences. In other words, trust reflects an internalized pre-disposition, which ought to be associated with other personality traits. Indeed, there is some evidence that trust correlates with extraversion, self-control (locus of control), intelligence and optimism (Oskarsson et al. 2012; Sturgis et al. 2010; Uslaner 2002; Wollebaek et al. 2012). However, Delhey and Newton (2003) demonstrate that these associations are not universal. Self-control, for instance, is not associated with generalized trust, while optimism correlates with trust only in Switzerland. Likewise, Freitag and Traunmüller (2009) found no relationship between generalized trust and self-control in Germany.

The *success and well-being* perspective emphasizes the importance of positive life experiences in generating trust. A large number of surveys indicate that successful and happy people are usually more trusting, and vice versa. For the US, Bjørnskov (2008) detected a strong positive relationship between generalized trust and subjective well-being. Evidence from Canada, Belgium, Luxembourg, Japan and rural China shows similar patterns (Helliwell and Putnam 2004; Hooghe and Vanhoutte 2011; Klein 2013; Kuroki 2011; Leung et al. 2011; Yip et al. 2007). In fact, the link between subjective well-being and generalized trust has been confirmed for larger parts of Europe, Asia and a wide range of countries around the world (Allum et al. 2010; Elgar et al. 2011; Freitag and Buhlmann 2009; Helliwell and Putnam 2004; Puntscher et al. 2014; Rodríguez-Pose and von

Berlepsch 2014; Robbins 2011; Tokuda et al. 2010; van der Veld and Saris 2012; Yamaoka 2008). However in some places this link is absent. Sulemana (2015), for instance, noted that no positive relationship between generalized trust and subjective well-being exists in Ghana.

Socio-economic status can be seen as an objective indicator of success and well-being. Brehm and Rahn (1997) using time-pooled data from the US General Social Survey (1972–1994) discovered a positive impact of education and income on generalized trust. These findings were confirmed by Alesina and La Ferrara (2000) as well as Helliwell and Putnam (2007). Similar results were obtained in the study of 49 American communities (Rahn et al. 2009). Cross-cultural evidence, based on the European Social Survey, the European Values Study and the WVS further corroborated these results (Howard and Gilbert 2008; Park and Subramanian 2012; Robbins 2011; van Oorschot et al. 2006; van der Veld and Saris 2012; Wollebæk and Selle 2007).

Although all these studies support the success and well-being perspective, there remain important inconsistencies. For example, Delhey and Newton (2003) find that education is linked with trust in Hungary and Switzerland, but not in Slovenia, Spain, South Korea or Western and Eastern Germany. Based on the Afrobarometer, Buzasi (2015) actually finds an unexpected *negative* link between education and trust.

The *membership* perspective is one of the most prominent approaches in the literature on social capital. According to Putnam (2001), formal associations are considered to be the "schools of civicness" where people learn reciprocity norms, values and generalized trust through interactions with unknown people. However, the evidence is mixed. Some local (Brehm and Rahn 1997) and cross-cultural studies (Allum et al. 2010; Dekker and Broek 2005; Geys 2012; Paxton 2007; van Oorschot et al. 2006) demonstrate a strong positive relationship between participation in voluntary associations and generalized trust. At the same time, this link was found to be insignificant in Switzerland (Freitag 2003), Slovenia, Spain and South Korea (Delhey and Newton 2003) as well as in Iceland (Dekker and Broek 2005) and the US (Howard and Gilbert 2008).

The incoherence in the extant literature could be attributed to several reasons. A first problem is the causal direction in the relationship between membership activity and generalized trust. Trusting people might self-select themselves into civic associations instead of becoming trustful because of their membership (Rothstein and Stolle 2008; Sonderskov 2011; Uslaner 2002). In order to test this suggestion, research requires panel data that allow one to examine temporal order in the co-evolution of membership and trust. Unfortunately, even the scant panel evidence does not provide clear answers. Using a youth and parent sample from the Michigan Socialization Study collected between 1965 and 1982, Claibourn and Martin (2000) detected no relationship between generalized trust and participation in either direction of impact.

Van Ingen and Bekkers (2015) analyzed panel data from Switzerland, the Netherlands, Australia and the UK and came to similar conclusions. Not only did they find little support for the idea that civic participation facilitates generalized trust; they also found no differences between types of organizations and level of involvement. When attempting to explain the correlation between current trust and the current membership, they concluded that these two phenomena reflect the same underlying civicness factor: "those who subscribe to prosocial values, who have good social skills and who are generally outgoing, are more likely to be both more civically engaged and trusting" (van Ingen and Bekkers 2015: 14). Hence, an over-arching prosocial orientation explains both membership and trust, so these two components have no causal influence on each other.

If this conclusion is accurate, prosocial values should absorb the influence of membership on generalized trust. So far, there is no consensually accepted scheme to measure prosocial orientations, but there is a family of value typologies sharing a common prosocial core. This family includes the concepts self-expression values (Inglehart and Welzel 2005), emancipative values (Welzel 2013), universalism (Schwartz 2010) and individualism (Hofstede and Hofstede 2001). Although these typologies are operationalized in different ways, they all stress the importance of the common good, humanistic principles of equal treatment and tolerance and, as some papers demonstrate, strongly correlate with each other (Dobewall and Rudnev 2014; Welzel 2013). Unfortunately, the role of values has thus far not been the focus of trust/membership debates, but recent studies do reveal a positive impact of such values on generalized trust and membership (Welzel 2013; Welzel and Delhey 2015; Gheorghiu et al. 2009; Rahn and Transue 1998; Schwartz 2010). Therefore, it is reasonable to include them in the investigations of generalized trust.

Yet another reason for inconsistent findings is that the membership-trust nexus might reflect an underestimated role of non-institutional forms of civic engagement. Most noteworthy, such typical social movement activities as petitions, boycotts and demonstrations constitute civic engagement but they take place in an open-access space beyond the confinements of formal memberships. This does not foreclose that formal associations often help initiate social movement action but joining such action does not require formal membership: such activities are organized on purpose as open-access activities to maximize public support (Welzel 2013). Social movement activities have been clearly on the rise over the generations, especially in post-industrial societies but also beyond (Welzel 2013). Importantly in this context, precisely because of their open-access character, social movement activities by definition imply interactions with unfamiliar people. Hence, the argument that cooperative experiences with unfamiliar others foster trust in strangers should apply in particular to participation in social movement activity (Welzel and Delhey 2015). This way of theorizing already received empirical support from WVS data (Delhey and Welzel 2012; Welzel et al. 2005).

Proponents of the *network theory* emphasize the role of social networks, every-day interactions and informal relations. Although there is no doubt that informal ties are an important factor for generalized trust, there is still no consensus whether their impact is conducive or detrimental. While the studies by Banfield (1958), Fukuyama (1995) and Yamagishi (2011) proclaim a negative effect of in-group ties on generalized trust, other studies show mixed and conflicting results. On the one hand, examinations of the WVS and the European Values Study demonstrated a damaging influence of family ties on generalized trust (Alesina and Giuliano 2013; Realo et al. 2008; van Oorschot et al. 2006). On the other hand, panel data and the US, as well as data from some countries that participated in the European Social Survey revealed a trust-generating effect of neighborhood attachment and communication with friends and relatives (Glanville et al. 2013; Li 2005; Lolle and Torpe 2011; van der Veld and Saris 2012).

It is worth noting that Delhey and Newton (2003) use the label "network" in a slightly different way than it is usually used in modern social network analysis (SNA). In order to avoid terminological vagueness and ambiguity, we will adopt the term "informal relations theory" throughout the remainder of the manuscript.

Community theory focuses on the characteristics of local communities, such as the size of the city, population density or community safety (Delhey and Newton 2003). However, this type of determinants has not been the focus of social capital studies. Therefore, existing evidence is insufficient. Soroka et al. (2007) and Rahn et al. (2009) found that population density added nothing to generalized trust in Canada and the USA. At the same

time, Rahn et al. (2009) showed that population size negatively affected generalized trust. Van der Veld and Saris (2012) discovered a similar effect in Italy, the Netherlands, Portugal and Slovenia. Conversely, this effect was positive in Finland, Poland, Slovenia and Switzerland, whereas it was insignificant in a number of other European countries (Delhey and Newton 2003; van der Veld and Saris 2012). The impact of perceived safety is also inconsistent and country-specific. According to Delhey and Newton (2003), in Slovenia, Hungary, East Germany and Switzerland people who felt unsafe walking at night had less trust in strangers, although in Spain, West Germany and South Korea, insecure surroundings did not deter generalized trust.

The *Societal conditions theory* concentrates on the macro-level. Delhey and Newton (2003) measured these characteristics through subjective perceptions of country characteristics and concluded that societal theory was one of strongest predictors, but again its influence was not uniform. According to their study, perceived social conflicts between different groups (e.g. rich and poor, management and workers, national and immigrants) negatively influenced generalized trust in five out of seven countries. At the same time, a number of local and cross-cultural studies exhibited a robust positive link between institutional and generalized trust (Allum et al. 2010; Brehm and Rahn 1997; Freitag 2003; Freitag and Traunmüller 2009; Newton and Zmerli 2011; Robbins 2011, 2012; Rothstein and Stolle 2008; van Oorschot et al. 2006). To avoid misunderstanding and confusion with objective characteristics of a society we will use the notation *Perceived societal conditions theory* throughout the manuscript.

2.2 Country-Level Determinants of Generalized Trust

The influence of objective but not perceived macro-conditions can be captured in two ways. The first one is most commonly used when modeling aggregate data, the second deals with moderating effect of social context on individual level determinants. The first approach has become extremely popular after emerging huge cross-cultural surveys and data banks containing objective statistic. One of the most consistent findings in this context is that a country's economic development elevates the mean trust level among the people living in this country (Beugelsdijk et al. 2004; Delhey and Newton 2005; Knack and Keefer 1997; Zak and Knack 2001; Whiteley 2000). The same holds true for democratic institutions and features of impartial, non-corrupt governance (Delhey and Newton 2005; Delhey and Welzel 2012; Uslaner 2013).

By contrast, a post-communist legacy and Muslim traditions have been found to depress the mean trust level in a country (Bjørnskov 2007; Uslaner 2013; Whiteley 2000). As concerns social divisions, such as economic inequality and ethnic fractionalization, some studies detect a negative influence (Delhey and Newton 2005; Uslaner 2013), while others find little evidence for such a negative influence under proper controls (Gesthuizen et al. 2009; Welzel and Delhey 2015). Among country-level aggregations of individual-level orientations, individualistic, postmaterialistic and emancipative value orientations have received the most attention. Findings show consistently that, when these types of values are more widespread in a country, people's mean trust level is higher (Allik and Realo 2004; Inglehart and Welzel 2005; Delhey and Welzel 2012; Welzel and Delhey 2015; Welzel 2013).

The second approach follows the idea of embeddedness of any micro phenomenon in macro-conditions. It overcomes atomistic and individualistic fallacies of one-level methodology and allows to investigate how societal factors shape the dependences at the lower level. This approach is becoming more and more popular due to development of hierarchical regression modeling with cross-level interactions. Unfortunately, this type of

research is not so common in trust studies. To the best of our knowledge, among about a dozen of papers, applying hierarchical regression modeling only few of them follows this logic. However, even these few papers demonstrated that mixed and inconsistent results on the determinants of generalized trust described in the previous section do indeed might be explain by moderating effect of country conditions.

For instance, Sarracino (2013) finds that economic development at the country level activates the effect of subjective well-being on trust at the individual level. Likewise, Freitag and Buhlmann (2009) show that income equality at the country level activates the effect of subjective well-being on trust at the individual level. In the same vein, the link between membership activity and trust is closer in countries with lower levels of economic inequality (Park and Subramanian 2012). The same holds true for countries where property protection is more strongly institutionalized (Robbins 2011) and where electoral system strengthen power sharing (Freitag and Buhlmann 2009).

The relations between different types of trust are also conditioned by societal factors. Ethnic fractionalization, a democratic tradition, rule of law and other indicators of "good" governance at the country level activate positive effects of both particularized and institutional trust on generalized trust at the individual level (Newton and Zmerli 2011). Moreover, Welzel and Delhey (2015) find the most powerful moderator evidence with respect to trust so far: human empowerment at country level activates a positive effect of in-group on out-group trust at the individual level.

2.3 Human Empowerment as Country-Level Moderator

Based on his theory of emancipation, Welzel (2013) treats "human empowerment" as the main theme of modernization and the integrating core in improving existential, psychological and institutional conditions of human existence. Thus, human empowerment is a multi-domain concept. In the domain of existential conditions, human empowerment advances when increasing action resources enhance people's capabilities to exercise freedoms. In the domain of psychological orientations, human empowerment proceeds when spreading emancipative values motivate people to exercise freedoms. In the domain of institutional regulations, human empowerment continues when expanding civic entitlements provide guarantees to exercise freedoms (Welzel 2013).

We focus on human empowerment as a single, compact moderator for two reasons. First, as Welzel and Delhey (2015) demonstrate, the various manifestations consistently belong to the most powerful predictors of generalized trust at the country level. Its three elements create a favorable climate for generating and expanding generalized trust. Material or economic development reduce poverty, brings the feeling of existential security and diminish tension and competition over scant resources in a society. Growing level of education and access to information (intellectual and connective dimensions) along with occupational specialization weaken close in-group relations based on kinship and replace them by out-group connections (Inglehart and Welzel 2005).

Emancipative values stressing the importance of personal autonomy, lifestyle tolerance, gender equality and civic rights promote prosocial behavior and generate moral atmosphere nurturing trust in strangers. Indeed, Uslaner (2002: 1) supporting the idea of moral foundations of trust notes that "Strangers may look different from us, they may have different ideologies or religions. But we believe that there is an underlying commonality of values. So it is not so risky to place faith in others". Finally, well-functioning democratic institutions emerging as empowerment evolves prevent opportunistic actions, protect citizens' rights and guarantee their equal distribution for all groups in a society including

minorities (Freitag and Buhlmann 2009; Robbins 2011; Rothstein and Stolle 2008; Welzel 2013).

Second, the single manifestations of human empowerment all operate in the same direction in this respect and do so at roughly similar strength. Accordingly, factor analysis shows that the common theme of human empowerment merges its components into a single dimension of exceptional coherence. Hence, it is perfectly appropriate to summarize the three partial dimensions into a single encompassing measure of human empowerment and treat it as the indicator of overall country-level development. Though it is possible to study the influence of each dimension separately, we are mostly interested in the general impact of empowerment. Treating it as the main contextual factor might shed an additional light not only on the mixed and inconclusive results obtained from different cross-national samples but also yield fruitful insights on the theoretical definition and conceptualization of generalized trust.

In what way should human empowerment at the country level moderate individual-level trust promoters? From the personality perspective, trust derives from a person's inherent predisposition to trust. Since predispositional traits are inherent to a given person, they represent the least contextually dependent trust promoter. Hence, with respect to trust-promoting personality traits (e.g., intelligence, optimism, self-control, extraversion), we expect human empowerment to exert no or only a weak moderation effect.

Success and well-being perspective links trust to life experiences. Successful individuals occupying privileged positions usually have more resources and thus more likely to take risk of trusting strangers. Those who are surviving or suffering from traumatic events tend to avoid risk and choose distrust. Consequently, it is reasonable to expect that personal resources are more important in the countries with low human empowerment since economic prosperity, effective institutions and emancipative values, should compensate individual harsh conditions. Therefore, success and well-being should be more closely connected to trust in less developed societies.

Likewise, one could expect this compensating effect in relation to the negative attitudes towards macro context and community characteristics. Consequently, human empowerment should decrease the influence of perceived societal conditions theory and community theory on generalized trust.

Voluntary organization theory assigning the role of "schools of trust" to civic associations gained only limited support. Van Ingen and Bekkers (2015) put forward the hypothesis that trust and membership simultaneously belong to the same "social syndrome" which is determined by prosocial values. Following this logic, such value orientations should absorb the influence of civic participation on generalized trust. Moreover, due to cross-fertilization the impact of values should be greater in the countries with high level of human empowerment. Welzel defining cross-fertilization as the "amplification of a personal attribute's inherent impulse through the attribute's prevalence in the respective society" (2013: p. 9) detected such effect while studying the influence of individual emancipative values on generalized trust (Welzel 2013).

Network theory treats informal relations with the circle of acquaintances as the main source of generating trust in strangers. Since human empowerment leads to the diversification of human interactions, the possibility of learning should be greater and the positive influence of networks should be more salient in developed countries.

3 Data, Variables and Methods

3.1 The Dependent Variable: Trust in Strangers

For several decades, generalized trust has been measured through the classic trust question. Since recently, its validity as a measure of generalized trust has been in serious doubt. Sturgis and Smith (2010) showed that in the UK, 42% of people answering the classic trust question had family, friends and colleagues in mind when thinking of "other people". Delhey et al. (2011, 2014), van Hoorn (2014) as well as Torpe and Lolle (2011) detected significant variation of the trust radius across countries. In many countries, the radius of trust in the classic question, indicates particularized instead of generalized trust.

The second line of criticism emphasizes the two-dimensionality of the classic question. While the first part of the question captures trust, the second one addresses caution instead of distrust. Obviously, trust and caution are not opposite ends on the same dimension; they are not mutually exclusive and may exist simultaneously (Miller and Mitamura 2003). By splitting the scale and asking American and Japanese students about trust and caution separately, Miller and Mitamura (2003) demonstrated that (a) these measures did indeed belong to different dimensions and (b) that Americans were more trusting, but at the same time more cautious, whereas Japanese were less trusting and less cautious.

Considering all these points, there is a need for a measure of generalized trust that is free from the trust radius and trust-caution issues. The 5th and the 6th rounds of the WVS offer an opportunity to handle this problem, based on the newly invented Welzel-battery on trust. Besides trust in one's family, neighbors and people one knows, the battery includes questions about trust in people of another nationality, people of another religion and "people one meets for the first time". Each of these six groups is addressed separately and supposed to be rated for its trustworthiness to the respondent on four-point scales. Newton and Zmerli (2011) as well as Delhey and Welzel (2012) average the first three items into an overall measure of "in-group trust" and the latter three, accordingly, into an overall measure of "out-group trust". As Welzel and Delhey (2015) argue, the out-group trust measure might be used as a proxy for generalized trust. This procedure is certainly an improvement over the classic trust measure but remains imperfect from a conceptual point of view.

Adding up the three items assumes that they are on a par with respect to the generality of trust. In other words, it is implied that people of a different religion and nationality and strangers in general ("people one meets for the first time") represent equally encompassing domains of otherness. This assumption is questionable, however. While nationality and religion each address an important instance of otherness, it is a clearly specified source. This is not the case with strangers because the source of otherness remains unspecified and can include literally anything, from gender to class, age or ideological orientation. The otherness of a stranger can, of course, also include religion and nationality. At face value, this catch-all nature of the stranger category brings it as close as a single category can get to the notion of generalized trust: this notion presupposes trust in people irrespective of the specifics of their otherness.

The conceptual distinctiveness of the stranger category is also evident empirically (Almakaeva 2014; Freitag and Bauer 2013). Compared to the other two out-group categories, in most countries from the 5th and 6th rounds of the WVS trust in strangers is uniformly lower.[1]

---

[1] Indeed, only in 2 out 53 countries (Egypt and Vietnam) from the 5th wave and in 5 out 58 countries (Pakistan, Rwanda, Tunisia, Egypt, Yemen) from the 6th wave of the WVS the level of trust in strangers is slightly higher than trust in people of another nationality. Three more countries from the 5th and 3 countries

This suggests that the stranger category represents a more demanding yardstick for judging generalized trust, which is also the reason why it is a better yardstick: generalizing one's trust to all possible kinds of other people is a psychologically challenging task.

3.2 Main Variables at the Individual Level

Our analysis uses data from the 5th and the 6th round of the WVS, conducted in 2005–2008 and in 2010–2014. In total, we cover 63 countries with a fairly equal representation of all regions of the world. For a detailed country list and descriptive statistics see Table 11 in "Appendix". For those countries, which participated in two rounds simultaneously, we incorporate dataset from the 5th wave. This let us to avoid the problem of time changes between two WVS rounds.

As mentioned above, we consider trust in people that one meets for the first time as the most direct measure of generalized trust and therefore treat it as the main dependent variable. It is measured on a four-point scale from "do not trust at all" to "trust completely". Age, gender and education are introduced as standard demographic controls.

To test the personality perspective, we rely on locus of control (self-control), which is most commonly defined as a belief that a person can control his/her life and events happening around him/her. In order to operationalize the success and well-being perspective, we use financial satisfaction and an additive index of subjective well-being, which combines happiness and life satisfaction.

Unlike the Euromodule surveys, the WVS does not include items on loneliness, number of close friends and frequency of contacts. Therefore, to test the informal relations perspective we adopt a measure of trust in people one knows personally (particularized trust). We see it as a proxy for comfortable and secure relations within the circle of acquaintances.

As an indicator of participation we use "active" membership since it implies more intense interactions with others. However, in addition we calculate the index of overall membership which combines active and passive involvement. We use additive indexes of participation in sport, art, labor, environment, professional and charitable organizations. Due to the large number of missing values, self-support groups and consumer organizations were dropped from the analysis. As another indicator of participation, we use Welzel's (2013) index of social movement activity (petitions, peaceful demonstrations, boycotts).

To test the hypothesis that trust and participation are confounded by a generally prosocial orientation, we include emancipative values, which have prosocial nature (Welzel 2013). These values combine an emphasis on sexual choice, gender equality, democratic voice and child autonomy. Table 9 in "Appendix" illustrates how the emancipative values are constructed.

The size of town where a respondent lives represents the local community perspective. Although twelve countries lack this variable, this is the only community indicator available in the 5th and the 6th round of the WVS. Therefore, we test it in the current study.

Footnote 1 continued

from the 6th wave have equal levels for both types. Regarding trust people of another religion, only 3 countries (Bahrain, Tunisia, Yemen) from the WVS6 but not from the WVS5 have higher level than trust in strangers. One country from the WVS5 and 5 countries from the WVS6 have equal shares of respondents trusting in strangers and in people of another religion. In all other countries from the 5th and the 6th wave the level of trust in strangers is significantly lower.

Delhey and Newton (2003) measured the quality of societal conditions through the perception of social conflicts, satisfaction with public safety, satisfaction with democracy and achievement of public goods. Unfortunately, the WVS questionnaire does not ask about these aspects in both rounds. For this reason, we use ethnic tolerance and confidence in institutions (i.e. government, political parties, parliament, police, courts and army) as a proxy for the overall feeling of their effectiveness and absence of tension in a society. In addition we also test the effects of confidence in political (government, political parties and parliament) and judicial (police and courts) institutions separately. All individual-level variables are standardized into a range from minimum 0 to maximum 1.

3.3 Main Variables at the Aggregate Level

To measure human empowerment we use Welzel's (2013) additive index averaging three dimensions of empowerment: existential, psychological and institutional. The Quality of Government Dataset (Teorell et al. 2011), provides country measures on GDP per capita corrected for purchasing power parity. We use this as our measure of human empowerment in the existential domain. The aggregate country means of emancipative values reflects human empowerment in the psychological domain. To capture the institutional domain of human empowerment, we use the "index of citizen's rights" (Welzel 2013: chapter 8). It combines Freedom House's civil liberties and political rights ratings (2012) with the physical integrity and empowerment rights assessments by the Human Rights Data Project (Cingranelli and Richards 2010). As Welzel (2013) has shown, the citizen rights index is a more valid measure of institutional empowerment than each of its components. All country-level variables are standardized into a range from minimum 0 to maximum 1.

3.4 Methods

We begin with an aggregate analysis that demonstrates the distribution of trust in strangers across countries with different levels of human empowerment and test whether this measure of generalized trust has sufficient variation. Then we proceed to the multilevel regressions with random effects and cross-level interactions, which allow us to examine how human empowerment moderates the individual-level determinants of generalized trust. We use linear models and maximum likelihood estimation.[2] Our multilevel analysis occurs in two steps. We, first, test the six outlined perspectives of generalized trust separately to estimate the predictive power of each approach. Second, we test the significant predictors from each perspective against each other.

3.5 Cross-level Interaction and Calculation of Conditional Effects

In the framework of regression modeling with interaction terms, all independent variables are seen as functions of a moderator, therefore, slope coefficients and standard errors depend on the specific value of the moderator (Brambor et al. 2005; Jaccard and Turissi 2003). As Brambor et al. (2005) note, in that case the "traditional table of results can only throw a limited light" on the tested hypothesis, since it only *reports the impact of the independent variable when the moderator is equal to zero* (Brambor et al. 2005: 72). Although a common way to solve this problem in hierarchical modeling with cross-level

---

[2] We also tested ordered models but they demonstrated similar effects. Since linear models have more straightforward interpretation we are using them throughout the manuscript.

interaction terms is grand mean centering we are not following this approach for two reasons. First, grand mean centering provides slope coefficients and standard errors only for the country with an average level of human empowerment, which might be inexistent in the sample. Second, though it is possible to calculate slopes for countries with different levels of human empowerment manually, we do not have enough information to calculate standard errors (Brambor et al. 2005).

To overcome these difficulties, we need to calculate conditional effects or, in technical terms, to get zero scores for different levels of human empowerment and retest the model several times. In our setting, there are 63 countries with 63 different scores in human empowerment, so one should test 63 models. But to retain oversight, we simplify the test and concentrate on the low, high and middle levels. To obtain conditional effects for these three levels, we followed the recommendations of Jaccard and Turissi (2003) and Brambor et al. (2005) and subtracted the lowest, middle and the highest values of human empowerment from the human empowerment scale. We received three new variables. The first one has a zero point equal to the country at the lowest human empowerment (Yemen); the second one has a zero point equal to the country at the middle level of human empowerment (Romania); the third one has a zero point equal the country at the highest level of human empowerment (Norway). Then we estimated all models using these variables. The interaction effects remained the same but slope coefficients and standard errors clearly reflected the impact of the six trust perspectives at different levels of human empowerment (see Tables 1, 2, 3, 4, 5, 6, 7). All calculations are done with HLM 7.01.

4 Results

Figure 1 plots the distribution of trust in strangers across nations with different levels of human empowerment. In general, the linkage looks similar to Welzel and Delhey's (2015) index of out-group trust, where higher levels of human empowerment are associated with more out-group trust. However, in contrast to these authors, we find the relation between trust in strangers and human empowerment to be non-linear. While the linear model explains about 30% of the country-level variation, the quadratic model adds extra 15% to the R^2. Therefore, trust in strangers provides more valid evidence at the country level since the out-group trust index obscures the non-linear nature of relations between generalized trust and human empowerment.

The second important finding is that Fig. 1 demonstrates significant cross-country variation in trust in strangers. Indeed, the intra-class correlation coefficient shows that the country-level variation accounts for a highly significant 11% of the total variation of trust in strangers. Hence, there is a need for multilevel modeling.

Tables 1, 2, 3, 4, 5 and 6 test each of the six trust perspectives separately while Table 7 tests the significant predictors from all six perspectives simultaneously.

Table 1 shows that, along with human empowerment and socio-demographic controls, the personality model explains 4.8% of the variation in trust in strangers at the individual level and 34.9% at the country level. Contrary to expectations, locus of control is *not* a universal factor explaining generalized trust. It becomes insignificant in societies where human empowerment is low, but does rather well at its middle and highest stage. However, this positive influence is not robust and disappears in the simultaneous estimation of determinants from all trust theories (see Table 7). Consequently, we can suspect the mediating effect meaning that under middle and high empowerment locus of control
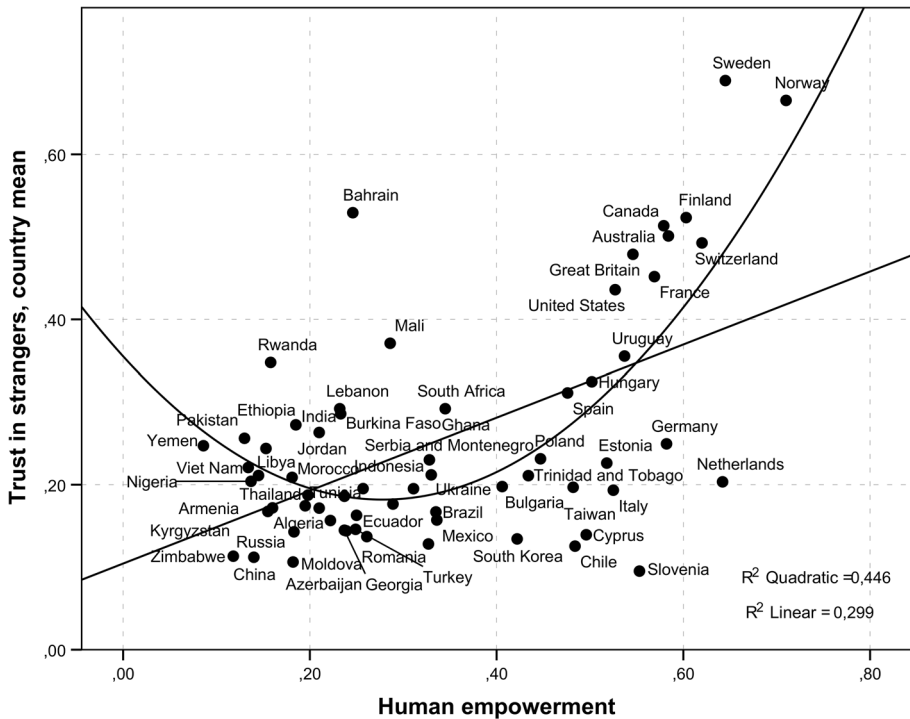
Fig. 1 Human empowerment and trust in strangers [data from the 5th and the 6th round of the World Values Survey (created with SPSS 22)]

generates attitudes promoting trust in strangers. In our case, the positive impact of locus of control is mostly absorbed by two variables—particularized trust and subjective well-being.[3] This leads us to the conclusion that in countries with lagging development social conditions do not allow to mobilize internal locus of control into specific activities resulting in the increase of subjective well-being and particularized trust.

The success and well-being model accounts for 5.4% of the variance at the individual-level and about 36.1% at the country-level (see Table 2). The compensation hypothesis is partly confirmed. It works in the suggested direction but only with respect to financial satisfaction: satisfaction with one's finances contributes to higher generalized trust in societies at low and middle levels of empowerment but it has no impact in highly developed countries (see Table 7). At the same time, subjective well-being shows the opposite pattern: it fosters trust at middle and high levels of human empowerment. These findings indicate that satisfaction with basic human needs is a necessary but not a sufficient condition to build trust in strangers. Since in developed societies existential security and economic prosperity are taken for granted, other life domains come to the fore and playing a more important role as trust facilitators.

To test the validity of the conclusions for the success and well-being theory, we included a measure of material welfare—household income in deciles. Unfortunately, the

---

[3] After dropping trust in known people and subjective well-being from final multi-level model, locus of control became significant at the 0.05 level in countries with middle level of human empowerment and at the 0.001 level in countries with high level of empowerment.

Table 1 Linear multilevel regression with trust in strangers as a dependent variable and locus of control from personality theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.27 (0.02)***	0.23 (0.01)***	0.16 (0.03)***
Country level			
Human empowerment		−0.17 (0.07)**	
Individual level			
Locus of control	0.01 (0.02)	0.04 (0.010)***	0.09 (0.02)***
Male	0.01 (0.004)**	0.01 (0.002)***	0.01 (0.01)**
Age	0.01 (0.02)	0.08 (0.01)***	0.19 (0.06)***
Education	−0.05 (0.05)***	0.04 (0.019)***	0.18 (0.04)***
Cross-level interaction with human empowerment			
× Locus of control		0.12 (0.05)**	
× Male		−0.01 (0.01)	
× Age		0.28 (0.06)***	
× Education		0.36 (0.05)***	
Explained variance at the individual level		4.8%	
Explained variance at the country level		34.9%	
N of respondents		81,679	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

capacities of WVS data for measuring objective income are quite limited and income in deciles is the only available indicator. Moreover, only 14 out of 63 countries have data on national specific intervals for each decile. The lack of such information prevents researchers from adjusting household income to purchasing power parity, which would have been a better solution for cross-cultural analysis compared to simple income deciles.

In general, income has a positive influence on trust in strangers across all countries. However, it is not robust. In countries with low and high empowerment it is at the threshold of statistical significance (see Table 11 in "Appendix") and totally disappears in the full model (see Table 13 in "Appendix"). The reason for such instability is the absorbing impact of financial satisfaction. If we exclude financial satisfaction from the success and well-being model (see Table 12 in "Appendix") real income gains higher level of significance.[4] This result seems reasonable since financial satisfaction includes individual's perceptions of living standards and income hierarchy in a given her society and from this point of view is more relevant than an objective measure of welfare. Indeed, adding income in deciles adds nothing to the explained variance at the individual level and very little to the explained variance at the country level.

---

[4] We also tested models with group-centered income which take into account the average decile for each country but the models demonstrated almost identical results.

Table 2 Linear multilevel regression with strangers as a dependent variable and variables from the success and well-being theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.25 (0.02)***	0.20 (0.01)***	0.11 (0.03)***
Country level			
Human empowerment		−0.22 (0.07)**	
Individual level			
Subjective well-being	−0.002 (0.02)	0.05 (0.01)***	0.14 (0.02)***
Financial satisfaction	0.05 (0.02)***	0.05 (0.01)***	0.04 (0.02)**
Male	0.01 (0.004)***	0.011 (0.002)***	0.005 (0.005)
Age	0.02 (0.02)	0.08 (0.01)***	0.18 (0.03)***
Education	−0.05 (0.01)***	0.03 (0.01)***	0.17 (0.02)***
Cross-level interaction with human empowerment			
× Subjective well-being		0.22 (0.04)***	
× Financial satisfaction		−0.02 (0.04)	
× Male		−0.01 (0.01)	
× Age		0.26 (0.06)***	
× Education		0.35 (0.05)***	
Explained variance at the individual level		5.4%	
Explained variance at the country level		36.1%	
N of respondents		82,562	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

The active membership model explains 7.0% of individual-level and 44.1% of the country-level variance (see Table 3). We see that emancipative values, active membership[5] and social movement activities boost trust in strangers in societies at high and medium levels of human empowerment (see Table 7). By the way, a measure which combines active and passive membership works in the same way as the index of active civic engagement did (see Table 15 in the "Appendix"). At any rate, the idea that values fully absorb the trust effect of civic engagement is disconfirmed.

The community model explains 5.5% of the individual-level and 31.4% of the country-level variation. As Table 4 demonstrates, living in large cities has a detrimental but inconsistent influence on generalized trust. It is significant only in societies at the medium level of human empowerment and even then this effect disappears in the full model (see Table 14 in the "Appendix"). In addition, twelve countries lack this variable. For these two reasons, we did not include this predictor in the model from Table 7.

The informal relations model gives the best results. This model explains, respectively, 16.1 and 54.3% of variation at the individual and country-level (see Table 5). Contrary to

---

[5] In addition, we estimated models using active and inactive membership as a single category and got similar results.

Table 3 Linear multilevel regression with trust in strangers as a dependent variable and variables from the voluntary organization theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.28 (0.02)***	0.21 (0.01)***	0.11 (0.03)***
Country level			
Human empowerment		−0.27 (0.07)***	
Individual level			
Active membership	0.04 (0.03)	0.06 (0.01)***	0.09 (0.02)***
Social movement activity	0.00 (0.01)	0.02 (0.01)**	0.04 (0.01)***
Emancipative values	0.03 (0.03)	0.08 (0.02)***	0.17 (0.03)***
Male	0.01 (0.003)***	0.01 (0.002)***	0.01 (0.004)[†]
Age	0.004 (0.02)	0.09 (0.01)***	0.21 (0.03)***
Education	−0.04 (0.01)**	0.02 (0.01)***	0.13 (0.02)***
Cross-level interaction with human empowerment			
× Active membership		0.09 (0.07)	
× Social movement activity		0.07 (0.03)*	
× Emancipative values		0.22 (0.09)*	
× Male		−0.002 (0.01)	
× Age		0.34 (0.06)***	
× Education		0.27 (0.04)***	
Explained variance at the individual level		7.0%	
Explained variance at the country level		44.1%	
N of respondents		77,918	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

our hypothesis, human empowerment does not reinforce the role of informal relations. Though particularized trust (trust in known people) is not the best indicator of informal relations, it is necessary to incorporate it in the analysis due to several arguments.

First, the 5th and the 6th waves of the WVS do not include any better indicator of informal ties. Second, the positive link between trust in a circle of acquaintances and generalized trust found in a number of studies, demonstrates that successful relationships with known persons can be generalized to unknown ones. Moreover, trust in known people is a precondition for generalized trust since the former does not exist without the latter (Delhey and Welzel 2012; Freitag and Traunmüller 2009; Glanville and Paxton 2007; Newton and Zmerli 2011). Third, Welzel and Delhey (2015) argue that in the modern world, where a great proportion of daily interactions occur between unfamiliar people, this kind of generalized trust, which emerges independently of trust in close circle, is of greater importance. Therefore, it is necessary to control the influence of other variables for trust in people one knows personally.

Table 4 Linear multilevel regression with trust in strangers as a dependent variable and town size from the community theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.30 (0.03)***	0.26 (0.02)***	0.20 (0.03)***
Country level			
Human empowerment		−0.16 (0.09)[†]	
Individual level			
Town size	−0.03 (0.02)	−0.02 (0.01)[†]	−0.004 (0.02)
Male	0.01 (0.003)***	0.01 (0.002)***	0.01 (0.01)
Age	0.004 (0.02)	0.08 (0.01)***	0.20 (0.04)***
Education	−0.06 (0.01)***	0.04 (0.01)***	0.20 (0.02)***
Cross-level interaction with human empowerment			
× Town size		0.04 (0.06)	
× Male		−0.005 (0.01)	
× Age		0.31 (0.08)***	
× Education		0.41 (0.05)***	
Explained variance at the individual level		5.5%	
Explained variance at the country level		31.4%	
N of respondents		66,512	
N of countries		51	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Contrary to the current study, Welzel and Delhey's findings are in accordance with the hypothesis suggesting the amplifying effect of human empowerment on the link between informal relations and trust in strangers. This inconsistency is the result of different specifications of trust. As mentioned in the Sect. 2.1, Welzel and Delhey created an index of out-group trust that covers trust in strangers together with trust in people of another nationality and trust in people of another religion. Likewise, to capture in-group trust, they summarized trust in family, neighbors and known people. Similar to the traditional trust question asking about trust in most people, we could suspect that the notion of "neighbors" is also affected by the radius problem. The meaning of "neighbors" is changing depending on the level of development. While in developing countries neighbors are more often relatives and acquaintances, in developed countries they are more likely to include unknown people. There is an evidence supporting this idea. If we include Welzel and Delhey's indexes of out-group and in-group trust in the final model of Table 7 we see a significant activation effect of human empowerment.

The perceived societal conditions model explains 7.7% of the individual-level variance and 45.5% of country-level variance (see Table 6). Similarly to trust in known people, confidence in institutions is significant in all countries. Models with confidence in political and justice institutions show the same pattern (see Tables 16, 17 in the "Appendix"). Nonetheless, this model contradicts our hypotheses: human empowerment does not

Table 5 Linear multilevel regression with trust in strangers as a dependent variable and trust in known people from the informal relations theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.10 (0.02)***	0.05 (0.01)***	−0.03 (0.02)
Country level			
Human empowerment		−0.22 (0.06)***	
Individual level			
Trust in known people	0.31 (0.02)***	0.33 (0.01)***	0.37 (0.02)***
Male	0.01 (0.003)*	0.01 (0.001)***	0.01 (0.005)*
Age	−0.01 (0.02)	0.06 (0.01)***	0.17 (0.02)***
Education	−0.04 (0.01)***	0.03 (0.01)***	0.15 (0.02)***
Cross-level interaction with human empowerment			
× Trust in known people		0.10 (0.05)†	
× Male		0.01 (0.01)	
× Age		0.28 (0.06)***	
× Education		0.31 (0.04)***	
Explained variance at the individual level		16.1%	
Explained variance at the country level		54.3%	
N of respondents		83,008	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

mitigate but strengthens the impact of ethnic tolerance and institutional trust (see Tables 5, 6). Personal attitudes and objective macro conditions are not simple reflections of each other and their overlap produces a synergetic impact.

It is worth mentioning that associations between different types of trust (particularized, generalized and institutional) can theoretically indicate their endogenous nature. In other words, they might belong to the same latent factor, which determines their close correlation. At the same time, there is no robust empirical evidence supporting such a suggestion. On the contrary, the scope of existing studies demonstrate that one-dimensional models work rather poorly and all these variables belong to distinct latent constructs (Allum et al. 2010; Delhey et al. 2011; Freitag and Bauer 2013; Uslaner 2002).

Regarding standard controls, it ought to be noted that female gender hinders generalized trust irrespective of societal conditions, although the effect is tiny. Age is significant for the promotion of trust only in countries at high and medium levels of human empowerment. Unlike most previous studies (see for example, Delhey and Welzel 2012; Helliwell and Putnam 2007; Newton and Zmerli 2011; Park and Subramanian 2012; Robbins 2011; van der Veld and Saris 2012), we find that educational achievement has no uniform effect on generalized trust. It is negative in countries at low levels of human empowerment and positive in countries at high levels. This finding correspond with Buzasi's (2015) study, showing a negative trust effect of education in Africa.

Table 6 Linear multilevel regression with trust in strangers as a dependent variable and independent variables from the perceived social conditions theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.22 (0.02)***	0.15 (0.01)***	0.03 (0.03)
Country level			
Human empowerment		−0.31 (0.06)***	
Individual level			
Confidence in institutions	0.13 (0.02)***	0.17 (0.01)***	0.25 (0.02)***
Ethnic tolerance	−0.01 (0.01)	0.03 (0.01)***	0.10 (0.02)***
Male	0.01 (0.003)***	0.01 (0.001)***	0.01 (0.01)
Age	0.001 (0.02)	0.07 (0.01)***	0.18 (0.03)***
Education	−0.04 (0.01)***	0.04 (0.01)***	0.17 (0.02)***
Cross-level interaction with human empowerment			
× Confidence in institutions		0.20 (0.05)***	
× Ethnic tolerance		0.18 (0.04)***	
× Male		−0.005 (0.01)	
× Age		0.28 (0.07)***	
× Education		0.32 (0.04)***	
Explained variance at the individual level		7.7%	
Explained variance at the country level		45.5%	
N of respondents		82,664	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

As a robustness check for the trust in unknown people as an indicator of generalized trust, we replicated the model in Table 7 with Delhey and Welzel's out-group trust index (see Table 18 in the "Appendix"). This replacement led to several changes. First, it resulted in a significant impact of emancipative values in the countries with a low level of human empowerment. This is not surprising as emancipative values include tolerance towards different life styles (abortion, divorce, homosexuality) which, in turn, closely correlates with ethnic and religious tolerance. Second, the detrimental impact of education was absorbed while the influence of subjective well-being, on the contrary, became negative. This negative effect is not stable and crosses the threshold of the 0.05 significance level but quite unexpected. Third, the explained variance of the model with out-group trust index as the dependent variable at the individual level is higher than in the model with trust in strangers as the dependent variable (see Table 7). These multi-level findings combined with country-level evidence on non-linear relations between trust in strangers and human empowerment support the idea put forward in Sect. 2.1 that trust in strangers is a more valid measure of generalized trust because it is harder to increase than is trust in people of another nationality or religion.

Table 7 Linear multilevel regression with trust in strangers as a dependent variable and significant variables from all theories (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.07 (0.02)***	−0.06 (0.01)***	−0.27 (0.03)***
Country level			
Human empowerment		−0.56 (0.08)***	
Individual level			
Locus of control	−0.01 (0.01)	0.002 (0.01)	0.02 (0.02)
Subjective well-being	−0.01 (0.01)	0.01 (0.005)**	0.05 (0.01)***
Financial satisfaction	0.03 (0.01)**	0.03 (0.01)***	0.01 (0.01)
Active membership	0.01 (0.02)	0.03 (0.01)**	0.05 (0.02)**
Social movement activity	0.01 (0.01)	0.01 (0.006)*	0.05 (0.01)***
Emancipative values	0.06 (0.03)	0.01 (0.01)***	0.15 (0.30)***
Trust in known people	0.30 (0.02)***	0.30 (0.01)***	0.31 (0.02)***
Confidence in institutions	0.07 (0.02)***	0.12 (0.01)***	0.19 (0.01)***
Ethnic tolerance	−0.01 (0.01)	0.02 (0.005)**	0.05 (0.01)***
Male	0.01 (0.003)**	0.10 (0.002)***	0.02 (0.005)***
Age	−0.01 (0.02)	0.06 (0.01)***	0.19 (0.02)***
Education	−0.03 (0.01)**	0.01 (0.006)*	0.08 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.04 (0.04)	
× Subjective well-being		0.09 (0.03)***	
× Financial satisfaction		−0.04 (0.01)	
× Active membership		0.06 (0.06)	
× Social movement activity		0.08 (0.04)**	
× Emancipative values		0.15 (0.08)**	
× Trust in known people		0.02 (0.06)	
× Confidence in institutions		0.19 (0.04)***	
× Ethnic tolerance		0.10 (0.03)***	
× Male		0.01 (0.01)	
× Age		0.32 (0.06)***	
× Education		0.18 (0.04)***	
Explained variance at the individual level		19.1%	
Explained variance at the country level		62.8%	
N of respondents		75,668	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

5 Conclusion and Discussion

Previous studies demonstrated mixed and inconclusive results on the possible determinants of generalized trust. Arguing that this inconsistency might be rooted in the underestimated influence of social context and improper measurement of generalized trust, we are filling these gaps by incorporating (a) six groups of determinants suggested by Delhey and Newton; (b) a multilevel approach with human empowerment as the country-level moderator; and (c) trust in people one meets for the first time as the best proxy for generalized trust.

Welzel (2013) sees human empowerment as a multi-domain process resulting in rising freedom which he defines as the capability, motivation and entitlement of people to pursue a purpose of their choice (Welzel 2013). Human empowerment covers three major dimensions of social modernization: existential, psychological and institutional. Putting all together, they create favorable conditions in terms of economic prosperity and existential security, commonality of prosocial values, impartial institutions which protect citizens' rights and guarantee their equal distributions. Welzel and Delhey's (2015) recent article reveals that human empowerment works as the most powerful force for generalized trust at the country level.

Following Welzel and Delhey we treat human empowerment as an encompassing measure of overall country-level development. Therefore, in the current study we are not focusing at the distinct dimensions but are mostly interested in their joint contextual impact. Our analysis reveals that, at the country-level, trust in strangers and human empowerment are positively associated with each other. Nevertheless, in contrast to Welzel and Delhey's study, we detect a non-linear dependence. Generalized trust does not arise immediately with every point of advancement in human empowerment but only once it crosses the threshold at which it becomes a prevalent social condition. Only then it fuels generalized trust but then increasingly so, yielding increasing marginal returns.

Multi-level regression modeling confirms this suggestion demonstrating that human empowerment does so by activating the interlink between generalized trust, subjective well-being, civic participation, emancipative values, ethnic tolerance, and education. Indeed, these factors turn out to be statistically significant after human empowerment crosses the threshold to the medium level. At its highest level, these links are even stronger.

Particularized and institutional trust, informal relations, and positively perceived social conditions seem to be prerequisites for trust in strangers. Moreover, favorable social conditions reinforce the impact of institutional trust. Locus of control is also an important contributor to generalized trust, but its influence is indirect. In countries at medium and high levels of human empowerment, locus of control promotes particularized trust and subjective well-being but not generalized trust. Unfortunately, the 5th and the 6th rounds of WVS do not include adequate indicators of other psychological traits.

These results have important theoretical implications. The idea that trust and civic engagement are part of the same "social syndrome", indeed works for developed countries where trust, associational membership and emancipative values are correlated with each other. However, even after controlling for prosocial orientations, civic participation in associations and non-institutional forms of protest still keep their significance. This findings corroborates the hypothesis of Wollebæk and Selle who suggest that voluntary organizations do not produce trust but instead "provide individuals with a democratic infrastructure, which can be activated when needed" and in this way sustain generalized

trust (Wollebæk and Selle 2007: 1). Therefore, we can conclude that in societies at medium and high levels of human empowerment we face a specific type of trust which comes close to a "civic virtue" and "moral value".

To this extent, our evidence supports the idea of moralistic trust proposed by Uslaner (2002). At the same time, the idea has its limitations. Along with communal values, Uslaner links trust to optimism, well-being and internal locus of control and sees it as a predisposition which is slowly modified by life experiences. The current study confirms the importance of well-being and values but demonstrates that this link is activated by medium to high levels of human empowerment.

By contrast, in societies with lagging empowerment trust in strangers is rooted in financial satisfaction and lacking education. This unexpected effect of education can be partly explained by seeing trust as a form of social intelligence. According to Yamagishi (2011), trusting people is not naive or gullible because trust reflects the ability to differentiate between trustworthy and untrustworthy people. Accordingly, Hooghe et al. (2012) show for the Netherlands that cognitive ability, which can be treated as a proxy for social intelligence, mediates more than one-third of the effect of education on trust. Therefore, we can hypothesize that under conditions of economic insecurity and other indications of human disempowerment, education enhances people's ability to recognize the shortcomings of their society, making them more negative and, hence, less likely to express trust.

Summing up, our study demonstrates that the nature of trust in strangers depends on the social context, specifically the level of overall development. The classic understanding of trust in strangers as a civic resource and virtue is appropriate only in the countries which have reached medium to high levels of human empowerment. In countries in which human empowerment lags behind, trust in strangers is a naïve attitude towards benevolence of others. It is important to note that there is an obvious lack of studies conducted in such societies. However, they might shed an additional light on the specific type of generalized trust existing there.

Appendix

See Tables 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18.

Table 8 Individual-level variables

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Generalized trust	Single item	I 'd like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, not very much or not at all? People you meet for the first time	V128	V105	4-point scale from 0 to 1

Table 8 continued

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Locus of control (self-control)	Single item	Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out	V46	V55	10-point scale from 0 to 1
Financial satisfaction	Single item	How satisfied are you with the financial situation of your household?	V68	V59	10-point scale from 0 to 1
Subjective well-being	Additive index	*Happiness*. Taking all things together, would you say you are: Very happy Rather happy Not very happy Not at all happy *Life satisfaction*. All things considered, how satisfied are you with your life as a whole these days?	V10 V22	V10 V23	4-point scale from 0 to 1
Income in deciles	Single item	On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in (Wording in WVS6)	V253	V239	10-point scale from 0 to 1
Trust in known people (particularized trust)	Single item	I 'd like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, not very much or not at all? People you know personally	V127	V104	4-point scale from 0 to 1

Table 8 continued

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Active membership in formal associations	Additive index	Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member or not a member of that type of organization? Sport or recreational organization Art, music or educational organization Labor Union Environmental organization Professional association Humanitarian or charitable organization	V25 V26 V27 V29 V30 V31	V26 V27 V28 V30 V31 V32	Dummy 1—if a person is an active member 0—if a person not a member or a passive member
Overall membership in associations	Additive index	Now I am going to read off a list of voluntary organizations. For each one, could you tell me whether you are an active member, an inactive member or not a member of that type of organization? Sport or recreational organization Art, music or educational organization Labor Union Environmental organization Professional association Humanitarian or charitable organization	V25 V26 V27 V29 V30 V31	V26 V27 V28 V30 V31 V32	3-point scale 1—if a person is an active member 0.5—if a person passive member 0—if a person not a member
Open-access activities	Additive index	Have you or have you not done any of these activities in the last 5 years? Signing a petition Joining in boycotts Attending peaceful demonstrations	V100 V101 V102	V85 V86 V87	Dummy, 1—if a person participated in any of these activities; 0—if not.

Table 8 continued

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Confidence in different institutions	Additive index	I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? The armed forces The police The courts The government (in your nation's capital) Political parties Parliament	V132 V136 V137 V138 V139 V140	V109 V113 V114 V115 V116 V117	4-point scale from 0 to 1
Confidence in political institutions	Additive index	I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? The government (in your nation's capital) Political parties Parliament	V138 V139 V140	V115 V116 V117	4-point scale from 0 to 1
Confidence in justice institutions	Additive index	I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? The police The courts	V136 V137	V113 V114	4-point scale from 0 to 1
Tolerance towards people of different origin	Additive index	On this list are various groups of people. Could you please mention any that you would not like to have as neighbours? People of a different race Immigrants/foreign workers People of a different religion People who speak a different language	V35 V37 V39 V42	V37 V39 V41 V44	Dummy, 0— mentioned, 1— not mentioned
Town size	Single question	No specific wording, coding respondent by the actual size of the town	V255	V253	8-point scale from 0 to 1

Table 8 continued

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Age	Single question	You are _____years old	V237	V242	Normalized from 0.15 to 0.98
Gender	Single question	No specific wording, coding respondent's sex by observation	V235	V240	1-female, 0-male
Education	Single item	What is the highest educational level that you have attained?	V238	V248	9-point scale from 0 to 1

Table 9 Operationalization of emancipative values. *Source* Welzel (2013)

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
Personal autonomy	Additive index	Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Independence, Imagination Obedience	V12 V15 V21	V12 V15 V21	Dummy, 1—mentioned, 0—not mentioned (for Independence and Imagination) Dummy, 0—mentioned, 1—not mentioned (for Obedience)
Lifestyle tolerance	Additive index	Please tell me for each of the following actions whether you think it can always be justified, never be justified, or something in between Homosexuality Prostitution Abortion Divorce	V202 V203 V204 V205	V203 V203A V204 V205	10-point scale from 0 to 1
Gender equality	Additive index	For each of the following statements I read out, can you tell me how strongly you agree or disagree with each On the whole, men make better political leaders than women do A university education is more important for a boy than for a girl When jobs are scarce, men should have more right to a job than women	V61 V62 V44	V51 V52 V45	4-point scale from 0 to 1 3-point scale from

Table 9 continued

Variables	Type	Wording	Question in WVS5	Question in WVS6	Scale
People's voice	Additive index of Priority on People's National Say	You had to choose, which one of the things on this card would you say is most important? And which would be the next most important? Choice of "Giving people more say in important government decisions" item	V71 V72	V62 V63	3-point scale from 0 (absence of choice) to 1 (first choice)
	Additive index of Priority on Protecting Freedom of Speech	You had to choose, which one of the things on this card would you say is most important? And which would be the next most important? Choice of "Protecting freedom of speech" item	V71 V72	V62 V63	3-point scale from 0 (absence of choice) to 1 (first choice)
	Additive index of Priority on People's Local Say	People sometimes talk about what the aims of this country should be for the next 10 years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? And which would be the next most important? Choice of "Seeing that people have more say about how things are done at their jobs and in their communities" item	V69	V60	3-point scale from 0 (absence of choice) to 1 (first choice)

Table 10 Descriptive statistics

	Valid	Missing	Mean	SD	Minimum	Maximum
Individual-level variables						
Trust in strangers	84,002	2154	0.32	0.26	0.00	1.00
Locus of control (self-control)	84,103	2053	0.67	0.25	0.00	1.00
Financial satisfaction	85,208	948	0.54	0.28	0.00	1.00
Income in deciles	80,490	5666	0.42	0.25	0	1.00
Income in deciles	21,616	64,540	–	–	–	–
Well-being	86,062	94	0.66	0.22	0.00	1.00
Trust in known people (particularized trust)	85,105	1051	0.66	0.26	0.00	1.00

Table 10 continued

	Valid	Missing	Mean	SD	Minimum	Maximum
Active membership	85,710	446	0.08	0.16	0.00	1.00
Overall membership	85,710	446	0.13	0.2	0.00	1.00
Social movement activity	82,967	3189	0.16	0.27	0.00	1.00
Emancipative values	82,558	3598	0.42	0.18	0.00	1.00
Confidence in institutions	85,215	941	0.49	0.23	0.00	1.00
Confidence in political institutions	83,920	2236	0.43	0.27	0.00	1.00
Confidence in justice institutions	82,802	3354	0.52	0.31	0.00	1.00
Ethnic tolerance	86,059	97	0.80	0.31	0.00	1.00
City size	68,674	17,482	0.53	0.34	0.00	1.00
Age	85,938	218	0.42	0.17	0.15	0.99
Male gender	86,110	46	0.48	0.5	0.00	1.00
Education	85,746	410	0.54	0.31	0.00	1.00

Countries included in the multilevel analysis

Algeria, Azerbaijan, Australia, Bahrain, Armenia, Brazil, Bulgaria, Canada, Chile, China, Taiwan, Cyprus, Ecuador, Ethiopia, Estonia, Finland, France, Georgia, Germany, Ghana, Hungary, India, Indonesia, Italy, Kazakhstan, Jordan, South Korea, Kyrgyzstan, Lebanon, Libya, Malaysia, Mali, Mexico, Moldova, Morocco, Netherlands, Nigeria, Norway, Pakistan, Philippines, Poland, Romania, Russia, Rwanda, Vietnam, Slovenia, South Africa, Zimbabwe, Spain, Sweden, Switzerland, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Great Britain, United States, Burkina Faso, Uruguay, Yemen, Serbia and Montenegro, Zambia

Table 11 Linear multilevel regression with strangers as a dependent variable and variables from the success and well-being theory (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.25 (0.02)***	0.20 (0.01)***	0.11 (0.03)***
Country level			
Human empowerment		−0.22 (0.07)**	
Individual level			
Subjective well-being	−0.01 (0.02)	0.05 (0.01)***	0.14 (0.02)***
Financial satisfaction	0.05 (0.02)***	0.04 (0.01)***	0.03 (0.02)[†]
Income in deciles	0.03 (0.02)[†]	0.03 (0.01)**	0.02 (0,01)[†]
Male	0.01 (0.004)***	0.01 (0.002)***	0.004 (0.006)
Age	0.01 (0.02)	0.08 (0.01)***	0.20 (0.03)***
Education	−0.06 (0.01)***	0.03 (0.01)**	0.16 (0.02)***
Cross-level interaction with human empowerment			
× Subjective well-being		0.24 (0.04)***	
× Financial satisfaction		−0.04 (0.04)	
× Income in deciles		−0.001 (0.04)	
× Male		−0.01 (0.01)	
× Age		0.30 (0.06)***	
× Education		0.34 (0.05)***	

Table 11 continued

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Explained variance at the individual level		5.6%	
Explained variance at the country level		38.2%	
N of respondents		77,686	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 12 Linear multilevel regression with strangers as a dependent variable and variables from the success and well−being theory excluding financial satisfaction (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.25 (0.02)***	0.20 (0.01)***	0.11 (0.03)***
Country level			
Human empowerment		−0.22 (0.07)**	
Individual level			
Subjective well−being	0.02 (0.02)	0.07 (0.01)***	0.15 (0.02)***
Income in deciles	0.04 (0.02)*	0.04 (0.01)**	0.03 (0.01)*
Male	0.01 (0.004)***	0.01 (0.002)***	0.004 (0.006)
Age	0.01 (0.02)	0.08 (0.01)***	0.20 (0.03)***
Education	−0.06 (0.01)***	0.03 (0.01)**	0.16 (0.02)***
Cross-level interaction with human empowerment			
× Subjective well−being		0.22 (0.05)***	
× Income in deciles		−0.01 (0.04)	
× Male		−0.01 (0.01)	
× Age		0.31 (0.07)***	
× Education		0.34 (0.05)***	
Explained variance at the individual level		5.4%	
Explained variance at the country level		37.7%	
N of respondents		78,210	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 13 Linear multilevel regression with trust in strangers as a dependent variable and significant variables from all theories including income in deciles (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.07 (0.02)***	−0.06 (0.01)***	−0.27 (0.03)***
Country level			
Human empowerment		−0.55 (0.08)***	
Individual level			
Locus of control	−0.01 (0.01)	0.002 (0.01)	0.02 (0.02)
Subjective well-being	−0.01 (0.01)	0.01 (0.005)*	0.05 (0.01)***
Financial satisfaction	0.03 (0.01)**	0.02 (0.01)***	0.002 (0.01)
Income in deciles	0.02 (0.01)	0.02 (0.01)*	0.01 (0.01)
Active membership	0.01 (0.02)	0.02 (0.01)**	0.05 (0.02)**
Social movement activity	0.01 (0.01)	0.01 (0.01)*	0.04 (0.01)***
Emancipative values	0.05 (0.03)	0.10 (0.01)***	0.15 (0.30)***
Trust in known people	0.30 (0.02)***	0.30 (0.01)***	0.31 (0.02)***
Confidence in institutions	0.07 (0.02)***	0.12 (0.01)***	0.19 (0.01)***
Ethnic tolerance	−0.01 (0.01)	0.01 (0.005)**	0.05 (0.01)***
Male	0.01 (0.003)**	0.01 (0.002)***	0.01 (0.005)***
Age	−0.01 (0.02)	0.07 (0.01)***	0.19 (0.02)***
Education	−0.03 (0.01)**	0.01 (0.006)	0.08 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.05 (0.04)	
× Subjective well-being		0.10 (0.03)***	
× Financial satisfaction		−0.05 (0.04)	
× Income		−0.003 (0.04)	
× Active membership		0.06 (0.06)	
× Social movement activity		0.08 (0.04)**	
× Emancipative values		0.15 (0.08)**	
× Trust in known people		0.02 (0.05)	
× Confidence in institutions		0.20 (0.04)***	
× Ethnic tolerance		0.10 (0.04)***	
× Male		0.01 (0.01)	
× Age		0.34 (0.06)***	
× Education		0.18 (0.04)***	
Explained variance at the individual level		19.0%	
Explained variance at the country level		63.6%	
N of respondents		71,699	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 14 Linear multilevel regression with trust in strangers as a dependent variable and variables from all theories (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.09 (0.03)***	−0.06 (0.01)***	−0.29 (0.04)***
Country level			
Human empowerment		−0.61 (0.08)***	
Individual level			
Locus of control	−0.01 (0.01)	0.0003 (0.01)	0.01 (0.02)
Subjective well-being	−0.01 (0.01)	0.01 (0.006)*	0.06 (0.01)***
Financial satisfaction	0.03 (0.01)**	0.02 (0.01)*	0.001 (0.02)
Active membership	0.005 (0.02)	0.02 (0.01)*	0.05 (0.03)[†]
Social movement activity	−0.003 (0.01)	0.01 (0.01)*	0.04 (0.01)**
Emancipative values	0.06 (0.03)[†]	0.09 (0.01)***	0.15 (0.04)***
Trust in known people	0.30 (0.02)***	0.30 (0.01)***	0.31 (0.03)***
Town size	−0.02 (0.02)	−0.02 (0.01)	−0.01 (0.02)
Confidence in institutions	0.08 (0.02)***	0.12 (0.01)***	0.19 (0.02)***
Ethnic tolerance	−0.02 (0.01)	0.02 (0.006)**	0.07 (0.02)***
Male	0.01 (0.003)**	0.01 (0.001)***	0.02 (0.005)***
Age	−0.02 (0.02)	0.06 (0.01)***	0.20 (0.03)***
Education	−0.04 (0.01)**	0.06 (0.006) *	0.10 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.03 (0.04)	
× Subjective well-being		0.10 (0.03)***	
× Financial satisfaction		−0.05 (0.04)	
× Active membership		0.07 (0.06)	
× Social movement activity		0.07 (0.04)[†]	
× Emancipative values		0.15 (0.09)	
× Trust in known people		0.002 (0.06)	
× Town size		0.02 (0.05)	
× Confidence in institutions		0.18 (0.05)***	
× Ethnic tolerance		0.13 (0.04)***	
× Male		0.01 (0.01)	
× Age		0.35 (0.07)***	
× Education		0.22 (0.04)***	
Explained variance at the individual level		20.2%	
Explained variance at the country level		59.6%	
N of respondents		60,224	
N of countries		51	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 15 Linear multilevel regression with trust in strangers as a dependent variable and significant variables from all theories (estimation for overall membership in associations)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.07 (0.02)***	−0.06 (0.01)***	−0.27 (0.03)***
Country level			
Human empowerment		−0.55 (0.07)***	
Individual level			
Locus of control	−0.01 (0.01)	0.001 (0.01)	0.02 (0.02)
Subjective well-being	−0.01 (0.01)	0.01 (0.005)*	0.05 (0.01)***
Financial satisfaction	0.03 (0.01)**	0.03 (0.01)***	0.01 (0.01)
Overall membership	0.02 (0.02)	0.03 (0.01)***	0.04 (0.02)*
Social movement activity	−0.01 (0.01)	0.01 (0.0)*	0.05 (0.01)***
Emancipative values	0.05 (0.03)†	0.09 (0.01)***	0.15 (0.03)***
Trust in known people	0.30 (0.02)***	0.30 (0.01)***	0.31 (0.02)***
Confidence in institutions	0.07 (0.02)***	0.12 (0.01)***	0.19 (0.01)***
Ethnic tolerance	−0.01 (0.01)	0.02 (0.006)**	0.05 (0.01)***
Male	0.01 (0.003)**	0.01 (0.001)***	0.02 (0.005)***
Age	−0.01 (0.02)	0.07 (0.01)***	0.19 (0.02)***
Education	−0.03 (0.01)**	0.01 (0.006)†	0.08 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.04 (0.04)	
× Subjective well-being		0.09 (0.03)***	
× Financial satisfaction		−0.03 (0.03)	
× Overall membership		0.03 (0.05)	
× Social movement activity		0.09 (0.04)*	
× Emancipative values		0.15 (0.08)†	
× Trust in known people		0.02 (0.06)	
× Confidence in institutions		0.19 (0.04)***	
× Ethnic tolerance		0.10 (0.03)***	
× Male		0.01 (0.01)	
× Age		0.32 (0.06)***	
× Education		0.18 (0.04)***	
Explained variance at the individual level		19.2%	
Explained variance at the country level		63.5%	
N of respondents		75,668	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 16 Linear multilevel regression with trust in strangers as a dependent variable and significant variables from all theories (estimation for confidence in justice institutions)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.08 (0.02)***	−0.05 (0.01)***	−0.25 (0.03)***
Country level			
Human empowerment		−0.53 (0.08)***	
Individual level			
Locus of control	−0.01 (0.01)	0.003 (0.01)	0.02 (0.02)
Subjective well-being	−0.01 (0.01)	0.02 (0.005)***	0.06 (0.01)***
Financial satisfaction	0.04 (0.01)**	0.03 (0.01)***	0.02 (0.02)
Active membership	0.02 (0.02)	0.03 (0.01)***	0.05 (0.02)**
Social movement activity	−0.01 (0.01)	0.01 (0.01)*	0.05 (0.01)***
Emancipative values	0.05 (0.03)†	0.08 (0.01)***	0.13 (0.03)***
Trust in known people	0.30 (0.02)***	0.31 (0.01)***	0.32 (0.02)***
Confidence in justice institutions	0.04 (0.01)***	0.06 (0.01)***	0.09 (0.02)***
Ethnic tolerance	−0.01 (0.01)	0.02 (0.006)*	0.05 (0.02)***
Male	0.01 (0.003)**	0.01 (0.006)***	0.02 (0.004)***
Age	−0.01 (0.02)	0.07 (0.01)***	0.19 (0.02)***
Education	−0.03 (0.01)**	0.01 (0.007)*	0.08 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.04 (0.04)	
× Subjective well-being		0.10 (0.03)***	
× Financial satisfaction		−0.03 (0.03)	
× Active membership		0.05 (0.06)	
× Social movement activity		0.09 (0.03)**	
× Emancipative values		0.12 (0.08)	
× Trust in known people		0.03 (0.05)	
× Confidence in justice institutions		0.08 (0.03)**	
× Ethnic tolerance		0.10 (0.03)***	
× Male		0.01 (0.01)	
× Age		0.32 (0.06)***	
× Education		0.18 (0.04)***	
Explained variance at the individual level		18.5%	
Explained variance at the country level		61.6%	
N of respondents		75,303	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 17 Linear multilevel regression with trust in strangers as a dependent variable and significant variables from all theories (estimation for confidence in political institutions)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.08 (0.02)***	−0.05 (0.01)***	−0.25 (0.03)***
Country level			
Human empowerment		−0.52 (0.07)***	
Individual level			
Locus of control	−0.01 (0.01)	0.002 (0.01)	0.02 (0.02)
Subjective well-being	−0.01 (0.01)	0.01 (0.005)**	0.05 (0.01)***
Financial satisfaction	0.04 (0.01)**	0.03 (0.01)***	0.01 (0.01)
Active membership	0.01 (0.02)	0.03 (0.01)**	0.05 (0.02)**
Social movement activity	−0.01 (0.01)	0.01 (0.01)*	0.04 (0.01)***
Emancipative values	0.05 (0.03)	0.09 (0.01)***	0.14 (0.03)***
Trust in known people	0.30 (0.02)***	0.31 (0.01)***	0.31 (0.02)***
Confidence in political institutions	0.07 (0.01)***	0.11 (0.01)***	0.17 (0.01)***
Ethnic tolerance	−0.01 (0.01)	0.02 (0.006)**	0.06 (0.01)***
Male	0.01 (0.003)***	0.01 (0.002)***	0.01 (0.004)***
Age	−0.02 (0.02)	0.06 (0.01)***	0.19 (0.02)***
Education	−0.03 (0.01)**	0.01 (0.007)*	0.08 (0.02)***
Cross-level interaction with human empowerment			
× Locus of control		0.04 (0.04)	
× Subjective well-being		0.10 (0.03)***	
× Financial satisfaction		−0.04 (0.03)	
× Active membership		0.05 (0.06)	
× Social movement activity		0.08 (0.04)*	
× Emancipative values		0.14 (0.08)[†]	
× Trust in known people		0.02 (0.05)	
× Confidence in political institutions		0.16 (0.04)***	
× Ethnic tolerance		0.10 (0.03)***	
× Male		0.01 (0.01)	
× Age		0.33 (0.06)***	
× Education		0.18 (0.04)***	
Explained variance at the individual level		19.2%	
Explained variance at the country level		62.8%	
N of respondents		74,978	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

Table 18 Linear multilevel regression with out-group trust index as a dependent variable and significant variables from all theories (conditional effects for different levels of human empowerment)

	Low level of human empowerment	Middle level of human empowerment	High level of human empowerment
Intercept	0.07 (0.03)***	−0.06 (0.01)***	−0.27 (0.03)***
Country level			
Human empowerment		−0.53 (0.08)***	
Individual level			
Locus of control	−0.01 (0.01)	0.003 (0.01)	0.02 (0.01)
Subjective well-being	−0.02 (0.01)[†]	0.01 (0.01)*	0.06 (0.01)***
Financial satisfaction	0.03 (0.01)**	0.02 (0.01)***	0.00 (0.01)
Active membership	0.02 (0.01)	0.03 (0.01)***	0.04 (0.02)**
Social movement activity	0.01 (0.01)	0.02 (0.01)***	0.04 (0.01)***
Emancipative values	0.09 (0.03)**	0.13 (0.01)***	0.18 (0.30)***
Trust in known people	0.30 (0.02)***	0.28 (0.01)***	0.29 (0.02)***
Confidence in institutions	0.06 (0.02)***	0.12 (0.01)***	0.20 (0.02)***
Ethnic tolerance	0.03 (0.02)	0.08 (0.01)***	0.18 (0.03)***
Male	0.01 (0.003)**	0.01 (0.001)***	0.003 (0.003)
Age	0.01 (0.02)	0.07 (0.01)***	0.16 (0.02)***
Education	0.00 (0.01)	0.03 (0.01)***	0.09 (0.01)***
Cross-level interaction with human empowerment			
× Locus of control		0.05 (0.03)	
× Subjective well-being		0.12 (0.03)***	
× Financial satisfaction		−0.05 (0.04)	
× Active membership		0.04 (0.04)	
× Social movement activity		0.05 (0.03)	
× Emancipative values		0.15 (0.08)**	
× Trust in known people		0.03 (0.05)	
× Confidence in institutions		0.22 (0.04)***	
× Ethnic tolerance		0.22 (0.06)***	
× Male		−0.01 (0.01)	
× Age		0.23 (0.05)***	
× Education		0.14 (0.04)***	
Explained variance at the individual level		41.4%	
Explained variance at the country level		50.1%	
N of respondents		71,498	
N of countries		63	

Significance levels: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$. Robust standard errors are in parenthesis. Calculations are done with HLM 7.01

References

Alesina, A., & Giuliano, P. (2013). *Family ties.* Cambridge, MA: National Bureau of Economic Research. No. w18966. http://www.nber.org/papers/w18966.pdf. Accessed 3 December 2014.

Alesina, A., & La Ferrara, E. (2000). *The determinants of trust.* http://www.nber.org/papers/w7621. Accessed 14 November 2014.

Allik, J., & Realo, A. (2004). Individualism-collectivism and social capital. *Journal of Cross-Cultural Psychology, 35*(1), 29–49.

Allum, N., Patulny, R., Read, S., & Sturgis, P. (2010). Re-evaluating the links between social trust, institutional trust and civic association. In J. Stillwell, P. Norman, C. Thomas, & P. Surridge (Eds.), *Spatial and social disparities* (pp. 199–215). Dordrecht: Springer.

Almakaeva, A. (2014). Izmereniye generalizirovannogo (obobshchennogo) doveriya v kross-kulturnykh issledovaniyakh. *Sotsiologicheskiye Issledovaniya, 11,* 32–43.

Banfield, E. C. (1958). *The moral basis of a backward society.* New York: Free Press.

Beugelsdijk, S. (2009). A multilevel approach to social capital. *International Studies of Management and Organization, 39*(2), 65–89.

Beugelsdijk, S., De Groot, H. L., & Van Schaik, A. B. (2004). Trust and economic growth: A robustness analysis. *Oxford Economic Papers, 56*(1), 118–134.

Bjørnskov, C. (2007). Determinants of generalized trust: A cross-country comparison. *Public Choice, 130*(1–2), 1–21.

Bjørnskov, C. (2008). Social capital and happiness in the United States. *Applied Research in Quality of Life, 3*(1), 43–62.

Brambor, T., Clark, W., & Golder, M. (2005). Understanding interaction models: Improving empirical analyses. *Political Analysis, 14*(1), 63–82.

Brehm, J., & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science, 41*(3), 999–1023.

Buzasi, K. (2015). Languages, communication potential and generalized trust in Sub-Saharan Africa: Evidence based on the Afrobarometer Survey. *Social Science Research, 49,* 141–155.

Cingranelli, D. L., & Richards, D. L. (2010). The Cingranelli and Richards (CIRI) human rights data project. *Human Rights Quarterly, 32*(2), 401–424.

Claibourn, M. P., & Martin, P. S. (2000). Trusting and joining? An empirical test of the reciprocal nature of social capital. *Political Behavior, 22*(4), 267–291.

Dekker, P., & Broek, A. V. D. (2005). Involvement in voluntary associations in North America and Western Europe: Trends and correlates 1981–2000. *Journal of Civil Society, 1*(1), 45–59.

Delhey, J., & Newton, K. (2003). Who trusts?: The origins of social trust in seven societies. *European Societies, 5*(2), 93–137.

Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review, 21*(4), 311–327.

Delhey, J., Newton, K., & Welzel, C. (2011). How general is trust in «most people»? Solving the radius of trust problem. *American Sociological Review, 76*(5), 786–807.

Delhey, J., Newton, K., & Welzel, C. (2014). The radius of trust problem remains resolved. *American Sociological Review, 79*(6), 1260–1265.

Delhey, J., & Welzel, C. (2012). Generalizing Trust: What Extends Trust from Ingroups to Outgroups? *World Values Research, 5*(3), 45–69.

Dobewall, H., & Rudnev, M. (2014). Common and unique features of Schwartz's and Inglehart's value theories at the country and individual levels. *Cross-Cultural Research, 48*(1), 45–77.

Elgar, F. J., Davis, C. G., Wohl, M. J., Trites, S. J., Zelenski, J. M., & Martin, M. S. (2011). Social capital, health and life satisfaction in 50 countries. *Health & Place, 17*(5), 1044–1053.

Freedom House. (2012). *Freedom in the world.* New York: Freedom House.

Freitag, M. (2003). Social capital in (dis)similar democracies: The development of generalized trust in Japan and Switzerland. *Comparative Political Studies, 36*(8), 936–966.

Freitag, M., & Bauer, P. C. (2013). Testing for measurement equivalence in surveys: Dimensions of social trust across cultural contexts. *Public Opinion Quarterly, 77*(S1), 24–44.

Freitag, M., & Buhlmann, M. (2009). Crafting trust: The role of political institutions in a comparative perspective. *Comparative Political Studies, 42*(12), 1537–1566.

Freitag, M., & Traunmüller, R. (2009). Spheres of trust: An empirical analysis of the foundations of particularised and generalised trust. *European Journal of Political Research, 48*(6), 782–803.

Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity.* New York: Free Press.

Gesthuizen, M., van der Meer, T., & Scheepers, P. (2009). Ethnic diversity and social capital in Europe: Tests of Putnam's thesis in European countries. *Scandinavian Political Studies, 32*(2), 121–142.

Geys, B. (2012). Association membership and generalized trust: Are connections between associations losing their value? *Journal of Civil Society, 8*(1), 1–15.

Gheorghiu, M. A., Vignoles, V. L., & Smith, P. B. (2009). Beyond the United States and Japan: Testing Yamagishi's emancipation theory of trust across 31 nations. *Social Psychology Quarterly, 72*(4), 365–383.

Glanville, J. L., Andersson, M. A., & Paxton, P. (2013). Do social connections create trust? An examination using new longitudinal data. *Social Forces, 92*(2), 545–562.

Glanville, J. L., & Paxton, P. (2007). How do we learn to trust? A confirmatory tetrad analysis of the sources of generalized trust. *Social Psychology Quarterly, 70*(3), 230–242.

Hamamura, T. (2012). Social class predicts generalized trust but only in wealthy societies. *Journal of Cross-Cultural Psychology, 43*(3), 498–509.

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society B: Biological Sciences, 359*(1449), 1435–1446.

Helliwell, J., & Putnam, R. (2007). Education and social capital. *Eastern Economic Journal, 33*(1), 1–18.

Hofstede, G. H., & Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks: SAGE Publications.

Hooghe, M., Marien, S., & de Vroome, T. (2012). The cognitive basis of trust. The relation between education, cognitive ability, and generalized and political trust. *Intelligence, 40*(6), 604–613.

Hooghe, M., & Vanhoutte, B. (2011). Subjective well-being and social capital in Belgian communities. The impact of community characteristics on subjective well-being indicators in Belgium. *Social Indicators Research, 100*(1), 17–36.

Howard, M. M., & Gilbert, L. (2008). A cross-national comparison of the internal effects of participation in voluntary organizations. *Political Studies, 56*(1), 12–32.

Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. Cambridge: Cambridge University Press.

Jaccard, J., & Turissi, R. (2003). *Interaction effects in multiple regression* (Vol. 72). Thousand Oaks: SAGE Publications.

Klein, C. (2013). Social capital or social cohesion: What matters for subjective well-being? *Social Indicators Research, 110*(3), 891–911.

Klein, K. J., & Kozlowski, S. W. J. (Eds.). (2000). *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*. San Francisco: Jossey-Bass.

Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics, 112,* 1251–1288.

Kuroki, M. (2011). Does social trust increase individual happiness in Japan? *Japanese Economic Review, 62*(4), 444–459.

Leung, A., Kier, C., Fung, T., Fung, L., & Sproule, R. (2011). Searching for happiness: The importance of social capital. *Journal of Happiness Studies, 12*(3), 443–462.

Li, Y. (2005). Social capital and social trust in Britain. *European Sociological Review, 21*(2), 109–123.

Lolle, H., & Torpe, L. (2011). Growing ethnic diversity and social trust in European societies. *Comparative European Politics, 9*(2), 191–216.

Miller, A. S., & Mitamura, T. (2003). Are surveys on trust trustworthy? *Social Psychology Quarterly, 66*(1), 66–70.

Nannestad, P. (2008). What have we learned about generalized trust, if anything? *Annual Review of Political Science, 11*(1), 413–436.

Newton, K., & Zmerli, S. (2011). Three forms of trust and their association. *European Political Science Review, 3*(02), 169–200.

Oskarsson, S., Dawes, C., Johannesson, M., & Magnusson, P. K. E. (2012). The genetic origins of the relationship between psychological traits and social trust. *Twin Research and Human Genetics, 15*(01), 21–33.

Park, C. U., & Subramanian, S. V. (2012). Voluntary association membership and social cleavages: A micro–macro link in generalized trust. *Social Forces, 90*(4), 1183–1205.

Paxton, P. (2007). Association memberships and generalized trust: A multilevel model across 31 countries. *Social Forces, 86*(1), 47–76.

Puntscher, S., Hauser, C., Walde, J., & Tappeiner, G. (2014). The impact of social capital on subjective well-being: A regional perspective. *Journal of Happiness Studies*. doi:10.1007/s10902-014-9555-y.

Putnam, R. D. (2001). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

Rahn, W. M., & Transue, J. E. (1998). Social trust and value change: The decline of social capital in American youth, 1976–1995. *Political Psychology, 19*(3), 545–565.

Rahn, W. M., Yoon, K. S., Garet, M., Lipson, S., & Loflin, K. (2009). Geographies of trust. *American Behavioral Scientist, 52*(12), 1646–1663.

Realo, A., Allik, J., & Greenfield, B. (2008). Radius of trust: Social capital in relation to familism and institutional collectivism. *Journal of Cross-Cultural Psychology, 39*(4), 447–462.

Robbins, B. G. (2011). Neither government nor community alone: A test of state-centered models of generalized trust. *Rationality and Society, 23*(3), 304–346.

Robbins, B. G. (2012). Institutional quality and generalized trust: A nonrecursive causal model. *Social Indicators Research, 107*(2), 235–258.

Rodríguez-Pose, A., & von Berlepsch, V. (2014). Social capital and individual happiness in Europe. *Journal of Happiness Studies, 15*(2), 357–386.

Rothstein, B., & Stolle, D. (2008). The state and social capital: An institutional theory of generalized trust. *Comparative Politics, 40,* 441–459.

Sarracino, F. (2013). Determinants of subjective well-being in high and low income countries: Do happiness equations differ across countries? *The Journal of Socio-Economics, 42,* 51–66.

Schwartz, S. H. (2010). Basic values: How they motivate and inhibit prosocial behavior. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature*. Washington: American Psychological Association.

Sonderskov, K. M. (2011). Does generalized social trust lead to associational membership? Unravelling a bowl of well-tossed spaghetti. *European Sociological Review, 27*(4), 419–434.

Soroka, S., Helliwell, J., & Johnston, R. (2007). Measuring and modelling interpersonal trust. In S. Diversity (Ed.), *Capital and the welfare state*. Vancouver, BC: University of British Columbia Press.

Stolle, D. (2002). Trusting strangers—The concept of generalized trust in perspective. *Austrian Journal of Political Science, 31,* 397–412.

Sturgis, P., Read, S., & Allum, N. (2010). Does intelligence foster generalized trust? An empirical test using the UK birth cohort studies. *Intelligence, 38*(1), 45–54.

Sturgis, P., & Smith, P. (2010). Assessing the validity of generalized trust questions: What kind of trust are we measuring? *International Journal of Public Opinion Research, 22*(1), 74–92.

Sulemana, I. (2015). An empirical investigation of the relationship between social capital and subjective well-being in Ghana. *Journal of Happiness Studies*, *16*(5), 1299–1321.

Teorell, J., Samanni, M., Holmberg, S., & Rothstein, B. (2011). *The quality of government dataset, version 6*. University of Gothenburg: The Quality of Government Institute.

Tokuda, Y., Fujii, S., & Inoguchi, T. (2010). Individual and country-level effects of social trust on happiness: The Asia Barometer survey. *Journal of Applied Social Psychology, 40*(10), 2574–2593.

Torpe, L., & Lolle, H. (2011). Identifying social trust in cross-country analysis: Do we really measure the same? *Social Indicators Research, 103*(3), 481–500.

Uslaner, E. M. (2002). *The moral foundations of trust*. New York: Cambridge University Press.

Uslaner, E. M. (2013). Trust and corruption revisited: How and why trust and corruption shape each other. *Quality & Quantity, 47*(6), 3603–3608.

Van der Veld, W., & Saris, W. (2012). Causes of generalized social trust. In *Cross-cultural analysis: Methods and applications*. Routledge.

van Hoorn, A. (2014). Trust radius versus trust level: Radius of trust as a distinct trust construct. *American Sociological Review*, *79*(6), 1256–1259.

Van Ingen, E., & Bekkers, R. (2015). Generalized trust through civic engagement? Evidence from five national panel studies. *Political Psychology, 36*(3), 277–294.

Van Oorschot, W., Arts, W., & Gelissen, J. (2006). Social capital in Europe: Measurement and social and regional distribution of a multifaceted phenomenon. *Acta Sociologica, 49*(2), 149–167.

Welch, M. R., Rivera, R. E., Conway, B. P., Yonkoski, J., Lupton, P. M., & Giancola, R. (2005). Determinants and consequences of social trust. *Sociological Inquiry, 75*(4), 453–473.

Welzel, C. (2013). *Freedom rising: Human empowerment and the contemporary quest for emancipation*. Cambridge: Cambridge University Press.

Welzel, C., & Delhey, J. (2015). Generalizing trust: The benign force of emancipation. *Journal of Cross-Cultural Psychology, 46,* 1–22.

Welzel, C., Inglehart, R., & Deutsch, F. (2005). Social capital, voluntary associations and collective action: Which aspects of social capital have the greatest "civic" payoff? *Journal of Civil Society, 1*(2), 121–146.

Whiteley, P. F. (2000). Economic growth and social capital. *Political Studies, 48*(3), 443–466.

Wollebaek, D., Lundåsen, S. W., & Trägårdh, L. (2012). Three forms of interpersonal trust: Evidence from Swedish municipalities: Three forms of interpersonal trust. *Scandinavian Political Studies, 35*(4), 319–346.

Wollebæk, D., & Selle, P. (2007). Origins of social capital: Socialization and institutionalization approaches compared. *Journal of Civil Society, 3*(1), 1–24.

WORLD VALUES SURVEY 1981–2014 LONGITUDINAL AGGREGATE v.20150418. World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: JDSystems, Madrid SPAIN. Accessed 2 February 2015.

Yamagishi, T. (2011). *Trust: The evolutionary game of mind and society*. Berlin: Springer.

Yamaoka, K. (2008). Social capital and health and well-being in East Asia: A population-based study. *Social Science & Medicine (1982), 66*(4), 885–899.

Yip, W., Subramanian, S. V., Mitchell, A. D., Lee, D. T. S., Wang, J., & Kawachi, I. (2007). Does social capital enhance health and well-being? Evidence from rural China. *Social Science & Medicine (1982), 64*(1), 35–49.

Zak, P. J., & Knack, S. (2001). Trust and growth. *The Economic Journal, 111*(470), 295–321.