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## Trust in Everyday Life

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Supplemental Materials: appended to this preprint (pp. 62-92)

### **Abstract**

Although trust plays a pivotal role in many aspects of life, very little is known about the manifestation of trust and distrust in everyday life. In this work, we integrated several prior approaches to trust and investigated the prevalence and key determinants of trust (vs. distrust) in people's natural environments, using preregistered experience-sampling methodology. Across more than 4,500 social interactions from a heterogeneous sample of 427 participants, results showed high average levels of trust, but also considerable variability in trust across contexts. This variability was attributable to aspects of trustee perception, social distance, as well as three key dimensions of situational interdependence: conflict of interests, information (un)certainty, and power imbalance. At the dispositional level, average everyday trust was shaped by general trust, moral identity, and zero-sum beliefs. The social scope of most trust-related traits, however, was moderated by social distance: Whereas moral identity buffered against distrusting distant targets, high general distrust and low social value orientation amplified trust differences between close vs. distant others. Furthermore, a laboratory-based trust game predicted everyday trust only with regard to more distant but not close interaction partners. Finally, everyday trust was linked to self-disclosure and to cooperation, particularly in situations of high conflict between interaction partners' interests. We conclude that trust can be conceptualized as a relational hub that interconnects the social perception of the trustee, the relational closeness between trustor and trustee, key structural features of situational interdependence, and behavioral response options such as self-disclosure.

*Keywords:* trust, distrust, experience sampling, cooperation, interdependence

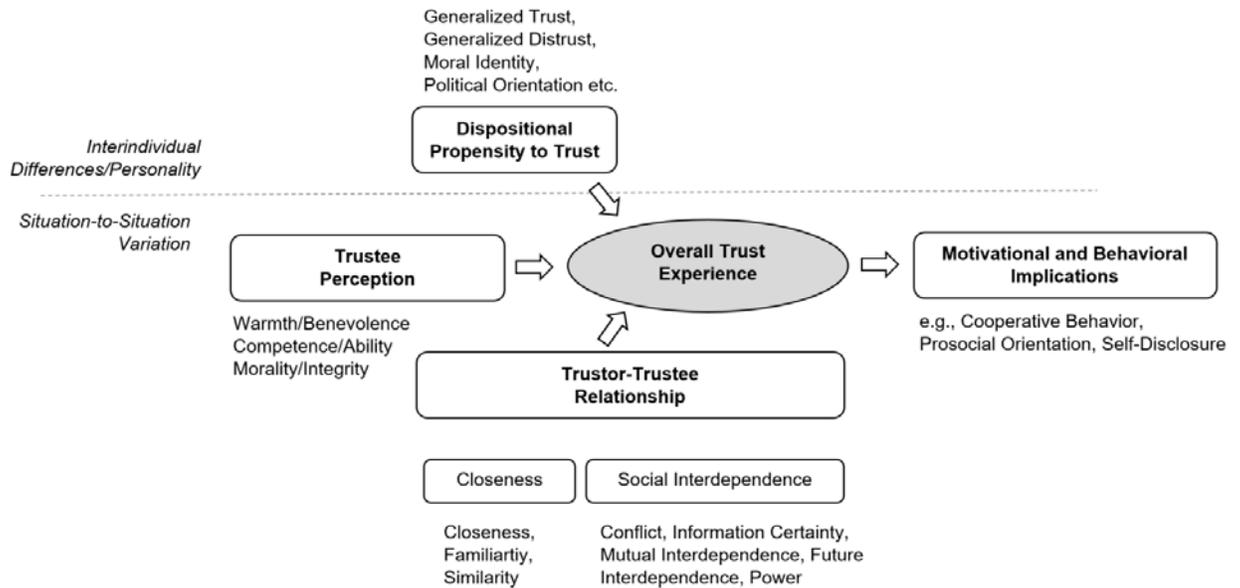
Trust, defined as the willingness to “accept risk and vulnerability based upon positive expectations of the intentions or behaviors of another” (Rousseau et al., 1998, p. 395), can be regarded the fabric of our social universe. Whenever our own outcomes depend on others, our expectations regarding their benevolent versus malevolent intentions towards us critically shape our behavior, and hence social interactions and relationships (Rotter, 1967). Trust thus plays a key role for the functioning of social relationships, from very close relationships to distant stranger interactions (Rempel et al., 1985). It is also typically regarded as essential to cooperation, for instance in economic or organizational settings (e.g., Fehr, 2009; Mayer et al., 1995; McAllister, 1995). Trust seems to be particularly pivotal for those interdependent situations in which a conflict of interest exists. As conflict between preferred outcomes implies heightened risk and vulnerability, trusting the other’s good will is of particular importance in such situations (Balliet & van Lange, 2013).

Given the paramount importance of trust in human social life, various prolific research traditions within and beyond psychology have addressed trust as a core topic. In the present work, we seek to make two major contributions to the research on trust: First, the present study is fundamentally integrative, bridging a large number of conceptual hubs across three major theoretical perspectives on trust (trustee perception, trustor-trustee relation, and trustor propensity to trust) within one and the same large-scale investigation. This allows us to not only address a diverse set of open questions and novel hypotheses in trust research, but to also examine the unique contribution and interplay of these concepts, and to see whether prior findings conceptually replicate in a research arena in which various candidate concepts and approaches are studied jointly. As with all fields that have seen diversification and fragmentation over time, we are convinced that such conceptually integrative work is valuable in advancing our

current understanding of trust. Second, and in contrast to much of the traditional literature investigating trust in specific—often hypothetical and artificial—experimental or game settings, or via cross-sectional, trait-oriented surveys, we study people’s state trust experiences as they unfold in everyday social interactions of all sorts as people go about their regular lives. The time, we believe, is ripe for a comprehensive study of trust “in the wild.”

### **Conceptualizations of Trust**

From a theoretical point of view, at least three broad perspectives or approaches regarding trust can be discerned, each coming along with particular research foci and corresponding methodological paradigms: (a) A focus on trustee characteristics (i.e., is the other person trustworthy or not?) as part of an impression formation process; (b) A focus on the relevant parameters of the trustor-trustee relationship (i.e., Are we close to each other? Do our interests align? Will we meet again?); (c) A focus on individual characteristics of the trustor, such as a relatively stable, generalizable “willingness to trust others” (Mayer et al., 1995, p. 715). We label these three general conceptual approaches the *trustee perception approach*, the (trustor-trustee) *relational approach*, and the *dispositional (propensity to trust) approach*. Whereas both the trustee-perception and the relational approach, almost by definition, are grounded in the characteristics of the specific situational configuration a trustor is in, thus giving rise to situational (i.e., contextual) fluctuation in trust, the dispositional approach is located at the more stable person level of the trustor, giving rise to between-person differences in trust. The three approaches are typically not in strong contact with each other, resulting in a somewhat fragmented research landscape on trust. Therefore, one primary goal of this work is to conceptually integrate these various approaches into a unified, but still parsimonious, framework of the experience of trust as illustrated in Figure 1.



**Figure 1.** Overview over variables potentially influencing the experience of trust as investigated in the present work. Interactive effects are not depicted for the sake of simplicity.

The *trustee perception approach* to trust centers on the idea that trustors condition their trust on the degree to which they perceive the other person as being trustworthy (Mayer et al., 1995). It is generally assumed here that trustors form an impression of trustworthiness, based on available situational and personal cues, including past interaction memory cues, if available (e.g., Bacharach & Gambetta, 2001; McAllister, 1995; McKnight et al., 1998). Extant work suggests that such inferences may be linked to the three central dimensions of person perception—warmth and competence, as well as morality—in the social-cognitive tradition (Brambilla & Leach, 2014; Fiske et al., 2007; Landy et al., 2016), or, similarly, to the three antecedents of trust—benevolence, ability, and integrity—in the organizational tradition (Schoorman et al., 2016; see also McAllister, 1995). Other research has investigated more specific cues, such as facial cues, that are factored in trustworthiness perceptions (e.g., Todorov et al., 2008).

The *relational approach*, in contrast, seeks to identify the primary characteristics of the *trustor-trustee relationship* and the broader setting that may shape trust experiences. This

research investigates how target-specific trust evolves and how it regulates (i.e., avoids vs. approaches) the perils and promises of rejection and connection, particularly within romantic relationships (see Murray & Holmes, 2011; Rempel et al., 1985). One important conceptual hub in this area appears to be related to social closeness: A large and diverse body of research suggests that trust develops over time (Rempel et al., 1985; Rusbult et al., 1999), and that people trust trustees more to the extent that they form close, intimate, and high quality rather than distant bonds (manifest in close interpersonal relationships, kin relationships, or shared group memberships), and to the degree that they perceive them as similar or familiar (Balliet et al., 2014; Fleenon & Leicht, 2006; Reis & Shaver, 1988; Rempel et al., 1985; Yamagishi et al., 1998). The relational approach to trust considers dispositional orientations (e.g., attachment styles) as well as target-specific stable orientations and situational cues (e.g., Mikulincer & Shaver, 2003; van Lange & Rusbult, 2011). In this vein, research has looked at the role of various aspects of situational interdependence in the tradition of Kelley's seminal work (Kelley et al., 2003; Kelley & Thibaut, 1978). This perspective emphasizes that trust is a dynamic, interpersonal phenomenon rather than a fixed, individual one (Rusbult & van Lange, 2008). Interdependence theory has sought to identify fundamental dimensions according to which most, if not all, human interactions can be described in a parsimonious fashion, and to uncover their effects. Here, we draw on recent work by Gerpott et al. (2018), which established that people differentiate situations along at least five key dimensions of interdependence: (a) *conflict*: the degree to which the behavior that results in the best outcome for one individual results in the worst outcome for the other, (b) *information certainty*: the degree to which people know about each other's preferred outcomes and how everyone's actions influence these outcomes, (c) *mutual dependence*: the degree of how much each person's outcomes are determined by how the

other behaves in that situation, (d) *future interdependence*: the degree to which own and others' behavior in the present situation can affect own and/or others outcomes in the future, and (e) *power*: the degree to which an individual asymmetrically determines their own and others' outcomes. Knowing how trust is shaped by these dimensions (and their interplay) would seem essential for a better theoretical understanding of trust. To date, however, this foundational framework has not been applied in a comprehensive and systematic way to carve out the situational interdependence foundations of trust.

The *dispositional approach* to trust, in contrast, focuses on the propensity to trust as a personality characteristic of the trustor (e.g., Deutsch, 1958; Yamagishi, 1988). This perspective thus centers on those more stable, situation- and target-transcending determinants of trust. Under the dispositional approach, we broadly subsume the investigation of stable trust-relevant worldviews regarding the nature of human interactions (e.g., zero-sum beliefs; Różycka-Tran et al., 2015), and the trustor's stable egoistic versus prosocial motives (e.g., social value orientation, self-importance of morality; Aquino & Reed, 2002; Murphy et al., 2011). Most prominently, however, a vast body of research has investigated general or "global" (dispositional) trust, which has been defined as "a belief in the benevolence of human nature in general and thus is not limited to particular objects" (Yamagishi & Yamagishi, 1994, p. 139), or its mirror-image, general distrust (Yamagishi, 1988). General trust has been shown to predict actual trusting experiences and behavior (e.g., Balliet & van Lange, 2013; Fleeson & Leicht, 2006). A certain level of general trust is arguably adaptive on individual, interindividual, and societal levels (e.g., Jones et al., 1997; van Lange, 2015), as illustrated by its positive relationships with physical health, life satisfaction, love, reduced transaction costs, cooperation and reduced homicide rates (see Barefoot et al., 1998; Elgar & Aitken, 2011; Kramer, 1999; Larzelere & Huston, 1980;

Rempel et al., 1985; Stavrova & Ehlebracht, 2016). In contrast, general distrust and cynical worldviews are associated with disadvantageous life outcomes such as low income and low physical and psychological health (e.g., Chen et al., 2016; Stavrova & Ehlebracht, 2016). However, prior work has typically targeted the relationship between general trust and other dispositional (demographic) variables or singular instances of behavior. Very little is known about whether prominent trait questionnaires of trust/distrust are indeed potent determinants of average levels of trust collected across many meaningful, real-life interactions and types of relationships. Furthermore, it is unclear whether the dispositional propensity to (dis)trust may also affect the likelihood of social interactions in the first place, as well as the variability in trust experiences across situations. Addressing these issues and balancing out some limitations of past research may require a more extensive venture into the everyday ecology of trust than has been undertaken to date. Our second primary aim, therefore, was to move trust research out of the lab and into the field by studying the experience of trust and distrust as it happens and unfolds in people's everyday social interactions.

### **Spotlight on Ecological Validity: Moving Trust Research “Into the Wild”**

Previous research traditions have often focused on single interaction partners, particularly romantic partners, or trust towards “strangers in general” (i.e., relational and dispositional approaches). Yet, trust arguably assumes such a pivotal role in many aspects of life (e.g., economic welfare) specifically via playing out in our everyday, actual social interactions across various interaction partners—not just by impacting our most intimate relationships or our abstract conceptions of “human nature.” However, very little is known about how trust and distrust manifest in everyday life. To the degree that people engage in various social encounters with diverse others on a daily basis, corresponding data is thus needed to examine how trust is

experienced by individuals on a daily basis (for a similar argument, see Couch & Jones, 1997). For instance, is a lack of trust a regular or rare occurrence? Are people's daily-life trust experiences strongly determined by a trusting or distrusting personality or do their trust experiences rather fluctuate a lot from interaction context to interaction context? Moreover, due to the strong emphasis on experimental and game settings to isolate such factors, and the typical focus on only one specific approach from those reviewed above, it is unclear which factors are potent sources of everyday trust when viewed jointly. In addition, it remains unclear whether prominent trait or laboratory measures of trust, such as the distrust scale (Yamagishi, 1988) or the trust game (TG; Berg et al., 1995), are *general* or rather more *context-specific* predictors of everyday trust levels (e.g., when interacting with socially distant others), whether key findings from lab-based trust research replicate "in the wild," and whether there are overlooked aspects of trust that may have escaped the confines of standardized lab contexts so far.

One highly promising approach to study the experience of trust in everyday social interactions is given by the experience-sampling method (ESM). In a nutshell, this method allows to repeatedly sample experiences and thoughts in people's natural environments (rather than artificially created situations or hypothetical scenarios) and therefore typically provides high ecological validity and generalizability (e.g., Bolger & Laurenceau, 2013). One particular advantage of ESM that is easily overlooked is its unique potential to jointly study both situational and dispositional influences within one analytical (multilevel) framework, allowing to integrate social-psychological and personality approaches to trust under one roof. Finally, the ESM approach, due to its focus on ecological validity, serves as a good basis and corrective to gauge whether or to what extent findings and frameworks based on laboratory research replicate and matter in the field.<sup>1</sup>

### **The Present Research**

The main purpose of the present study was to investigate how people experience trust in their everyday lives. Building on the above approaches to trust, we integrated key determinants capturing trustee perception and the trustor-trustee relationship, at the situation-specific level, as well as key dispositions and demographics at the person level towards a more comprehensive understanding of the experience of trust. These variables were included based on extant theorizing about trust, as well as in order to close existing gaps in the literature, and our key hypotheses regarding these determinants were pre-registered prior to data collection. Moreover, we included “surface-level” variables of the social interactions in question such as type of interaction partner, duration of the interaction, or whether the spoken interaction occurred in trustor’s mother tongue, not only to describe the richness of the data but also to investigate the extent to which “surface-level” variation in trust could be accounted for via “deep-level” psychological constructs from the trustee perception and relational approach. Finally, our endeavor provides a unique opportunity for cross-validating and conceptually replicating prior insights. We therefore sought to inform the debate on multiple theoretical issues concerning trust along the following guiding research questions and specific predictions (see Supplementary Table 1 for a concise summary of pre-registered predictions and exploratory components):

(1) Overall trust experience: To what extent are everyday social interactions characterized by high versus low trust? Some prior work from different research areas suggests that a trusting mind and trust behavior represent a “default” or norm (see Mayo, 2015; McKnight et al., 1998; Schul et al., 2008). For instance, in line with the postulated adaptivity of trust in most environments (e.g., van Lange, 2015) and the idea of trust being a social norm, prior work has shown high levels of trust even in zero-acquaintance situations (Dunning et al., 2014). Given that

the (social) scope of laboratory-based interaction contexts as well as measures of general trust for a wide range of people's interpersonal interactions are limited (e.g., Couch & Jones, 1997; Delhey et al., 2011), the prevalence of everyday trust may be most comprehensively estimated by aggregating over thousands of actual moment-to-moment trust experiences.

Furthermore, some authors have argued that states of trust and distrust have distinct qualities, and that they form two separable dimensions as opposed to a single one-dimensional continuum (Lewicki et al., 1998; Mayo, 2015). Specifically, Lewicki et al. (1998) theorized that people may *simultaneously* harbor trust and distrust towards targets, for example with respect to different tasks or attributes, likening such a state to attitudinal ambivalence. Thus, what may look like medium-level levels of trust on a summative measure may conceal faceted and possibly conflicting tendencies (Lewicki et al., 1998), with implications for theory and assessment. However, others have rejected this notion, conceptualizing trust and distrust as endpoints of a single continuum (Mayer et al., 2007). To advance this debate, we assessed both trust and distrust to estimate their degree of convergence or divergence. We pre-registered to combine trust and distrust into a composite index of trust if the correlation between the two exceeds .60.

(2) Is trust more a matter of the situation or of a trusting or mistrusting personality? As illustrated by the separating horizontal line in Figure 1, the trustee perception and the relational approach are conceptually consistent with a relatively large share of situational variability in trust from one interaction to the next. In contrast, the dispositional approach to trust is consistent with a relatively large share of inter-individual variation in average trust levels across situations. In contrast to most experimental and cross-lagged designs, ESM is able to dissociate and quantify these two sources of variation and thus provide an empirical answer to this fundamental question. Irrespective of the answer to this question, we entertained a number of preregistered

hypotheses regarding determinants of trust across situations as well as across individuals (see also Supplementary Table S1).

(3) Determinants of situational trust: Our primary focus was on identifying the key underlying features of trustee-perception and the trustor-trustee relationship (see Figure 1). In addition, we collected surface-level characteristics (e.g., type of target; duration). As we were primarily interested to account for the latter via the former, we only briefly summarize our rationale underlying surface characteristics in the Supplementary Table 1 notes.

Regarding *trustee perception*, we assessed warmth, competence (Fiske et al., 2007), as well as morality (Goodwin, 2015). This social-cognitive approach to impression formation closely maps on organizational approaches to trust differentiating ability, benevolence, and integrity (Mayer et al., 1995). Based on the latter, we expected independent contributions of all three of these dimensions to trust experiences, but had no strong a priori assumptions about relative weights: Perceived competence or ability may predict perceived reliability and thus trust (Mayer et al., 1995). Similarly, perceptions of a trustee's competent and reliable performance have been conceptualized as cognitive trust, with aspects of personal integrity (e.g., fairness) factored in (McAllister, 1995). Whereas earlier social psychological research subsumed morality under warmth (e.g., Fiske et al., 2007), recent research has started to differentiate perceptions of moral character from social warmth and to systematically examine their unique effects (e.g., Goodwin et al., 2014). Regarding their relative weight, on the one hand, trustworthiness is conceptually closely intertwined with moral character, speaking to a strong relationship between morality and trust experiences (e.g., Goodwin et al., 2014). On the other hand, perceptions of social warmth do seem to play a major role in perceptions of how others may treat one more generally (Goodwin et al., 2014). Thus, to the degree that state trust reflects the reliance on

another's benign intentions towards the self, idiosyncratic experiences of a target's interpersonal warmth, agreeableness, and kindness may often be just as important as perceptions of general moral principledness and sincerity (see also Goodwin et al., 2014; Mayer et al., 1995). We therefore separately assessed perceived competence, morality, and warmth, to provide novel evidence of whether each of these basic dimensions of perception independently contributes to trust experiences across diverse everyday-life interactions.

Regarding the *trustor-trustee relationship*, we included perceived closeness, familiarity, and similarity to represent insights from a large and diverse body of research in close relationship research, evolutionary psychology, intergroup psychology, and behavioral economics on the connection between trust and social closeness, broadly defined (e.g., DeBruine, 2002; Fleeson & Leicht, 2006; Romano et al., 2017; Yamagishi et al., 1998). For instance, it has been argued in research on close relationships that trust is typically high and emerges as people experience mutual predictability and dependability (e.g., Rempel et al., 1985). Further, trust has been described as a mechanism to “gauge” a partner's commitment to the relationship (e.g., Rusbult et al., 1999). When committed partners encounter trust-relevant situations, they have the opportunity to show behaviors such as sacrifice instead of exploitation, affording and enhancing trust (e.g., Rusbult & van Lange, 2003; Simpson, 2007). In addition to a close interpersonal relationship, it has been argued that shared social connections and in-group rather than out-group memberships and are typically associated with expectations of cooperation and loyalty (e.g., Rai & Fiske, 2011; Yuki et al., 2005). Economic game research, similarly, finds that closeness can increase trust game behavior (e.g., Binzel & Fehr, 2013). Perhaps then, these converging findings may all be conceptualized as typical instances of a more *general*, continuous social distance metric underlying people's tendency to trust close others more—irrespective of

the specific source of closeness (such as shared group membership, intimate, kin-based relationships, similarity in attitudes and beliefs). We thus expected a positive relationship between trust and a continuous gradient of closeness.

In addition, we sought to illuminate how trust relates to deep-level, structural features of social interaction as described by classical interdependence theory (Kelley et al., 2003; Kelley & Thibaut, 1978). Situations vary along structural dimensions, which describe how interaction partners' outcomes are determined (Rusbult & van Lange, 2003). Interdependence structure thus varies across relationships and relationship partners, but also across individual situations (Rusbult et al., 1999). In the present work, we drew on a recent measure of *situational interdependence* dimensions proposed by Gerpott and colleagues designed to assess people's perceptions of a situation with respect to *conflict*, *information certainty*, *mutual dependence*, *future interdependence*, and *power* (Gerpott et al., 2018). By sampling social interactions varying on these five fundamental dimensions from the "natural experiment" called everyday life, we sought to arrive at a more comprehensive understanding of how situational interdependence may shape everyday trust.

Economic and psychological research such as research on close relationships (e.g., Murray & Holmes, 2009) or trust in organizations (Lewicki et al., 1998) provides a good theoretical basis with respect to candidate dimensions. Given that trust relates to the trustee's assumed intentions (e.g., Rotter, 1967), one straightforward candidate is given by the degree of conflict of interest between trustor and trustee (Evans & Krueger, 2011; Murray & Holmes, 2009). The more perceived interests diverge, the more the trustor has (good) reason to suspect the possibility of being exploited and may be less inclined to trust the trustee. Generally speaking, "situations with conflicting interests tend to generate negative cognition and emotion

(greed, fear) and yield more active and differentiated information seeking and self-presentation” (Rusbult & van Lange, 2008, p. 2054). Given the central role of conflict in much theorizing on trust in psychology and behavioral economics (e.g., Balliet & van Lange, 2013), we therefore hypothesized that the perception of conflicting interests should be associated with reduced levels of trust/an increase in distrust as a main effect. Furthermore, conflicting interests afford orienting towards and expressing either trust or distrust—they are “trust-diagnostic” (Rusbult & van Lange, 2003; Simpson, 2007). Given its fundamental role in structuring social interactions, conflict might thus exacerbate the effects of other dimensions of interdependence, which we additionally explored. For example, Rusbult and van Lange (2003) suggest that conflict exacerbates the “dangers of dependence” (p. 363).

Regarding information certainty, we were hesitant to forecast a directional effect in light of diverging theoretical threads. Prominent conceptualizations of trust from a dispositional or relational perspective suppose a sense of confidence or predictability (Deutsch, 1958; Rempel et al., 1985; see also McAllister, 1995; Rusbult et al., 1999). Trust has often been described as requiring a “leap of faith” (e.g., Möllering, 2001; Murray & Holmes, 2011): Beyond being “grounded” in prior experiences or situational cues, trusting serves to cope with uncertainty by accepting vulnerability and achieving a premature sense of closure in relation to a future outcome (e.g., Murray & Holmes, 2011). From an interdependence perspective, informational uncertainty about another’s motives and the situation more generally introduce noise and may give rise to negative misunderstandings, challenging trust (e.g., Rusbult & van Lange, 2003; van Lange et al., 2002). Indeed, uncertainty (about the other’s benevolence) should be integral to many daily-life instances of distrust (vs. trust): We may often not know *for sure* whether another individual may want to harm our interest, but rather be suspicious of their motives (see Sinaceur,

2010). Yet, some theoretical accounts have posited that both trust and distrust are ways to manage uncertainty about the trustee's intentions and thus equally involve a sense of certainty (Lewicki et al., 1998). In this respect, both orientations of generalized and relationship-specific trust versus distrust may be conceptualized as symmetrical in shaping how people deal with social interactions based on prior experiences and the available situation (e.g., van Lange & Balliet, 2015). In consequence, we entertained no strong a priori hypothesis regarding the relationship between information certainty and trust.

Even though both trustful and distrustful encounters may involve high degrees of mutual dependence (Lewicki et al., 1998), we hypothesized a positive relationship between mutual dependence and trust in everyday life. Highly interdependent situations have been described as "trust situations" which demand reciprocal or coordinated action between partners (Kelley et al. 2003; Simpson, 2007). Accordingly, interdependence has been found to increase cooperation and commitment in organizational and intimate social contexts (Gerpott et al., 2018; Martin et al., 2014). More generally, mutual dependence should promote trust due to highlighting common goals (Lewicki & Tomlinson, 2014). People should seek out mutually interdependent situations with people whom they have previously trusted (Lewicki et al., 1998) and successfully mastered interdependent situations increase trust and contribute to active relationship commitment and maintenance behaviors (Simpson, 2007).

Both "mutual dependence and future interdependence are likely to positively relate to sociality" (Gerpott et al., 2018, p. 726); People analyze and react to interdependence situations not only with respect to their immediate, but also their future implications (van Lange & Balliet, 2015). Arguably, in the case of long-term compared to short-term involvements, it pays off for individuals to show reciprocal pro-relationship behavior instead of uniquely following one's self-

interest (Rusbult, et al., 1999). This, in turn, should enhance mutual trust in interaction partners. Similar arguments have been made for non-intimate, professional interactions (e.g., Bolton et al., 2004), such that we predicted future interdependence to predict trust across interactions.

Finally, the relation between power and trust is subject to an ongoing debate, and empirical evidence to date is mixed. Some research has found powerful and more self-reliant individuals to be less trusting than powerless individuals, for example in economic exchanges (Mooijman et al., 2015; Schilke et al., 2015). However, more recent work qualifies this claim: Only having unstable power fuels distrust due to concerns about losing power (Mooijman et al., 2019). In other work, powerholders actually appeared more trusting, or even overconfident with respect to their ability to rely on others' loyalty and support, jeopardizing their position (e.g., Brion & Anderson, 2013; Hommelhoff & Richter, 2017).

In addition, the exact nature of the power-trust relationship remains puzzling, as a spotlight on the powerless reveals "trust issues" in this group, too: In real life, people oftentimes harbor distrust—sometimes even paranoia—towards powerful leaders (van Prooijen & van Lange, 2014). Being suspicious of the powerful is not an entirely unjustified sentiment either, as ample research attests that their position may often tempt the powerholder to abuse it by behaving in selfish, uncooperative, and ultimately untrustworthy ways (for an overview, see Lammers et al., 2015)—possibly due to their own lowered feelings of trust. Indeed, while interdependence theory assumes mutuality of dependence (i.e., power balance) to afford positive feelings and benevolent attributions among partners, asymmetrical dependence exacerbates the dependent party's vulnerability, and reactions geared at reducing vulnerability (Rusbult & van Lange, 2003). In addition, power imbalance arguably evokes discomfort (with vulnerability vs. responsibility) on both ends, depending on how having power is construed (Scholl et al., 2018;

van Lange & Balliet, 2015). Perhaps then, the asymmetric control over resources given by an *imbalance* of power is at the root of reduced levels of trust in *both* the powerful and the powerless, albeit for quite different reasons (i.e., fear of power abuse and exploitation; fear of losing power and of implied responsibilities for the partner and mutual relationship). To investigate this possibility across a variety of real-life social interactions, we preregistered a negative effect of increasing *power imbalance* (i.e., power differences) on trust, affording a test of a possible curvilinear, rather than linear, relationship between power and trust.

(4) Dispositional determinants of everyday trust: We integrated a set of established and highly relevant trait variables, including measures of general trust and distrust, to better understand between-person differences in mean (i.e., average) levels and variability of state trust in people's everyday interactions. For the present purposes, we include only a selected subset of all assessed dispositional variables (see OSF), testing preregistered hypotheses of their relation to average levels of trust in meaningful, everyday interactions. Based on prior conceptualizations and investigations of *general trust and distrust* as beliefs about human nature in general (e.g., Rotter, 1967; Yamagishi & Yamagishi, 1994) and as reflecting others' perceived trustworthiness without taking their specific personal characteristics or behaviors into account (Jones et al., 1997; Yuki et al., 2005), we predicted reliable (positive vs. negative) associations between general trust/distrust and everyday trust levels. Inspired by this prior literature on the nature and consequences of general (dis)trust, we additionally explored whether these traits might actually be more relevant to interactions with more distant (vs. close) targets (not preregistered). Moreover, attributing good intentions to others and being willing to make oneself vulnerable is perceived as moral and socially desirable (Dunning et al., 2014). Therefore, we expected *moral identity*, the (trait-level) importance of being a moral person to the self to predict higher daily-life

trust levels. *Zero-sum beliefs* reflect general perceptions of life as a zero-sum game, more specifically the notion that others' positive outcomes are often attained at one's own expense and vice versa (Crocker et al., 2017). Importantly, zero-sum beliefs hence represent an approximation of a stable tendency to suspect conflict of interest, the main variable of interest in the present work from an interdependence theoretical account. We therefore reasoned that these beliefs would be negatively associated with trust in daily-life interactions. Finally, we did not preregister a prediction regarding the relationship between trust (distrust) and *social value orientation* (SVO), which reflects differences in valuing and working towards own and others' (e.g., financial) outcomes (Murphy et al., 2011). A high (i.e., prosocial) SVO has theoretically and empirically been linked to more positive expectations of others' motives and behavior, particularly in social dilemmas (e.g., Rusbult & van Lange, 2003; Pletzer et al., 2018). However, more research is needed on its relation to trust, especially state trust in actual, daily-life interactions (see Pletzer et al., 2018). In addition, we explored whether everyday trust would be associated with key demographics (gender, age, political orientation, and religiosity), with one prediction: Given the connection between conservatism and the avoidance of uncertainty and threat (Jost et al., 2003) we expected lower trust for conservatives as compared to liberals.

Our research design puts us into a unique position to address three interrelated issues regarding the nature and scope of trait measures for shaping trust in everyday life. First, we explored whether (some) trait measures may be characterized by the *variability* of trust experiences for people high vs. low on the trait. For instance, does general distrust enhance trust variability (because people high on the trait differentiate more among their interaction partners) or reduce it (because people high on the trait may tend to avoid certain interaction partners)? This issue ties in with a second exploration of whether the traits investigated here may show

evidence of possible *situation selection* effects by affecting the overall number of reported social interactions and the number of stranger interactions in particular. Third, we sought to inform the debate regarding diverging perspectives on the *social scope* of the propensity to trust or distrust. Does the effect of traits such as general trust and distrust extend across close and distant social interaction partners alike, or is the scope of such traits more limited and nuanced, as implied by notions of target-specific trust (e.g., Couch & Jones, 1997; Jones et al., 1997; Rempel et al., 1985). Jones et al. (1997, pp. 469), for example, argue that general trust “is primarily relevant in some philosophical and/or hypothetical sense, but less so in everyday experience.” These authors contend that general trust pertains only to people with whom one shares a social identity—excluding, for example, foreigners or mentally ill people. In contrast, other research suggests that higher general trust enables people to leave the social and economic confines of their original networks, whereas it is rather general distrust which is associated with more pronounced ingroup cohesion and even stronger committed relationships (Yamagishi & Yamagishi, 1994). Because research delineating the social boundaries of trust-related traits is only in its beginnings, we attempted only a first (albeit theory-driven) exploration of the possible interplay among these traits and our broad social closeness gradient.

(5) Experimental trust game and everyday trust: A large literature from social psychology and behavioral economics has studied trust decision-making via standardized economic games. The most prominent example is the *trust game* (TG; Berg et al., 1995). One key question of the present research was whether trust behavior in the TG would predict average levels of everyday trust (pre-registered). As the trust game is typically played with a complete stranger, however, it can also be regarded as a more situation-specific measure of trust in contexts of low closeness or familiarity between the trustor and the trustee. Drawing on the principle of compatibility (Ajzen

& Fishbein, 1977), and our reasoning regarding trait-level trust measures, we therefore explored whether closeness may moderate the predictive validity of the TG such that stronger lab-field correspondence would emerge for everyday situations lower in closeness.

(6) Motivational and behavioral implications: Drawing on the literature on the behavioral and motivational implications of trust and distrust, we restricted our analyses to three different key outcomes: cooperation and competition, self-disclosure, and mentalizing. First, following the seminal meta-analysis by Balliet and van Lange (2013) on social dilemma research and prior work on the links between trust, trustworthiness and moral cognition (e.g., Burgmer et al., 2019; Conway et al., 2018; Rotter, 1980; Weiss et al., 2018), we predicted a positive relationship between the experience of trust and self-reported cooperation. Furthermore, we sought to replicate and generalize the meta-analytic finding that trust would become especially important in predicting cooperation when there is a larger, compared to smaller, degree of conflict (Balliet & van Lange, 2013). Second, we hypothesized that decreasing levels of trust should be associated with a reduced inclination for self-disclosure (i.e., regulation of self-presentation) in order to minimize the vulnerability and potential risk for exploitation associated with it (Omarzu, 2000; see also Rusbult & van Lange, 2003, 2008). Indeed, trust has been theorized as a central component or requirement of self-disclosure from relational perspectives of trust, and empirical findings support this association (e.g., Steel, 1991; Wheelless & Grotz, 1977). Third, whereas we can “blindly” rely on trusted targets to act in our best interest, we should be inclined to gather information about distrusted others’ intentions and future actions. Hence, based on initial findings (Burgmer & Weiss, 2020; Sinaceur, 2010) and earlier arguments that perceptions of risk may enhance and differentiate cognitive processing and information-seeking (e.g., Rusbult & van Lange, 2003), we predicted a functional relationship between distrust and *mentalizing* about the

trustee: Distrust should increase the motivation to learn about the *trustee*'s mental states such as plans and intentions (*mentalizing*) as a potential cognitive tool to reduce uncertainty and vulnerability. In sum, we expected trust to positively predict cooperation and self-disclosure, and to negatively predict competition and mentalizing with the interaction partner.

### **Method**

The study materials, preregistration, data, codebook, and syntax for this work are available online at <https://osf.io/kwp6n/>. In the below results section, we indicate in language which of our analyses were pre-registered (i.e., “we predicted/hypothesized/expected”) and which were exploratory (i.e., “we explored”). Because we had no single cardinal hypothesis on which to base our power calculations, the sample size for this project was determined by trying to recruit as many participants as possible in light of the pooled resources so as to maximize power (and representativeness). As per our preregistration, the targeted sample size was approximately 400 participants. The study was approved by the ethics commission of the German Psychological Society.

### **Participants**

A heterogeneous sample of 427 participants throughout Germany was recruited via various forms of advertising (contacting various panels/research data bases, flyers in local shops and city offices, social media advertisement, post on the university alumni website). Participants who responded to at least one mobile phase signal were included in analyses. Two additional participants requested their data be deleted after (partial) participation. 65% of participants were female, 28% male, 1 participant indicated “other”, and gender reports were missing for the remaining 6.8% of participants. The average age was 31.5 years ( $SD = 9.55$ ), ranging from 18 to 64. Further sample characteristics are provided in the Supplementary Materials.

### **Procedure and Response Rate**

After reaching our study welcome page, interested participants had to pass a short screening survey regarding eligibility. Those who did (97.2%) were asked to provide informed consent and to register their smartphone in the system. They then completed an intake session assessing dispositional measures and participants' behavior in a trust game (see below). Finally, participants provided demographic information and were reminded of the upcoming experience sampling (ESM) phase, which started the following day and lasted for five days. On each day of the five-day ESM phase, five random signals were delivered throughout a time window from 9 am to 9 pm divided into five blocks of 144 minutes each. Embedded in each text message was a link directing participants to the online ESM survey ("mobile survey"). Participants were encouraged to respond as soon as possible and to try to minimize the number of times they needed to delay responding. The median delay in responding was 5 minutes. On average, participants replied to 19.15 out of the 25 signals sent, indicating a good response rate of 77% (median: 88%). The mean completion time per mobile survey was 4.2 minutes.

### **ESM Survey**

For space reasons, we only provide a short summary of the protocol. The main measures (item wordings, response categories) are compiled in Supplementary Table S2, the full protocol is available at OSF. At the start of each ESM assessment, participants indicated whether they had interacted with another person within the last 45 minutes or not. We defined an interaction as "a mutual communication." In case of multiple simultaneous interaction partners, participants were instructed to focus in their responses on the one person they communicated with the most. In case of an interaction, the survey next tapped into interaction characteristics such as type of target and duration of the interaction. Participants then indicated their levels of trust ("To what

extent did you trust the person”) and distrust (“To what extent did you distrust the person”) on five-point sliders from 0 (*not at all*) to 4 (*very much*). All remaining continuous measures were also assessed on five-point sliders using one-item responses to keep the protocol at a manageable completion time. To assess trustee perception, participants rated the target on the three primary dimensions of social perception, warmth, competence, and morality. Similarly, we assessed closeness, familiarity, and similarity to the trustee. To tap into the five dimensions of situational interdependence, we used a shortened version of the Situational Interdependence Scale (SIS; Gerpott et al., 2018) using one marker item each to assess conflict, information certainty, mutual dependence, future interdependence, and power. We also assessed participants’ interaction-specific motivational and behavioral implications including self-disclosure, mentalizing, and cooperation, before tapping into six general moral aspects (e.g., moral licensing) assessed on a random 50% of occasions only which are not in the focus of the present paper. Finally, we assessed general psychological states (e.g., happiness, loneliness, sense of control).

### **Demographic and Key Dispositional Measures**

During the intake survey upon study registration, demographic information including sex, age, religiosity and political orientation was assessed. In addition, we assessed a number of dispositional and attitudinal measures (e.g., general trust & distrust). These are described in more detail in the Supplementary Materials section (for complete materials, see OSF).

### **Trust Game**

We adapted a simplified, binary version of the classical trust game (Berg et al., 1995) from prior research (see also Bohnet & Zeckhauser, 2004). Participants learnt that in a short decision task, they would be randomly matched with another participant and receive their actual monetary payoff according to the decisions made in this task with a 20% chance (implemented

after data collection). Participants were randomly assigned to the role of the trustor (“Person A”) and trustee (“Person B”). Both received an initial endowment of 5.00€ Trustors could make a (binary) choice to either transfer their entire endowment to the trustee or to keep the entire amount. In case of a transfer, the money was tripled, resulting in a total amount of 20.00€ for the trustee to be won in the lottery (including his/her own endowment). The trustee could then choose to keep the entire amount of 20.00€, leaving the trustor with nothing, or to send half of it back to the trustor. In the latter case, each of them would receive a 10.00€ payoff. Out of the 199 participants randomly assigned to the role of Person A (trustor) in the trust game, 53 (26.6 %) chose to keep their 5.00€ and 146 (73.4%) chose to trust Person B with the endowment.

### **Analytic Procedures and Strategy**

Because observations are nested within participants, all core analyses—except descriptive raw data calculations—were conducted within a multilevel framework with random intercepts and fixed effects using the lme4 package in R and ancillary packages (see R analysis code at OSF project page). Because participants could interact with one and the same target person multiple times, and had been asked to provide unique (nick) names, we created a Target ID variable from the target-related information (for details, see Supplementary Materials), and included the target identifier as nested within subjects in all multilevel analyses except for the multilevel network model which only allowed specifying a two-level structure. To estimate the independent contribution of each predictor candidate of trust in our main analysis, we chose a sequential model-building strategy: First, we built a random-intercept only model to decompose the variance in trust into the within-person (Level-1) and between-person (Level-2) components. Second, we regressed trust on the surface-level predictors set, trustee perception, and trustee-trustor relationship (reported in Supplementary Table S3), before including all of these

situational predictors in a joint model (Model 1). We then regressed trust scores on demographic and dispositional predictors (Model 2). Finally, we jointly included all situational and dispositional predictors (Model 3). Continuous Level-1 variables were person-mean centered. Categorical Level-1 categorical variables were effects-coded, indicating category deviations from the grand average. Age, religiosity, political orientation, and dispositional measures were grand-mean centered to estimate the effects of all predictors at the mean of the others.

## Results

**Descriptives.** Overall, there were a total of 8,176 mobile survey responses from 427 participants. On 58.7% of occasions ( $n = 4,798$ ), participants reported a recent social interaction, with the following percentages for type of target: Partner (25.7%), Friend (12.7%), Colleague (11.4%), Parent (9.9%), Stranger (5.5%), Relative (5.4%), Acquaintance (5.2%), Professional Contact (5.1%), Best Friend (4.9%), Sibling (4.0%), Superordinate (2.4%), Subordinate (0.6%), with the remaining cases categorized as Other (7.1%) or Not Applicable (0.4%). Out of these, 4,709 observations from 425 participants contained non-missing data on the trust measure and the Target ID variable and hence are the basis for the subsequent multilevel analyses.

**(1) Overall Trust Experience.** The average level of trust across all responses was 3.11 ( $SD = 1.02$ ) on a scale from 0 to 4 and the average level of distrust was 0.58 ( $SD = 0.93$ ). Both means were highly significantly different from the scale midpoint of 2, both  $ps < .001$ , indicating that people display generally high average levels of trust and low levels of distrust with regard to their day-to-day interactions. Nonetheless, trust levels were not at the maximum on 43.8% of occasions, and at least some (nonzero) level of distrust was reported on 29.3% of occasions.

Moreover, as preregistered, we empirically determined whether, across the many contexts studied here, trust and distrust can be considered endpoints on a continuum or should be two

independent dimensions, as theorized by Lewicki et al. (1998). To this end, we determined the repeated-measures correlation between the trust and distrust items (Bakdash & Marusich, 2017). Both measures were highly negatively correlated,  $r = -.64$ , 95% CI [-0.66, -0.62], indicating that trust and distrust perceptions in everyday interactions can be better described as endpoints on a continuum, rather than two separable dimensions. Hence, and as preregistered, we therefore recoded the distrust measure and combined the two items into a compound trust score,  $M = 3.26$ ,  $SD = 0.89$ , used in all subsequent analyses.

**(2) Situational and Person-Level Variation.** The relatively high average levels of trust notwithstanding, a plot of moment-to-moment trust ratings over for a random subset of participants illustrates considerable variability in trust (Supplementary Figure S1). Decomposing the variance with a multilevel null model established that 83.8% of the overall variance in trust could be attributed to the within-person level (specifically: 62.8% to Target ID; 20.9% due to other fluctuation) whereas only 16.2% could be attributed to stable between-person differences in trust (see Supplementary Figure S2). That everyday trust is more than four times as likely due to the situational context of interaction rather than to stable between-person differences attests to the highly contextualized nature of trust and the limited role of personality variables (Fleeson & Leicht, 2006). Consequently, a more thorough investigation of the major surface-level, trustee-perception, and relational predictors of this situational variation is warranted.

**(3) Situational Determinants of Trust.** Regarding *surface-level characteristics*, we jointly included these five categorical variables type of target, duration of the interaction, language spoken, medium of interaction, and physical distance into a multilevel regression model predicting level of trust. The analysis of variance revealed main effects for target, duration, language spoken, and physical distance, but not for medium, (see Supplementary Table

3 and Supplementary Figure S3 for a plot of category means). Regarding type of target, as predicted, trust scores were higher, on average, for interactions involving close others such as partners, friends, parents, or siblings rather than more distant others, with strangers receiving the lowest trust scores. Regarding duration, longer interactions were associated with increasing levels of trust, as predicted. Moreover, and as predicted, native-language interactions were associated with higher trust levels than foreign-language interactions. Contrary to predictions, type of medium did not have an effect on trust scores. Finally, and also contrary to predictions, average trust levels were remarkably similar for varying physical distances, with two exceptions driving the overall effect: trust was significantly reduced when participants indicated they did not know the physical distance to their interaction partner, and, somewhat surprisingly, trust levels were elevated when participants interacted with interaction partners on a different continent.

These results are clearly useful and informative. However, before over-interpreting them in psychological terms, we sought to investigate to what extent these patterns of findings can be parsimoniously accounted for at a deeper theoretical level, that is, via more abstract features of trustee perception and the trustor-trustee relationship. To answer this question, we jointly included surface-level and deep-level predictors, that is, underlying trustee perception and relational aspects, in one model of situational (Level-1) determinants (Table 1, Model 1). Results revealed that the above effects of duration and language spoken were completely reduced to non-significance, all  $ps > .29$ . Only the main effects of target which was strongly reduced compared to the initial results (Supplementary Table S3) and that of physical distance remained. This analysis suggests that trustee perception and relational aspects, to which we turn next, can well account for much of the surface-level effects observed.<sup>2</sup>

Regarding *trustee perception*, each of the three major dimensions of person perception was a reliable and independent determinant of trust, such that interaction partners judged to be higher on either warmth, competence, or morality were trusted more than those low on any of these traits (see Table 1). In terms of *relational aspects*, we reasoned that one major underlying dimension of the relation between trustee and trustor would be given by the level of perceived closeness or familiarity that exists between interaction partners. To this end, we computed a parsimonious index that tracks psychological closeness by combining the strongly inter-correlated measures of closeness, familiarity, and similarity into a broad and internally consistent closeness index (within-level  $\alpha_w = .87$ ; between-level  $\alpha_b = .79$ ). In line with our predictions, this closeness index proved to be a very potent determinant of trust (see Table 1).

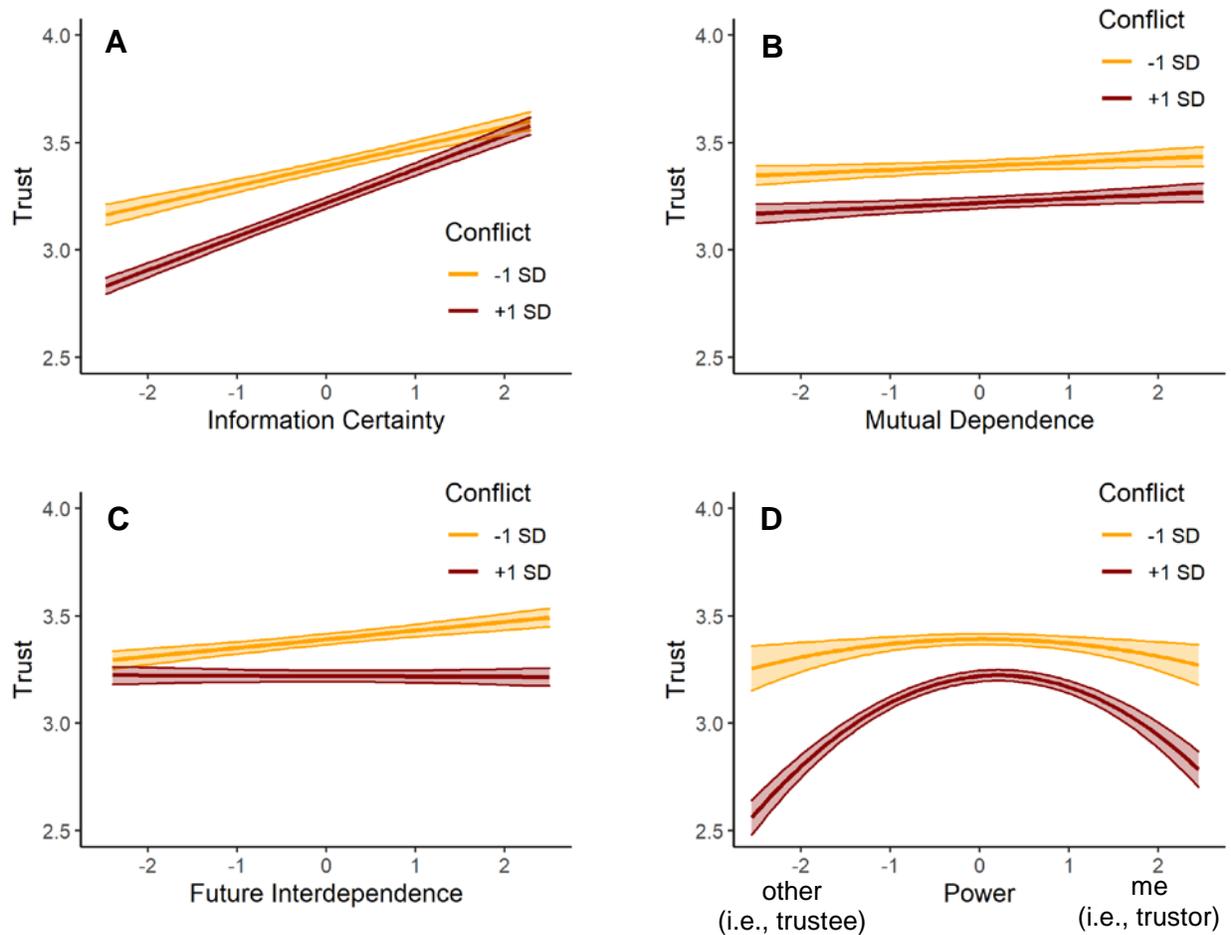
Regarding the five dimensions of situational interdependence (Gerpott et al., 2018), it is important to note that the several thousand social interactions sampled from everyday situations can be regarded as a big natural experiment in “shuffling around” social situations along these dimensions. This conclusion seems warranted as the zero-order correlation matrix among the five key domains showed an impressively large degree of independence (see Supplementary Figure S4), with an average absolute multilevel correlation of  $r = .11$ . The exception from the rule was a moderately-sized correlation between mutual dependence and future interdependence. As a side finding, the present data thus strongly confirm and replicate the breadth and structure of the interdependence theoretical approach (e.g., Gerpott et al., 2018; Kelley et al., 2003). Which aspects of interdependence are most closely associated with trust? To answer this question, we regressed trust on conflict, information certainty, mutual dependence, future interdependence, and power in a joint model with closeness. As can be seen from Table 1, and as predicted, there was a clear negative effect of conflict on trust, such that interactions higher in

Table 1. *Situational (Level-1), Dispositional (Level-2), as well as Combined Model Effects Predicting Trust Experiences in Everyday Life.*

| Effect                              | B/F                    | $\beta$ | <i>p</i> | B/F                | $\beta$ | <i>p</i> |
|-------------------------------------|------------------------|---------|----------|--------------------|---------|----------|
|                                     | Model 1 (Level-1 only) |         |          | Model 3 (combined) |         |          |
| Intercept                           | 3.29                   |         | <.001    | 3.29               |         | <.001    |
| <u>Level-1 Predictors</u>           |                        |         |          |                    |         |          |
| <i>Surface-Level</i>                |                        |         |          |                    |         |          |
| Type of Target                      | 3.53                   |         | <.001    | 3.69               |         | <.001    |
| Duration                            | 0.91                   |         | .495     | 0.93               |         | .479     |
| Language                            | 0.93                   |         | .334     | 0.28               |         | .594     |
| Medium                              | 1.23                   |         | .292     | 1.13               |         | .342     |
| Distance                            | 4.41                   |         | <.001    | 4.56               |         | <.001    |
| <i>Trustee Perception</i>           |                        |         |          |                    |         |          |
| Warmth                              | 0.15                   | 0.13    | <.001    | 0.16               | 0.14    | <.001    |
| Competence                          | 0.12                   | 0.12    | <.001    | 0.11               | 0.11    | <.001    |
| Morality                            | 0.15                   | 0.15    | <.001    | 0.14               | 0.14    | <.001    |
| <i>Trustor-Trustee Relationship</i> |                        |         |          |                    |         |          |
| Closeness                           | 0.19                   | 0.24    | <.001    | 0.20               | 0.25    | <.001    |
| <i>Situational Interdependence</i>  |                        |         |          |                    |         |          |
| Conflict                            | -0.09                  | -0.10   | <.001    | -0.08              | -0.10   | <.001    |
| Information Certainty               | 0.09                   | 0.08    | <.001    | 0.09               | 0.08    | <.001    |
| Mutual Dependence                   | 0.00                   | 0.00    | .669     | 0.00               | 0.00    | .616     |
| Future Interdependence              | 0.01                   | 0.01    | .255     | 0.01               | 0.02    | .095     |
| Power Difference (linear)           | 0.01                   | 0.01    | .298     | 0.01               | 0.01    | .298     |
| Power Difference (quadratic)        | -0.02                  | -0.01   | .027     | -0.02              | -0.01   | .031     |
| <hr/>                               |                        |         |          |                    |         |          |
|                                     | Model 2 (Level-2 only) |         |          |                    |         |          |
| Intercept                           | 3.28                   |         | <.001    |                    |         |          |
| <u>Level-2 Predictors</u>           |                        |         |          |                    |         |          |
| <i>Demographics</i>                 |                        |         |          |                    |         |          |
| Gender                              | 0.05                   | 0.05    | .079     | 0.04               | 0.04    | .103     |
| Age                                 | 0.00                   | 0.00    | .991     | 0.00               | 0.03    | .354     |
| Political Orientation               | -0.03                  | -0.07   | .014     | -0.03              | -0.06   | .021     |
| Religiosity                         | -0.01                  | -0.01   | .626     | -0.03              | -0.03   | .298     |
| <i>Dispositional Predictors</i>     |                        |         |          |                    |         |          |
| General Trust                       | 0.06                   | 0.06    | .056     | 0.08               | 0.08    | .016     |
| General Distrust                    | -0.02                  | -0.02   | .479     | 0.00               | 0.00    | .898     |
| Moral Identity                      | 0.09                   | 0.10    | .001     | 0.07               | 0.07    | .011     |
| Zero-Sum Belief                     | -0.09                  | -0.09   | .001     | -0.10              | -0.10   | <.001    |
| Social Value Orientation            | 0.00                   | -0.01   | .682     | 0.00               | -0.01   | .777     |

conflict or zero-sumness were associated with lower trust, on average. In addition, and in the absence of a specific prediction, there was a comparable effect of information certainty such that knowing what the interaction partner wanted was associated with higher levels of trust. Contrary to our predictions, neither mutual nor future interdependence showed an average relationship with trust. As predicted, and advancing the literature connecting power and trust, trust was lower for social interactions the further trustor and trustee differed in their power from each other, be it either due to the trustor being relatively more *or* relatively less powerful than the trustee. This almost perfectly inverted U-shape (i.e., absent a linear effect) mapping power imbalance on trust is illustrated in Supplementary Figure S5.

Next, we sought to explore whether conflicting interests, due to their arguably central role in shaping positive expectations and hence the degree of accepting vulnerability, may modulate (some of) the effects of the remaining four dimensions of interdependence. To this end, we conducted a series of four multilevel moderated regression analyses summarized in Supplementary Table S4 and illustrated in Figure 2. Conflict interacted reliably with information certainty, future interdependence, and power, but not with mutual dependence. As can be seen in Figure 2 (Panel A), the generally positive connection between information certainty and trust established above was more pronounced for high rather than low levels of conflict. Moreover, whether high future interdependence is beneficial or detrimental for trust appears to hinge on the degree of conflict, such that knowledge/awareness of future interdependence is associated with heightened trust for low conflict scenarios but with reduced trust for high conflict scenarios (Figure 2, Panel C). Finally, the power imbalance effect established above was more pronounced under conditions of high as compared to low conflict of interests (Figure 2, Panel D). Viewed in concert, these analyses suggest the refined conclusion that conflicting interests may reduce trust,



**Figure 2.** Interplay between conflict and the remaining four dimensions of interdependence.

especially in contexts of high uncertainty about each others' intentions, power imbalance, and relevance and entanglement in the future.

**(4) Dispositional and Demographic Determinants of Trust.** The key statistics for trait and demographic variables are provided in Supplementary Table S5.<sup>3</sup> Convergent and discriminant validities were as expected, and scale intercorrelations were reasonably low to justify a joint multilevel model at Level-2 (Table 1, Model 2). Conclusions were very similar when including all Level-1 situational predictors in the final model (Table 1, Model 3).

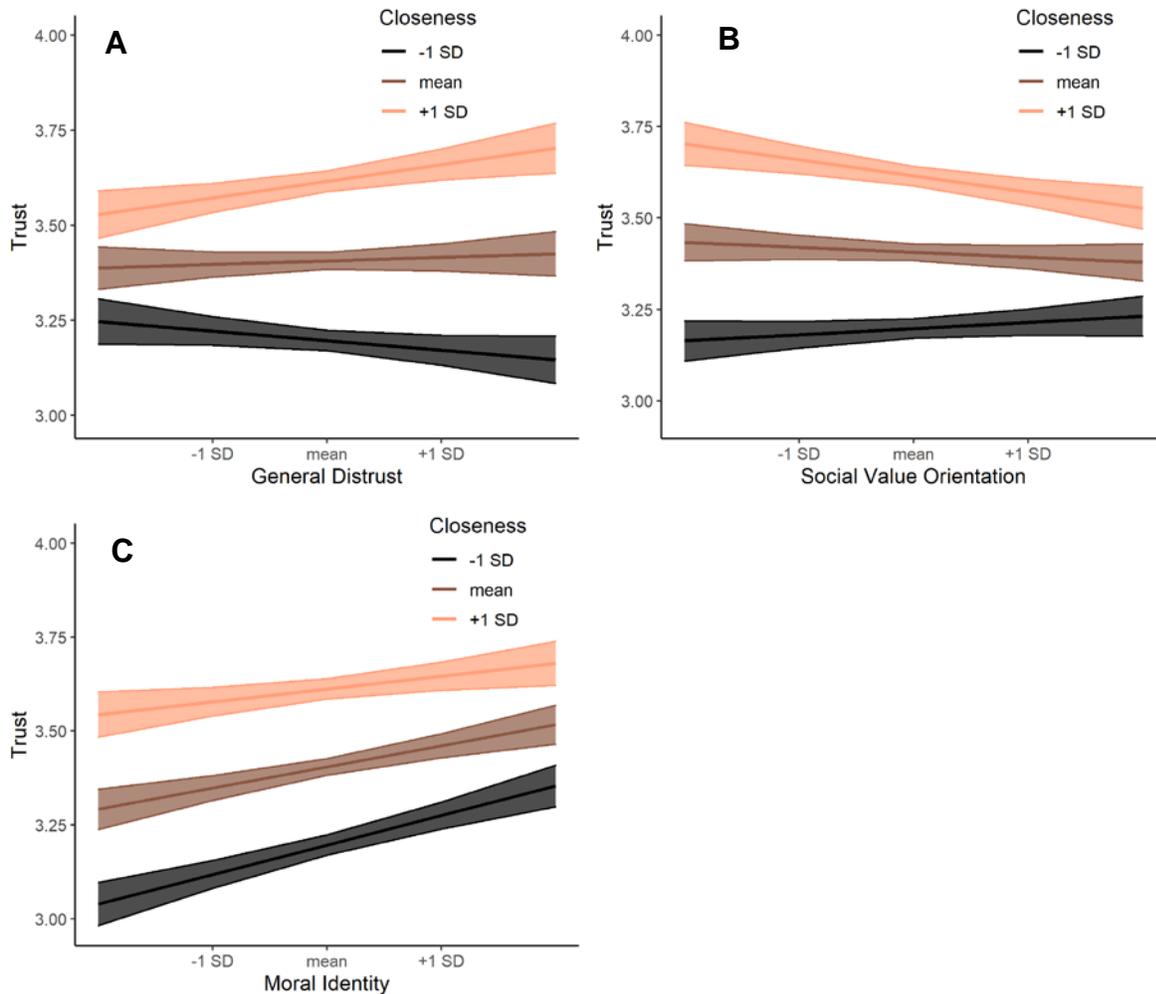
As can be seen from the final model, everyday trust levels were largely independent of gender, age, and religiosity demographics. However, and conforming with predictions,

participants with relatively more conservative political orientation exhibited significantly lower levels of average trust. In terms of trait measures, as predicted, general (propensity to) trust was significantly associated with average trust levels during the ESM phase (marginally significantly in Model 2). General distrust was not a reliable predictor of average everyday trust levels over and above the remaining scales, contrary to our prediction. As predicted, individuals with a strong moral identity exhibited higher levels of trust than those with a weak moral identity. In terms of traits without prior prediction, people scoring high, rather than low, on general zero-sum belief showed lower levels of trust. Finally, SVO did not account for average levels of trust.

We conducted three follow-up analyses regarding the propensity to trust approach. First, we examined our central trait variables as indicators of potential self-selection processes as affecting which situations participants confronted—and which ones they did not. To that end, we explored the possibility that trait differences may be associated with the frequency of social interactions or encounters with strangers reported during the ESM period. To this end, we conducted two Poisson regression analyses, controlling for overall participant response rate. As Supplementary Table S6 shows, only few measures predicted such possible selection effects: The overall number of social interactions was reliably predicted only by zero-sum beliefs, such that individuals holding more negative views regarding the antagonistic nature of social interactions and relationships reported a lower number of overall interactions. Regarding the frequency of interactions with strangers, only gender and social value orientation emerged as reliable predictors (Supplementary Table S6). Female participants reported fewer stranger interactions than male participants, and individuals high in (pro)social value orientation reported more frequent stranger interactions compared to those low on the trait. Neither general trust nor distrust were reliable predictors of possible situation selection effects.

Second, we explored whether trait variables could differentiate between people with higher versus lower ranges of trust experiences. To that end, we correlated our trait variables with trust variability, operationalized as each person's within-person standard deviation of state trust scores. As shown in Supplementary Table S5, females exhibited more trust variability than males, and younger people more variability than older ones. Moreover, both general trust and moral identity were associated with lower trust variability. General distrust, in contrast, was associated with heightened variability in trust levels across social interactions.

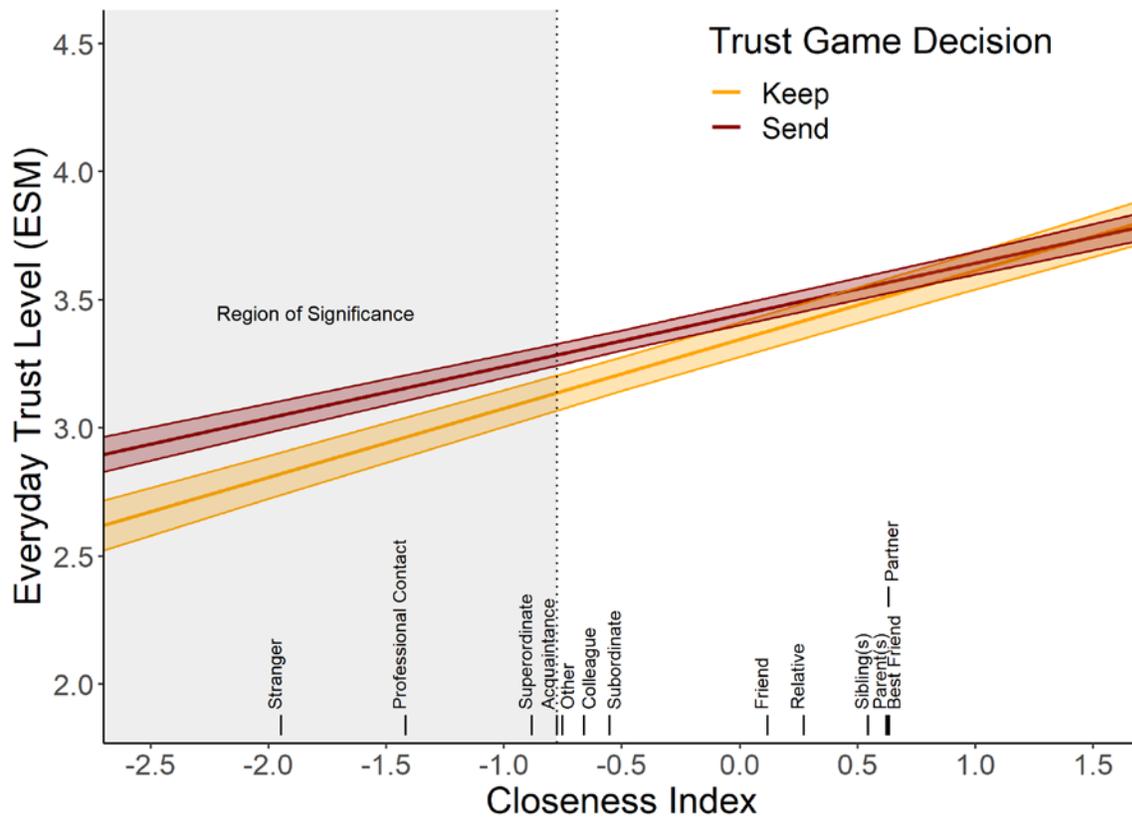
Third, to explore their social scope, we jointly added cross-level interactions among the five trait measures and our closeness gradient to the Model 3. Three out of the five traits showed reliable evidence for context-specificity (see Supplementary Table S7). General trust and zero-sum beliefs did not interact with closeness, and thus their above-mentioned positive and negative relationships with trust, respectively, appear to be of a more generalized nature. As shown in Figure 3, individuals high in distrust or low in social value orientation showed what may be called a *social distance amplification* effect (see Panels A and B). These individuals appeared to experience reduced levels of trust towards distant others but also *higher* levels of trust towards close others, compared to individuals on the other end of the scale pole (low distrust individuals, high prosocials). As this spread of trust went in both directions, there was no main effect of these two traits on everyday trust levels, as noted above. Finally, the positive relationship between moral identity and everyday trust was moderated by closeness (Panel C), such that individuals high in moral identity not only showed above-average trust levels, but also discriminated less among targets of varying social closeness (i.e., a *social distance buffering* effect).



**Figure 3.** Cross-level interactions between trust-related traits and social closeness.

**(5) Lab and Field: Trust Game Behavior and Everyday Levels of Trust.** To investigate whether trust game behavior is predictive of average levels of trust exhibited across everyday interactions, as expected, we added experimental trust game decision (0 = *keep*; 1 = *send*) as a Level-2 predictor to Model 1. Contrary to our prediction, this analysis showed no such overall link,  $B = .11$ ,  $p = .129$ , although descriptive results pointed towards slightly higher average levels of daily trust in those who sent the money,  $M = 3.25$ ,  $SE = .07$ , as compared to those who kept the money,  $M = 3.14$ ,  $SE = 0.09$ .

In the next step, we scrutinized whether the trust game may be more predictive for everyday interactions low as compared to high in social closeness, i.e., those interactions that resemble the situation of a typical trust game where players do not know each other. Results revealed a significant interaction effect,  $B = -0.07$ ,  $p = .018$ . As can be seen from the plot of the interaction in Figure 4, the trust game decision was more strongly linked to everyday levels of trust for interactions low as compared to high in subjective closeness. Mapping surface-level target categories onto average person-centered closeness scores for illustrative purposes shows that stranger interactions, professional contacts, and superordinate interactions typically fell within the region of significance of the interaction effect.

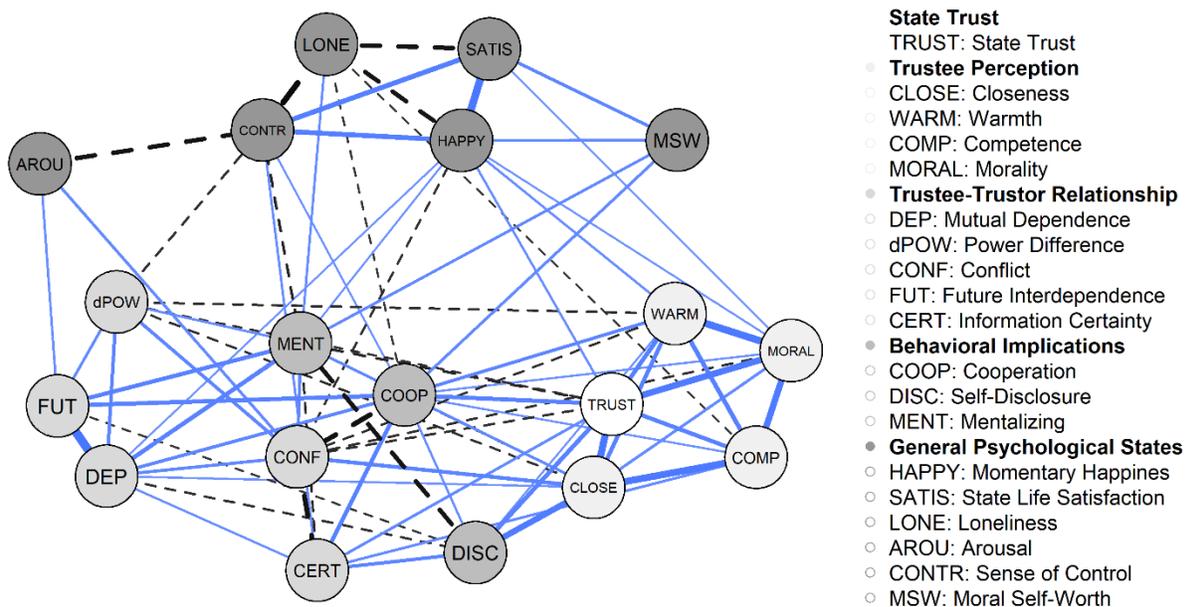


**Figure 4.** Predictive validity of the trust game decision on everyday trust for varying levels of closeness of interaction partner. The grey area indicates the region of the interaction at which the trust game decision significantly predicts everyday trust levels as measured with ESM. The category means for type of target are mapped onto the x-axis at their respective average person-centered closeness index.

**(6) Motivational and Behavioral Implications.** To investigate the connection between trust and cooperation, we regressed self-reported degree of cooperation on person-centered trust. The analysis revealed a clear positive relationship,  $B = .51, p < .001$ , amounting to a standardized coefficient of  $\beta = .34$ . This preregistered finding replicates the generally positive relationship between trust and cooperation (Balliet & van Lange, 2013). Next, we explored whether this relationship is stronger at high rather than low levels of conflict (Balliet & van Lange, 2013). To this end, we added conflict and its interaction with trust to the model, while also controlling for the other four dimensions of interdependence. The interaction between trust and conflict was significantly positive,  $B = .07, p < .001$ , replicating meta-analytic findings by Balliet and van Lange (2013). As can be seen from the display of the interaction in Supplementary Figure S6 (Panel A), trust and cooperation were more tightly associated at high rather than low levels of conflict. Framed differently, high levels of trust buffered the otherwise negative effects of conflict on cooperation, such that, at high levels of trust, cooperation rates were indistinguishable (see Supplementary Figure S6, Panel A). A supplementary analysis revealed a mirror-image with regard to competition,  $B = -.06, p < .001$  (see Supplementary Figure S6, Panel B). As measures of cooperation and competition were only weakly correlated,  $r = -.20, p < .001$ , this finding represents a non-trivial extension of the above effect by Balliet and van Lange (2013).

Moreover, and as predicted, participants' trust scores were positively associated with the degree to which they self-disclosed to their interaction partner,  $B = .58, \beta = .33, p < .001$ , in line with a risk-regulation perspective on trust (e.g., Read, 1962; Wheelless & Grotz, 1977). Furthermore, participants in a state of low as compared to high trust reported an increased motivation to find out about the other person's intentions,  $B = -.09, \beta = -.05, p < .001$ , supporting initial findings on the implications of distrust for mentalizing (Burgmer & Weiss, 2020).

**Synthesis: Psychological Network Analysis.** To get a more comprehensive overview of relationships among the large number of main situational measures covered, we estimated the contemporaneous (within-participant) network (Epskamp et al., 2017) involving trust and remaining constructs, including psychological state variables such as happiness. Of note, this method accounts for all direct and indirect relationships among constructs, thus providing insights into associations that go beyond zero-order correlations (much like partial correlation or “path analysis”). The network visualization provides a more holistic picture or summary of how trust is embedded in the larger conceptual space (see Figure 5).



**Figure 5.** Network visualization of significant contemporaneous relationships among trust, trustee perception, relational parameters such as closeness and conflict, behavioral implications such as cooperation and self-disclosure, and general psychological states (accounting for indirect effects among constructs). Blue/straight and black/dashed edges indicate statistically significant positive and negative relationships, respectively, and the thickness of these edges corresponds to the absolute value of the relationship (the thicker, the higher). Difference in power (dPOW) was included with absolute scores to represent the curvilinear effect established above.

The computation of the common centrality indices (i.e., strength, closeness, betweenness) showed that trust had the highest strength score in the network, and was ranked second in terms of closeness and betweenness (for details and an explanation of these indices, see Supplementary

Figure S7). This strongly supports our conclusion that trust is a central hub interlinking the social perception of the trustee, the social closeness between trustor and trustee, key features of their interdependence, and behavioral implications such as cooperation and self-disclosure.

### **General Discussion**

In this large-scale experience-sampling project, we sought to better understand the everyday manifestation of trust by collecting data on several thousand real-world interactions. In doing so, we were guided by an overarching framework of trust, which integrates trustee perception, key features of the trustee-trustor relationship, trait propensity to trust, and motivational and behavioral implications. Several key conclusions of interest and theoretical relevance, as well as multiple points of convergence and divergence between lab and field approaches to trust emerged from this endeavor.

First, trust and distrust can be considered two endpoints of the same one-dimensional concept rather than two separable dimensions (see Lewicki et al., 1998; Mayer et al., 2007). Furthermore, trust was a common experience, as indicated by generally high levels of trust (and corresponding low levels of distrust) across the entire spectrum of social interactions covered. That is, our population tended towards trust when factoring in the entirety of prior and situational information people receive when navigating their natural social environments. This finding seems to reflect trust's proposed role as a catalyst of everyday interactions and its adaptive value (van Lange, 2015; Yamagishi & Yamagishi, 1994). It also is consistent with theoretical accounts positing trust as a default (Mayo, 2015; McKnight et al., 1998) or strong moral norm operating even at zero acquaintance (Dunning et al., 2014).

Second, these average levels of trust notwithstanding, there was considerable variation in trust. The lion's share of this variation could be attributed to situation-specific (i.e., the context

of social interactions), rather than to stable personality differences between individuals (i.e., more or less trusting participants). This finding from a large sample supports our general conclusion that the experience of trust is, fore and foremost, a relational hub interconnecting the social perception of the trustee, the strength of the social connection between the trustor and the trustee, key structural features of their interdependence (such as conflict of interests, power imbalance), and behavioral responses (such as cooperation and self-disclosure) as illustrated in Figure 1. Our analyses robustly showed that people's momentary trust states appear to closely track and summarize *multiple* key aspects, meaning that the experience of trust cannot be reduced to just one single source such as the perceived morality of the trustee or the degree of conflicting interests. Despite the relatively smaller role played by personality factors in shaping trust experiences, as far as we could discern these here, these influences were not nil either: Additional analyses revealed theoretically meaningful (cross-level) interactions between most trust-related traits and social closeness. This suggests that these traits, to some extent, shape and delineate the social scope of trust across everyday interactions.

Taking stock, the trustee perception approach, the trustor-trustee relation approach as well as the propensity to trust approach all contribute their share to the experience of trust. We therefore believe that a truly integrative perspective which brings these different approaches in closer contact, as attempted here, may help provide a more complete understanding of trust. Only such a perspective, in conjunction with more inclusive designs, may allow us to better grasp not only the respective contribution, but also the *interplay* of social inference, structural features of situational interdependence, and the trusting or distrusting personality in shaping trust. The present work is a new step in that direction.

### **Situational Determinants of Everyday Trust**

Third, accounting for the large share of situational variation, we found that trust primarily tracks the trustor's impressions of the trustee in terms of warmth, competence, and morality, and relational aspects including the closeness of the relationship between trustor and trustee (a broad and consistent composite of closeness, familiarity, and similarity) as well as three key dimensions of situational interdependence (conflict, uncertainty, and power imbalance). Of note, this parsimonious cluster of abstract interaction characteristics was able to account for most of our surface-related effects (e.g., duration of the interaction or native vs. foreign language; as these effects were not in our primary focus, we will not discuss them here).

Specifically, in terms of trustee perceptions, we found warmth, competence, and morality to all *independently* contribute predictive impact to higher levels of trust, with morality exerting the descriptively strongest influence. State trust in social interactions is thus closely associated with momentary perceptions of moral character, in line with the central role of trustworthiness to morality perceptions (Goodwin, 2015). Yet, targets' morality does not completely determine everyday trust experiences. The finding that both warmth and competence exert an independent effect on trust experiences over and beyond morality confirms broad, integrative models of trust such as the framework by Mayer et al. (1995), and suggests that multiple, separable processes may combine to collectively shape inferences of momentary trustworthiness. For instance, whereas perceptions of morality (integrity) may more generally reduce uncertainty by conveying the target's sticking to moral norms regardless of any personal stakes and favoritism, interpersonal warmth (benevolence) may sometimes be used as a more discriminatory cue towards the target's good intentions particularly with respect to oneself. As a person with strong moral traits may not always benefit oneself, for example when a friend refuses to act

nepotistically (Goodwin et al., 2014), an interesting avenue for future research is to identify the boundary conditions under which warmth versus morality may be factored in more strongly. Moreover, prior work has demonstrated that others' (social and intellectual) skills may be a double-edged sword, posing a threat in case of malevolent intentions (Landy et al., 2016). Nevertheless, across many daily-life settings, we find that more competent interaction partners increased trust. Given generally positive, cooperative environments, competent trustees seem to increase trustor's confidence in them acting in a responsible and predictable way.

Drawing on interdependence theory (Gerpott et al., 2018; Rusbult & van Lange, 2008), we found that low levels of conflict, high levels of information certainty, and low power imbalance, emerged as three independent predictors of everyday trust experiences (at the level of main effects). These findings demonstrate the importance of structural features of situations across various social interactions—from close, romantic relationships on the one hand to formalized (economic game) situations which provide little target information, on the other. The negative effect of conflict accords well with notions of trust as involving expectations regarding other's benevolent intentions (e.g., Rempel et al., 1985; Rousseau et al., 1998). Though correlational, this finding suggests that the higher the perceived degree of conflict, the more the trustor sees reason to suspect the possibility of being exploited, resulting in a more cautious, less trusting state of mind (Evans & Krueger, 2011; Thielmann & Hilbig, 2015).

Over and above the expected effect of conflict, both low information certainty as well as increasing power imbalance reduced average feelings of trust. We did not entertain a prediction regarding information certainty beforehand in light of competing literatures. In hindsight, the obtained effect accords well with the proposition that uncertainty introduces “noise” in the interaction, provoking misunderstandings and providing room for suspicion (Rusbult & van

Lange, 2003). As situations with imperfect information are highly common, this result underlines the importance of making efforts towards both transparency and giving others the benefit of the doubt to ensure a productive, cooperative interaction (see van Lange & Balliet, 2015).

In line with the fundamental role of the conflict dimension (e.g., Rusbult & van Lange, 2003), additionally exploring how conflict may interlock with the other dimensions provided refined insights. As shown in Figure 2, conflict had a considerably stronger negative association with trust when there relatively lower information certainty. In other words, clearly knowing what the other person wanted acted as a trust buffer against high levels of assumed conflict. Higher certainty may thus stem from actively managing an interdependent, but conflictuous situation or relationship. For example, as (perceived) authenticity can increase trust (Kim et al., 2017), openly disclosing one's interests seems beneficial. The finding that high information certainty may offset the negative effect of conflict suggests an intriguing possibility for building trust in otherwise problematic zero-sum interactions, such as negotiations, by advancing more transparent goal setting and more comprehensive and specific communication.

Our prediction and results regarding power imbalance clearly advance frameworks and theories on the connection between trust and power. As reviewed in more detail above, this area has produced seemingly inconsistent findings regarding whether high or low power may reduce or increase trust, typically focusing on powerholders in organizations or trust games (e.g., Hommelhoff & Richter, 2017; Mooijman et al., 2015; Mooijman et al, 2019; Schilke et al., 2015). Across a large spectrum of real-life social interactions and associated power differentials, and controlling for other aspects of situational interdependence, our data suggest that both accounts may have a point, as indicated by the inverted U-shaped pattern connecting power with trust. Our preferred interpretation is that the asymmetric control over resources given by an

*imbalance* of power may incur lower levels of trust in *both* the powerful and the powerless, but for different reasons. Future research should further disentangle the qualitatively different processes that may account for this pattern in the powerful (fear of losing power; see Mooijman et al., 2019) versus powerless (fear of power abuse and sanctions).

We further found that the negative effects of power imbalance on trust were more pronounced with increasing levels of conflict. When conflict of interest is strong, those low in power may fear being exploited through the abuse of power, whereas powerholders might suspect others' withdrawal of cooperation and support in the face of inequity. As not every conflict of interest implies a power imbalance (and vice versa), this suggests that the confluence of both factors may render social interactions particularly troubling from a trust perspective. In fact, as Figure 2 shows, estimated levels of trust were lowest for the combination of high conflict and strong power imbalance out of all probed interactions.

As a noteworthy side finding, the average (absolute) correlation among the five structural dimensions of situations assessed was reassuringly low. We believe this finding both lends further credibility and generalizability to the idea that these basic dimensions describe the universe of situational interdependence in a highly efficient way and are readily accessible to people (see Gerpott et al., 2018). From a practical perspective, our results suggest that for a social psychologist embarking on trust island with a small suitcase, measures of conflict, information certainty, and power imbalance appear to be the three most central relational measures to pack at this point in time. Moreover, the situational interdependence findings also highlight the utility and innovative potential of the ESM method. As the scatterplots in Supplementary Figure S4 suggest, it allowed us to essentially sample random combinations from a five-dimensional continuous space over thousands of social interactions to then study how

these dimensions jointly contribute in shaping trust (including a curvilinear prediction). This is a feature that would indeed be hard to achieve with a classic experimental design. We believe that this finding also advertises the special utility of the ESM method for social-psychological research, in particular, as a bridge-builder between the lab and the field. Perhaps it is not too much of an exaggeration to state that, when putting this method to good use, “everyday life” joins one’s research team as the tireless free-lance experimenter it actually is (and with some concessions to internal validity and other limitations, of course).

### **Contributions to the Propensity to Trust Approach**

Fourth, the present findings shed new light on the role of a selected number of trait-related antecedents of trust. Average everyday trust was positively predicted by general trust and moral identity, and negatively by zero-sum beliefs. Notably, as zero-sum beliefs reflect a generalized view on social interactions and relationships as characterized by conflicting interests, this result conceptually converges with the impact of situational conflict on everyday trust. In contrast, general distrust and social value orientation did not show a relationship with everyday trust at first sight, supporting prior distinctions between generalized and relational (dis)trust (e.g., Jones et al., 1997; Rusbult & van Lange, 2008; Simpson, 2007).

Whereas these results attest to the everyday relevance of trait variables in shaping trust, we think our main contribution to the propensity to trust approach lies elsewhere, as we were in a unique position to answer lingering questions regarding the social scope of these traits. Specifically, we investigated the predictive validity of these traits as a function of varying degrees of social closeness and found strong support for the “bounded” nature of general distrust, social value orientation, and moral identity: For one, people high in moral identity showed evidence of *social distance buffering*. This result extends prior findings that moral identity

expands the circle of those we feel morally obliged to and underlines the relevance of self-centrality of moral traits (Reed & Aquino, 2003): Apparently, the effects of moral identity generalize beyond anonymous donations to strangers and outgroups to actually approaching non-close individuals in daily life with a trusting attitude.

For another, we report on a *social distance amplification* effect exerted by general distrust (as well as SVO) which elucidates the absence of a general relationship between these traits and everyday trust experiences. Strikingly, people high in general distrust (or low in SVO) trusted close others disproportionately *more* than individuals low in general distrust (or high in SVO). With respect to SVO, this finding extends prior work on the association between a prosocial orientation and positive expectations in (anonymous) social dilemmas (Pletzer et al., 2018). With respect to distrust, this finding supports theorizing that low trust in “outsiders” may fuel commitment and confinement to one’s close relationships and vice versa (Yamagishi & Yamagishi, 1994). Specifically, perceived risks and uncertainties associated with engaging in “outside” relationships and interactions may prevent these individuals from stepping outside their “comfort zone” of existing close-knit relationships and pursuing social and economic opportunities which might entail disconfirming (i.e., trust-enhancing) experiences. Moreover, the present social amplification effect ties in with recent accounts that people may deal with the uncertainty and risk associated with the sociopolitical world (e.g., strangers, politicians, economic struggles) by affirming trust in their personal relations (Murray et al., 2020). Generally speaking, then, the social distance amplification effect of distrust corroborates the distinction between relational and dispositional trust and the specific social scope of the latter (see Couch & Jones, 1997; Delhey et al., 2011). At the same time, it calls into question the notion that general (dis)trust simply may not matter in everyday experience (e.g., Jones et al., 1997). Taken together,

the present analyses highlight and invite further research on individual differences and regulatory processes involved in the tendency to trust one's inner "circle of trust" more than the "outside world" (see also Murray et al., 2020).

### **Lab and Field**

Fifth, a further goal of this research was to assess the predictive validity of the trust game, the most widely used economic game for assessing behavioral trust, with regard to everyday trust. Although the original impetus for this question was one of ecological validity, the answer we obtained was strikingly similar to that for dispositional trait measures: There was only limited evidence for a general connection between trustors' trust game decisions and average trust levels in real-life social interactions. However, adding social closeness to the game illuminated this relationship considerably. The moderator analysis showed that trust game decision predicted everyday trust only with regard to more socially distant interactions (e.g., with strangers or professional contacts) but not for socially close interactions. On the one hand, this finding is reassuring in that it highlights the validity and relevance of the economic trust game under conditions of high correspondence sensu Ajzen and Fishbein (1977). On the other hand, the limited social scope of this measure urges caution to not over-generalize trust game results, as the game did not appear to be representative with regard to a substantial range of social interactions from everyday social life. There were also many points of convergence between prior lab-based and the present field research. Most notably, high (i.e., above-average) levels of trust secured higher levels of cooperation in critical situations of high conflict than low levels of trust. This buffer effect of trust for cooperation conceptually replicated a key finding from the literature on cooperation in social dilemmas (Balliet & van Lange, 2013), while adding further generalizability and ecological validity.

### **Limitations and Directions for Future Research**

Some limitations of the present research should be noted. Most of these are related, and in fact immanent to, the experience-sampling methodology. First, the survey had to be restricted in complexity and length, assessing most constructs with single items or composites thereof. Second, ESM work, similar to the bulk of psychological research, relies on self-report data. Thus, some of the variables assessed may be subject to individual differences in social desirability concerns, even though the Level-1 analyses and conclusions regarding situational determinants of trust may be relatively unaffected by such tendencies in light of the statistical separation of between- and within-level sources of variance.

Third, despite including a number of trait and even behavioral measures in the intake survey, the data collected are cross-sectional and correlational, even though the analysis of contextual fluctuation around each person's mean are a step closer to process-related analyses (Bolger & Laurenceau, 2013). Nonetheless, the causal nature of the established relationships remains largely opaque. For some research questions, such as whether trust is more important for cooperation under conditions of high conflict (Balliet & van Lange, 2013), more controlled research already exists that is extended and corroborated by the present data from people's daily lives. For newly established findings, such as the curvilinear effect of power on trust or the link between low trust and mentalizing or dispositional distrust and trust variability, the present field data call for replications in controlled experimental settings, focusing on specific research hypotheses with thorough manipulation or measurement of the variables involved.

Fourth, any research on trust may have to grapple with people's tendency to self-select into certain interactions and avoid others. In experimental research, people's options to display such tendencies are typically severely reduced or eliminated and therefore cannot be studied

easily. In an ESM project, the extent of situation selection may be quantifiable to some extent, however, by relating person-level variables to the occurrence of events in theoretically meaningful ways. Here, we explored the extent to which trait-level variables may predict the frequency of reported social interactions in general and of reported interactions with strangers in particular. Despite the large sample size, evidence for selection effects was generally weak, suggesting that people may have only limited control over seeking out exclusively high-trust contexts and avoiding low-trust ones. We thus believe that the observed pattern of high average trust levels in everyday social interactions in the presence of a non-trivial amount of within-person variation is compatible with notions of trust as a common and adaptive experience—at least in the investigated population and environment. Of note, and finally, the present research studies trust in an individualistic, industrialized culture. Hence, our research may not be generalizable to other (e.g., collectivistic) cultures (Yamagishi & Yamagishi, 1994). Cross-cultural replications of the present findings are therefore highly desirable.

### **Conclusion**

To conclude, we hope to have shown that the present data provide new, real-world evidence relevant to the major trust theories in the literature and help integrate various sub-areas in trust research towards a more comprehensive understanding of trust. Given its central role and context-dependent nature, it is critical to understand and integrate the various sources that give rise to the experience of trust and distrust in our social universe.

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### Footnotes

<sup>1</sup> To our knowledge, two prior studies sampled daily-life trust experiences before. Fleeson and Leicht (2006) examined interpersonal trust as an illustration of the more general principle of how states (i.e., trust experiences) are distributed around a person's mean or traits (i.e., general trust). Due to this specific focus of their study, the investigated sample was rather small ( $N = 45$ ) and homogeneous (i.e., college students), and no abstract determinants of trust were investigated. In a more recent ESM study observing 47 participants over two weeks, Baumert and colleagues (2017) looked at general trust states with a focus on social trust and trust towards politicians (as opposed to target- or interaction-specific trust). This study, too, assessed only a restricted set of variables in a small sample, focusing on the predictive power of previous experiences (e.g., interaction-specific trust) on state social and political trust. Importantly, our main focus lies on trust within daily-life interactions, that is, towards specific interaction partners.

<sup>2</sup> As statistical conclusions were robust irrespective of whether the two variable sets were included separately (Supplementary Table S3) or jointly (Table 1, Model 1 and final Model 3), we do not dwell on a comparison of their separate versus joint inclusion.

<sup>3</sup> Depending on the variable in question, dispositional and demographic information was available for 94 to 95 percent of participants ( $n$ s ranging from 400 to 405). Hence, the analyses presented in this section were conducted on this slightly reduced subsample. Two participants indicated "other" or "won't say" regarding gender, hence their gender information was excluded from subsequent analyses to allow treating gender as a dichotomous variable ( $n = 398$ ).

SUPPLEMENTARY MATERIALS for **TRUST IN EVERYDAY LIFE**

**1. Summary of Dispositional Measures (Determinants of Person-Level Everyday Trust)**

**2. Further Sample Characteristics**

**3. Preparation of Target ID variable for Multilevel Modelling**

**4. Supplementary Tables S1 to S8**

- **Supplementary Table S1.** Research Questions and Pre-Registered vs. Exploratory Hypothesis Tests Covered by the Present Work. See OSF Project (<https://osf.io/kwp6n/>) for the Full List of Preregistered Hypotheses.
- **Supplementary Table S2.** Main Measures from the Experience-Sampling Protocol.
- **Supplementary Table S3.** Level-1 Effects on Feelings of Trust, Predicted from a Series of Multiple Multilevel Regression Models Separately Including Surface-Level Characteristics, Trustee Perception, and Trustor-Trustee Relationship Aspects.
- **Supplementary Table S4.** Moderator Effects of Conflict on the Remaining Four Dimensions of Interdependence.
- **Supplementary Table S5.** Means, Standard Deviations, Reliabilities, and Intercorrelations among Demographic and Dispositional Variables.
- **Supplementary Table S6.** Poisson Regression Analyses Predicting the Frequency of Social Interactions and Stranger Interactions from Dispositional and Demographic Predictors.
- **Supplementary Table S7.** Social Scope Analysis of Dispositional Trait Measures (i.e., Interaction Effects with Social Closeness added to Model 3).
- **Supplementary Table S8.** Estimated Multilevel Correlations Among All Level-1 Variables.

**5. Supplementary Figures S1 to S7**

- **Supplementary Figure S1.** Illustration of variability of trust (compound score) for a subset of 40 participants. Only participants with more than 5 measurement occasions were selected.
- **Supplementary Figure S2.** Average trust levels per category for type of target, duration, language, and physical distance as surface-level characteristics.
- **Supplementary Figure S3.** Distribution (diagonal), scatterplots, and zero-order correlations among the five person-centered dimensions of interdependence as well as trust scores.
- **Supplementary Figure S4.** Effect of competence on trust as a function of high and low cooperation (Panel A) and competition (Panel B), respectively.
- **Supplementary Figure S5.** Curvilinear effect of relative differences in power between trustor and trustee and experienced trust levels of the trustor (Model 3).
- **Supplementary Figure S6.** Interplay of trust and conflict in shaping cooperation (Panel A) and competition (Panel B) in everyday interactions.
- **Supplementary Figure S7.** Centrality indices for the multilevel psychological network analysis.

## 1. Summary of Dispositional Measures (Determinants of Person-Level Everyday Trust)

In terms of dispositional and attitudinal variables, the following key measures as assessed in the intake survey were included in our analysis of dispositional determinants of everyday trust. If not otherwise noted, all items were answered on seven-point scales anchored at *strongly disagree* and *strongly agree*.

*General Trust.* General trust was assessed with the widely used Inclusive General Trust Scale (Yamagishi et al., 2015) which taps into two components of trust: trust beliefs, that is, the belief that one's trust in others will be honored (5 items; e.g., "Most people are basically honest" and trust preference, that is, the desire to be a trusting person (4 items; e.g., "Even though I may sometimes suffer the consequences of trusting someone, I still prefer to trust than not to trust others"). Given the high intercorrelations of items across these facets, for the present purpose, we combined both subscales into one broad and reliable measure of general trust ( $\alpha = .79$ ), even though we entertained stronger and preregistered predictions for the trust belief subscale. Separate supplementary analyses available from the authors confirmed that the present findings connecting general trust with ESM trust levels were largely driven by the trust belief subscale.

*General Distrust.* General distrust was assessed with a widely-used, seven-item instrument (Yamagishi, 1988). Participants answered face-valid items such as "In dealing with strangers, one is better off to be cautious until they have provided evidence that they are trustworthy" and "Most people tell a lie when they can benefit by doing so" collapsed to an index of general distrust ( $\alpha = .85$ ).

*Moral Identity.* To assess moral identity, we utilized the Moral Identity Scale (Aquino & Reed, 2002; Merz & Tanner, 2009) which assesses the self-importance of being a moral person. Specifically, the instrument presents participants with nine moral traits such as honesty and

generosity and asks them to imagine a person who has these characteristics. They subsequently answer ten items, five of which tap into “the degree to which the moral traits are central to the self-concept,” termed internalization (Aquino & Reed, 2002, p. 1427). For example, they indicated to what degree “being someone who has these characteristics is an important part of who I am” and “it would make me feel good to be a person who has these characteristics.” The remaining items assess the self-reported degree to which one’s actions represent these characteristics as indicating “a general sensitivity to the moral self as a social object” (symbolization; p. 1436). For the present purposes, all items were combined into one broad and reliable overall measure of moral identity ( $\alpha = .79$ ), even though we entertained stronger (and preregistered) predictions for the internalization subscale. Separate supplementary analyses available from the authors confirmed that the present findings connecting moral identity with ESM trust levels were largely driven by the internalization subscale.

*Zero-Sum Beliefs.* Another relevant trait-level variable may be given by generalized perceptions of life as a zero-sum game, more specifically the notion that others’ positive outcomes are often attained at one’s own expense and vice versa. We reasoned that generalized zero-sum beliefs would be negatively associated with trust in daily-life interactions, given that zero-sum beliefs as a stable tendency to suspect conflict of interest may entail a focus on potential vulnerabilities and promote the attribution of malevolent intent (see also Deutsch, 1958; Schul et al., 2008; Weiss & Burgmer, 2020). Highly relevant to the present work, zero-sum beliefs have also been found to be moderately associated with societal cynicism (Różycka-Tran et al., 2015). Zero-sum beliefs were assessed with a novel 7-item scale ( $\alpha = .78$ ). These items were closely adapted from prior research on beliefs about the zero-sum nature of specific intergroup or interpersonal relationships (Crocker et al., 2017; Wilkins et al., 2015), but tapped

into a more general perception of a zero-sum relation between others' and one's individual gains. Sample items read "In many domains, my life seems like a 'zero-sum game' to me: When others win, I lose" and "Others' progress does not need to come at my expense" (reverse-coded).

*Social Value Orientation (SVO)*. People differ with respect to their self-regarding versus other-regarding preferences (e.g., Bolton & Ockenfels, 2000). Such differences in valuing own and others' outcomes are reflected in the construct of social value orientation (Bogaert et al., 2008). Some empirical and theoretical work has related a prosocial orientation to trust or trust behavior, for example in negotiations (see e.g., Bogaert et al., 2008; de Dreu et al., 2000; van Kleef & de Dreu, 2002). We therefore included a behavioral measure of social value orientation in our study, but were agnostic as to whether it would predict trust in everyday situations. As a widely used measure of social preferences, we adapted the SVO slider measure from Murphy and colleagues (2011). Participants made six choices between nine different monetary resource allocations between themselves and another, anonymous participant, varying alongside a continuum of joint payoff and/or relative payoff of one compared to the other. For example, the options for the sixth item ranged from allocating 10.00€ to oneself and 5.00€ to the other to allocating 8.50€ to each of them, with seven options with slightly decreasing payoff for the self, and relatively stronger increasing payoff for the other. The allocations of payoffs to the self and to the other person across the six choices are combined to a continuous social preference score termed SVO angle, ranging from competitive (i.e., maximizing the difference between the two outcomes) over individualistic (i.e., maximizing one's own outcome) and prosocial (i.e., minimizing the differences between the individual outcome or maximizing the joint outcome) to altruistic (i.e., maximizing the other's outcome). From 5% of participants, one of their choices was randomly drawn; they were randomly matched with another participant such that both of

them received the payoff determined by that single choice. In other words, 10% of participants actually received payoff according to this task.

*Central Demographic Variables: Political Orientation and Religiosity.* In the intake survey, a single item assessed participants' political orientation: "In politics people often talk about "left" and "right". Where would you place your own political orientation on this scale?" This item was answered on an 11-point scale anchored at *left* and *right* (Kroh, 2007). (Intrinsic) religiosity was assessed with three items ("In my life I experience the presence of the divine (or God)," "My religious beliefs form the basis of my attitude to life," "I try hard to implement my beliefs in all areas of life") adapted from prior work, each answered on four-point scales anchored at *completely disagree* and *completely agree* (reverse coded; Koenig & Büssing, 2010).

## **2. Further Sample Characteristics and Compensation Information**

Regarding the highest level of education and training in our sample, 3.5% indicated "none (yet)," 25.9% "ongoing vocational training or education," 26.2% "completed vocational training," 8.7% "polytechnic degree," 30.7% "university degree," 2.2% "doctoral degree," 2.7% "other." Overall, 45.0% of participants indicated that they were currently a college student, and 44.8% indicated that they were currently employed, including trainees. The remaining 10.2% were distributed among the options "high school student," (1.2%) "currently unemployed," (1.5%) "retired," (0.5%) "homemaker," (1.5%) "parental leave," (1.0%) and "other" (4.5%). Taken together, the present sample can be described as relatively heterogeneous compared to the typical university student sample employed in much laboratory research. Participants received 5.00€ for completion of the intake survey, and additional 15.00€ if they answered  $\geq 68\%$  (i.e., 17) of daily signals. Each completed signal also counted as a lottery ticket to win one out of five 100.00€ rewards. Participants could also win the pay-offs obtained in both the TG and the

measure of social value orientation.

### **3. Preparation of Target ID variable for Multilevel Modelling**

To prepare the Target ID variable to account for a given participant's repeated interactions with one and the same target person, we used a combination of the initial data (i.e., target initials variable) and the type of target data provided by participants. Participants were instructed to provide unique initials via open text entries for different target persons and to reuse one and the same initial for recurring target persons. To clean and transform this data into unique Target IDs for analysis, the following steps were taken: First, the open text entries were set to lower case, stripped off periods and empty space using R, and German umlauts were brought into standardized format (e.g., "ü" = "ue"). Next, a running Target ID variable was created, assigning a new unique value to each distinct target initial for a given participant, and such that no Target ID was repeated across participants. Next, three coders inspected the set of initials provided by participants and identified obvious cases where one and the same target person had been described with two different character strings by the participant (e.g., „angelina“ and „angelins“; „karo“ and „karolin“ both indicated as the partner) using a conservative correction threshold (31 corrected Target IDs). We then identified missing Target IDs for recurring targets who were indicated as the “partner” by participants via the type of target response, and—assuming that a recurring partner reflects the same target person within the short ESM window—supplied these missings with one and the same Target ID (19 corrected Target IDs). Next, we conservatively assigned unique IDs to all remaining observations with missing target initials, treating them as „unknown target individuals“ (71 corrected Target IDs). Finally, we treated as missing those observations where, contrary to instructions, participants had indicated multiple target persons (55 corrected Target IDs). In sum, about 5% of the target initials were

corrected to enable a multilevel model that allows specifying Target ID as a random factor to account for non-independence of repeated target observations (i.e., targets nested within subjects). The resulting dataset contained a total of 4,721 non-missing Target ID observations out of the total of 4,798 social interaction reports (retaining 98.4% of the dataset). All reported results were based on this slightly reduced dataset but more sophisticated modelling of the covariance structure.

As the number of varying Target IDs per participant,  $M = 6.86$ ,  $SD = 3.44$ , and as the percentage of Target IDs with more than one occurrence per person were not very large (25,1%), we also checked in a supplementary run of analyses whether omitting Target ID as a random factor would affect our conclusions. The differences in estimations were relatively trivial and, importantly, almost all of our statistical conclusions remained identical regardless of model specification. For instance, all statistical conclusions regarding the final model (Model 3) remain identical when omitting Target ID as a random factor and using the entire dataset of 4,798 observations, attesting to the robustness of the present results.

#### 4. Supplementary Tables S1 to S7

Supplementary Table 1. *Research Questions and Pre-Registered (PRE) vs. Exploratory (EXP) Hypothesis Tests Covered by the Present Work (see OSF for the Full List). The Right Column Indicates Which Pre-Registered Hypothesis Tests Were Confirmed.*

| Research Question                                 | Type | Hypotheses and Research Questions   | Prediction confirmed? |
|---|------|---|-----------------------|
| (1) Overall trust experience                      |      |   |                       |
| (a) Trust grand average                           | EXP  | Are average levels of everyday trust high, as implied by trust-as-default or trust-as-norm accounts (e.g., Dunning et al., 2014; Mayo, 2015;)?  | —                     |
| (b) Dimensionality of everyday trust and distrust | EXP  | Are trust and distrust located on one continuum, or are they bi-dimensional as suggested by some accounts (e.g., Lewicki et al., 1998)?   | —                     |
|   | PRE  | If correlation between trust and distrust exceeds .60, combine trust and distrust into a unidimensional trust index.  | YES                   |
| (2) Situation vs. person                          | EXP  | What percentage of the variation in everyday trust can be accounted for at the situational level (within-person fluctuation) vs. at the dispositional level (between-person variation)? | —                     |
| (3) Situational determinants                      |      |   |                       |
| (a) Surface-level <sup>1</sup>                    | PRE  | <i>Type of target</i> : more intimate others (e.g., partners, friends) associated with higher levels of trust than non-intimate others (e.g., strangers).                               | YES                   |
|   | PRE  | <i>Duration</i> : longer durations associated with higher levels of trust.  | YES <sup>2</sup>      |
|   | PRE  | <i>Language</i> : higher trust when interacting in native language.   | YES <sup>2</sup>      |
|   | PRE  | <i>Medium</i> : rank order on perceived trust: Personal, video call, phone, chat, Email.  | NO                    |
|   | PRE  | <i>Physical distance</i> : physically distant interactions associated with lower trust levels.  | NO                    |

|  |     |   |     |
|--|-----|---|-----|
| (b) Trustee Perception                       | PRE | <i>Warmth/Benevolence</i> : PRE: positively and independently associated with trust.  | YES |
|  | PRE | <i>Competence/Ability</i> : PRE: positively and independently associated with trust.  | YES |
|  | PRE | <i>Morality/Integrity</i> : PRE: positively and independently associated with trust.  | YES |
| (c) Trustor-Trustee Relationship             | PRE | <i>Closeness, familiarity, similarity</i> : positive associations with trust.   | YES |
|  | EXP | Clarify relationship among familiarity, closeness and similarity: combine into closeness index, if internal consistency is high.  | —   |
|  |     | <u>Dimensions of Situational interdependence (situational interdependence dimensions; Gerpott et al., 2018):</u>  |     |
|  | PRE | <i>Conflict</i> : negative association with trust; stronger predictor of cooperation for high levels of conflict.   | YES |
|  | EXP | <i>Information certainty</i> : no specific prediction.  | —   |
|  | PRE | <i>Mutual dependence</i> : positive association with trust.   | NO  |
|  | PRE | <i>Future interdependence</i> : positive association with trust.  | NO  |
|  | PRE | <i>Power</i> : increasing differences in power (i.e., power imbalance) associated with lower trust.   | YES |
|  | EXP | Does conflict interact with/exacerbate the effect of other situational interdependence dimensions?  | —   |
| (5) Lab (trust game) and field               | PRE | Trust game behavior positively predicts everyday trust.   | NO  |
|  | EXP | Does closeness of interaction partner moderate the correspondence between everyday trust and trust game behavior (situation of low closeness), in line with the principle of correspondence (Ajzen & Fishbein, 1977)? | —   |
| (6) Motivational and behavioral implications | PRE | <i>Cooperation/Competition</i> : Trust is a stronger predictor of cooperation for high levels of conflict (Balliet & van Lange, 2013).  | YES |
|  | PRE | <i>Self-disclosure</i> : positive association with trust.   | YES |

|   |      |  |           |
|---|------|--|-----------|
|   | PRE  | <i>Mentalizing</i> : positive association with trust.  | YES       |
| Synthesis: Trust in psychological space | EXP  | Explore the connection of investigated constructs with everyday trust experiences using network analysis.  | —         |
|   | /PRE | Allows for a combined test of trust’s relationship with trustee perception, relational aspects, and motivational/behavioral implications (see predictions above).                        | YES (all) |
|   | PRE  | Psychological states: Trust positively predicts happiness, life satisfaction, and authenticity, and negatively predicts loneliness and sense of control (see Table Notes <sup>4</sup> ). | YES (all) |

*Notes.* For all preregistered hypotheses for trust, we had the reverse hypothesis for distrust. For brevity, only the former is reported here. Regarding sense of control, the preregistration is ambiguous as our item was phrased and coded such that high values indicate helplessness (low control) but the variable was referred to as “sense of control.” Throughout, our preregistration was written with regard to the original items, and extra comments were inserted when referring to reverse-coded items. For ease of interpretation, Supplementary Table 1 contains predictions with regard to the construct labels.

<sup>1</sup> Underlying rationale for surface-level predictions: Regarding *type of target* (i.e., interaction partner), we predicted that trust levels would considerably vary as a function of the nature of the interaction partner, with highest trust levels expected for interactions with intimate others (partners, friends) and lowest levels for strangers (Fleeson & Leicht, 2006).

Regarding *duration of the interaction*, we predicted that longer durations would reflect more intimate relationships and hence entail higher levels of trust than brief interactions. We expected this association to hold controlling for closeness/familiarity with the target, for example due to positive interaction dynamics and mere exposure effects.

Regarding *language*, prior research has argued that language barriers, that is, speaking with non-native speakers or in a non-native language, may impair trust in organizational contexts, for example via heightened perceptions of vulnerability (e.g., Tenzer et al., 2014); already pre-school aged children trust native-accented speakers more strongly (Kinzler et al., 2011). We sought to extend these findings across diverse natural settings, predicting that trust would be higher when interacting in one’s native language.

Regarding the *medium of interaction*, drawing on the work of Brosig and colleagues (2003), among others, we predicted that more direct forms of interaction would be associated with higher levels of trust than indirect forms.

Drawing on the effects of *physical distance* on cooperation in social dilemmas such as the prisoners' dilemma (Bradner & Mark, 2002), we predicted that physically distant interactions would be associated with lower levels of trust.

<sup>2</sup> Note that the significant effects of native vs. foreign language as well as duration (Supplementary Table S3, left column) were reduced to non-significance when including more abstract interaction characteristics at Level 1 (Table 1), suggesting that these effects could be accounted for by variables such as closeness between trustor and trustee.

<sup>3</sup> General trust exhibited a marginally significant regression coefficient on average everyday trust in Model 5, and fully significant regression coefficient in final Model 6. Viewed together, the conclusion that the prediction was confirmed is warranted. Also, preregistered hypotheses focused on the trust belief subscale for which both Models confirm the prediction. For the present purpose, however, the trust belief and trust preference subscales were combined into an overall general trust score.

<sup>4</sup> Regarding general psychological states, we expected a positive relationship among the (positive) experience of trust and state happiness as well as state life satisfaction, and a negative relationship with loneliness (Dunn & Schweitzer, 2005; Rotenberg, 1994). Similarly, we expected that low trust may entail an impaired sense of authenticity, as distrust is a non-default state (Schul et al., 2008) and furthermore, distrustful individuals should try to conceal their own mental states as opposed to freely express themselves. Third, we tested whether states of high versus low trust map on a general sense of being in control. Specifically, the prevention focus and subjective ambivalence associated with distrust (Conway et al., 2018; Keller et al., 2015) may reduce people's sense of control. Finally, we explored trust's relationship with general levels of arousal.

Supplementary Table S2. *Main Measures from the Experience-Sampling Protocol.*

| Block/Measures  | Items/categories   | Scale   |
|---|--|---------|
| <b>Surface-Level Interaction Characteristics</b>      |  |         |
| Type of Target  | Please indicate with whom you interacted: [Partner; parent; sibling; relative; best friend; acquaintance; superordinate; subordinate; colleague; professional contact; stranger; other]                |         |
| Duration  | How long did the interaction take? [Less than 1 minute; 1-3 minutes; 3-5 minutes; 5-10 minutes; 10-15 minutes; 15-30 minutes; 30-60 minutes; 1 hour or longer]   |         |
| Medium  | How did the interaction take place? [In person; by phone; via e-mail; via chat (e.g., Whatsapp); via video call (e.g., Whatsapp, Skype); other]  |         |
| Distance  | How far away from you was the other person during the interaction? [Same room/location; nearby; same city; same country; same continent; other continent; don't know]                                  |         |
| Mother Tongue   | Did the interaction take place in your native language? [Yes; no]  |         |
| <b>Trust/Distrust</b>                                 |  |         |
| Trust   | To what extent did you trust the person?   | 0 to 4  |
| Distrust  | To what extent did you distrust the person?  | 0 to 4  |
| <b>Trustee Perception</b>                             |  |         |
| Warmth/Benevolence                                    | How friendly and kind do you find the other person?  | 0 to 4  |
| Competence/Ability                                    | How competent and intelligent do you find the other person?  | 0 to 4  |
| Morality/Integrity                                    | How moral and fair do you find the other person?   | 0 to 4  |
| <b>Trustor-Trustee Relationship</b>                   |  |         |
| <i>Closeness Index</i>                                |  |         |
| Closeness   | How close do you feel to the other person?   | 0 to 4  |
| Familiarity   | How well do you know this person?  | 0 to 4  |
| Similarity  | How similar are you to the other person?   | 0 to 4  |
| <i>Five Dimensions of Situational Interdependence</i> |  |         |
| Conflict  | Our preferred outcomes in this situation conflicted with one another.  | 0 to 4  |
| Information Certainty                                 | We both knew what the other wanted.  | 0 to 4  |
| Power   | Who did you feel had more power in the situation to affect one's own outcomes? [Definitely the other person (-2); rather the other person (-1); neutral (0); rather myself (1); definitely myself (2)] | -2 to 2 |
| Mutual Dependence                                     | What each of us did in this situation affected the other.  | 0 to 4  |
| Future Interdependence                                | How we have behaved in this situation has consequences for future outcomes.  | 0 to 4  |

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**Motivational and Behavioral Implications**
*Motivational States regarding Focal Interaction*

|                 |   |        |
|-----------------|---|--------|
| Cooperation     | How cooperative was the interaction?  | 0 to 4 |
| Competition     | How competitive was the interaction?  | 0 to 4 |
| Self-Disclosure | How much did you take care about what you were disclosing about yourself during that situation? (reverse-coded) | 0 to 4 |
| Mentalizing     | To what extent did you want to find out what the other person was up to?  | 0 to 4 |

*General Psychological States*

|                   |   |         |
|-------------------|---|---------|
| Happiness         | How happy do you feel at the moment?                          | -2 to 2 |
| Life Satisfaction | How satisfied are you with your life at the moment?           | 0 to 4  |
| Loneliness        | How lonely do you feel at the moment?                         | 0 to 4  |
| Authenticity      | How much do you currently feel in tune with your 'true self'? | 0 to 4  |
| Arousal           | How excited are you at the moment?                            | -2 to 2 |
| Sense of Control  | How helpless do you feel at the moment? (reverse-coded)       | 0 to 4  |

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Supplementary Table S3. *Level-1 Effects on Feelings of Trust, Predicted from a Series of Multiple Multilevel Regression Models Separately Including Surface-Level Characteristics, Trustee Perception, and Trustor-Trustee Relationship Aspects*

| Predictors                          | Surface    |          | Trustee-Perception |         |          | Trustor-Trustee Relationship |         |          |
|-------------------------------------|------------|----------|--------------------|---------|----------|------------------------------|---------|----------|
|                                     | <i>B/F</i> | <i>p</i> | <i>B/F</i>         | $\beta$ | <i>p</i> | <i>B/F</i>                   | $\beta$ | <i>p</i> |
| Intercept                           | 3.12       | <.001    | 3.34               |         | <.001    | 3.39                         |         | <.001    |
| <i>Surface-Level</i>                |            |          |                    |         |          |                              |         |          |
| Type of Target                      | 49.40      | <.001    |                    |         |          |                              |         |          |
| Duration                            | 4.53       | <.001    |                    |         |          |                              |         |          |
| Language                            | 5.67       | .017     |                    |         |          |                              |         |          |
| Medium                              | 1.29       | .263     |                    |         |          |                              |         |          |
| Distance                            | 3.84       | .001     |                    |         |          |                              |         |          |
| <i>Trustee Perception</i>           |            |          |                    |         |          |                              |         |          |
| Warmth                              |            |          | 0.24               | 0.20    | <.001    |                              |         |          |
| Competence                          |            |          | 0.23               | 0.21    | <.001    |                              |         |          |
| Morality                            |            |          | 0.20               | 0.20    | <.001    |                              |         |          |
| <i>Trustor-Trustee Relationship</i> |            |          |                    |         |          |                              |         |          |
| Closeness                           |            |          |                    |         |          | 0.37                         | 0.46    | <.001    |
| Situational Interdependence         |            |          |                    |         |          |                              |         |          |
| Conflict                            |            |          |                    |         |          | -0.12                        | -0.14   | <.001    |
| Information Certainty               |            |          |                    |         |          | 0.11                         | 0.10    | <.001    |
| Mutual Dependence                   |            |          |                    |         |          | 0.00                         | 0.00    | .745     |
| Future Interdependence              |            |          |                    |         |          | 0.01                         | 0.01    | .166     |
| Power Difference (linear)           |            |          |                    |         |          | 0.01                         | 0.00    | .627     |
| Power Difference (quadratic)        |            |          |                    |         |          | -0.03                        | -0.02   | .002     |

*Note.* All categorical variables were effects-coded, all continuous predictors person-mean centered (for details, see main text).

Supplementary Table S4. *Moderator Effects of Conflict on the Remaining Four Dimensions of Interdependence*

| Predictors                              | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> |
|---|----------|-----------|----------|----------|
| Intercept                               | 3.306    | 0.024     | 139.81   | <.001    |
| Conflict                                | -0.088   | 0.010     | -9.00    | <.001    |
| Information Certainty                   | 0.124    | 0.011     | 10.97    | <.001    |
| Mutual Dependence                       | 0.019    | 0.011     | 1.75     | .079     |
| Future Interdependence                  | 0.019    | 0.010     | 1.97     | .049     |
| Power Difference (linear)               | 0.019    | 0.013     | 1.43     | .154     |
| Power Difference (quadratic)            | -0.054   | 0.011     | -4.96    | <.001    |
| Information Certainty × Conflict        | 0.033    | 0.009     | 3.75     | <.001    |
| Mutual Dependence × Conflict            | 0.001    | 0.010     | 0.11     | .911     |
| Future Interdependence × Conflict       | -0.021   | 0.009     | -2.27    | .023     |
| Power Difference (linear) × Conflict    | 0.018    | 0.010     | 1.71     | .088     |
| Power Difference (quadratic) × Conflict | -0.034   | 0.008     | -4.33    | <.001    |

Supplementary Table S5. *Means, SDs, Reliabilities, and Intercorrelations among Demographic and Dispositional Variables*

| Variable                                 | <i>M</i> | <i>SD</i> | <i>n</i> | $\alpha$ | 1      | 2     | 3      | 4    | 5      | 6      | 7      | 8     | 9    |
|--|----------|-----------|----------|----------|--------|-------|--------|------|--------|--------|--------|-------|------|
| 1. Gender (0 = female; 1 = male)         | 0.29     | 0.46      | 400      | —        |        |       |        |      |        |        |        |       |      |
| 2. Age                                   | 31.51    | 9.55      | 402      | —        | .00    |       |        |      |        |        |        |       |      |
| 3. Political Orientation                 | 4.66     | 1.89      | 400      | —        | .19**  | .02   |        |      |        |        |        |       |      |
| 4. Religiosity                           | 1.76     | 0.87      | 401      | .91      | -.11*  | .07   | .02    |      |        |        |        |       |      |
| 5. General Trust                         | 4.08     | 0.81      | 405      | .79      | .00    | .10   | -.13** | .04  |        |        |        |       |      |
| 6. General Distrust                      | 3.83     | 0.91      | 405      | .85      | .14**  | -.11* | .21**  | -.05 | -.46** |        |        |       |      |
| 7. Moral Identity                        | 4.71     | 0.90      | 404      | .78      | -.13** | -.11* | -.20** | .11* | .23**  | -.14** |        |       |      |
| 8. Zero-Sum Belief                       | 2.80     | 0.90      | 403      | .78      | .17**  | -.05  | .08    | -.03 | -.25** | .31**  | -.17** |       |      |
| 9. Social Value Orientation (SVO)        | 30.37    | 10.69     | 402      | —        | -.08   | -.01  | -.13** | .05  | .08    | -.14** | .15**  | -.10* |      |
| 10. Trust Variability (within-person SD) | 0.67     | 0.33      | 409      | —        | -.13*  | .10*  | .04    | .03  | -.16** | .19**  | -.14** | .05   | -.02 |

*Note.* \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . The intrinsic religiosity (1-4), political orientation (1-11) and SVO scalings deviate from the remaining scales (1-7), see above.

Supplementary Table S6. *Poisson Regression Analyses Predicting the Frequency of Social Interactions and Stranger Interactions from Dispositional and Demographic Predictors.*

| Predictors                      | Number of Social Interactions |       |          | Number of Stranger Interactions |       |          |
|---------------------------------|-------------------------------|-------|----------|---------------------------------|-------|----------|
|                                 | Estimate                      | SE    | <i>p</i> | Estimate                        | SE    | <i>p</i> |
| Intercept                       | 1.018                         | 0.076 | <.001    | -2.222                          | 0.417 | <.001    |
| <i>Demographics</i>             |                               |       |          |                                 |       |          |
| Gender                          | -0.024                        | 0.018 | 0.164    | -0.293                          | 0.102 | .004     |
| Age                             | 0.003                         | 0.002 | 0.097    | -0.002                          | 0.008 | .757     |
| Political Orientation           | -0.005                        | 0.008 | 0.565    | -0.050                          | 0.039 | .206     |
| Religiosity                     | 0.014                         | 0.017 | 0.404    | -0.026                          | 0.089 | .775     |
| <i>Dispositional Predictors</i> |                               |       |          |                                 |       |          |
| Generalized Trust               | 0.016                         | 0.021 | 0.445    | -0.038                          | 0.112 | .737     |
| Generalized Distrust            | -0.038                        | 0.020 | 0.053    | -0.092                          | 0.096 | .341     |
| Moral Identity: Internalization | -0.020                        | 0.018 | 0.254    | -0.095                          | 0.090 | .294     |
| Zero Sum Belief                 | -0.068                        | 0.018 | <.001    | 0.028                           | 0.089 | .753     |
| Social Value Orientation        | 0.002                         | 0.001 | 0.145    | 0.019                           | 0.008 | .018     |
| <i>Controls</i>                 |                               |       |          |                                 |       |          |
| Signal Response Rate            | 0.068                         | 0.003 | <.001    | 0.095                           | 0.018 | <.001    |

*Note.* Count model coefficients with logit link. Number of social interactions were well-distributed, hence ordinary Poisson regression was used using the glm package in R. Number of stranger interactions were right-skewed (i.e., over-dispersed), hence zero-inflated Poisson regression was applied (zero-inflation model intercept = -0.98,  $p = .001$ ), using the MASS package in R. Number of responded signals (response rate) was included as a control variable.

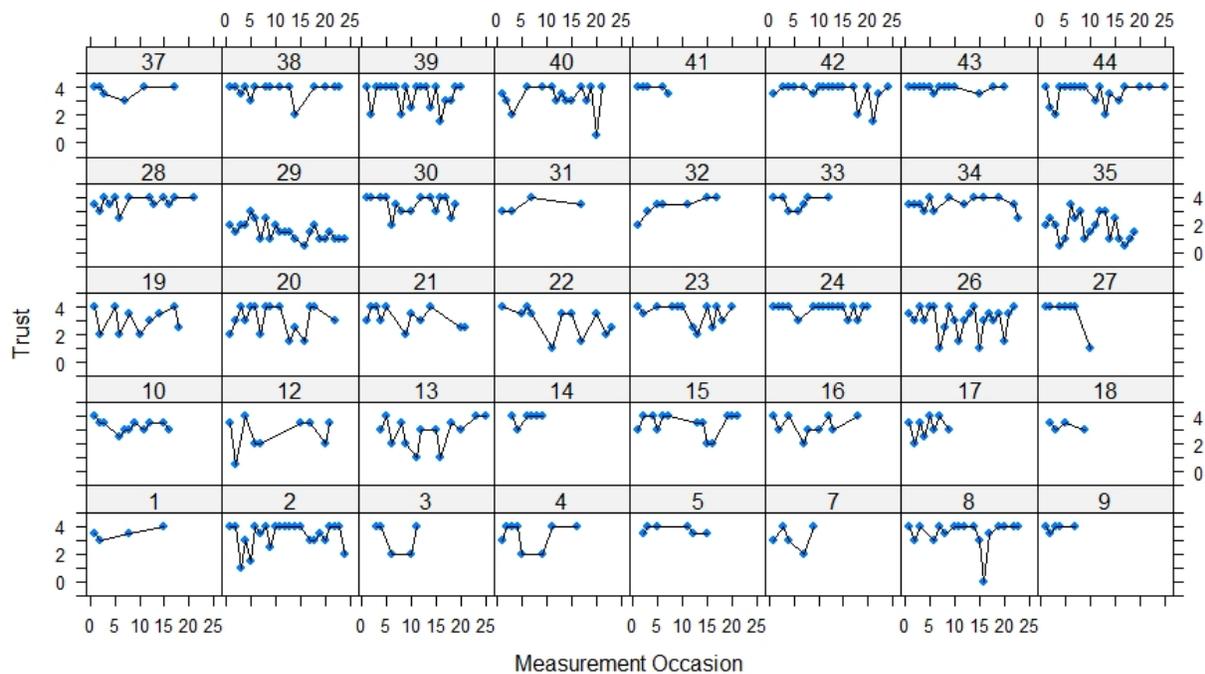
Supplementary Table S7. *Social Scope Analysis of Dispositional Trait Measures (i.e., Interaction Effects with Social Closeness added to Model 3).*

| Predictors                                  | <b>B/F</b> | $\beta$ | <i>p</i> |
|---|------------|---------|----------|
| Intercept                                   | 3.287      |         | <.001    |
| <u>Level-2 Predictors</u>                   |            |         |          |
| <i>Demographics</i>                         |            |         |          |
| Gender                                      | 0.040      | 0.04    | .113     |
| Age   | 0.002      | 0.03    | .345     |
| Political Orientation                       | -0.027     | -0.06   | .025     |
| Religiosity                                 | -0.026     | -0.03   | .311     |
| <i>Dispositional Predictors</i>             |            |         |          |
| General Trust                               | 0.070      | 0.07    | .027     |
| General Distrust                            | 0.010      | 0.01    | .722     |
| Moral Identity                              | 0.062      | 0.07    | .018     |
| Zero Sum Belief                             | -0.096     | -0.10   | <.001    |
| Social Value Orientation                    | -0.001     | -0.02   | .551     |
| <i>Moderation</i>                           |            |         |          |
| General Trust $\times$ Closeness            | -0.018     | -0.02   | .139     |
| General Distrust $\times$ Closeness         | 0.036      | 0.04    | .001     |
| Moral Identity $\times$ Closeness           | -0.023     | -0.03   | .015     |
| Zero Sum Belief $\times$ Closeness          | 0.005      | 0.00    | .660     |
| Social Value Orientation $\times$ Closeness | -0.003     | -0.04   | .001     |
| <u>Level-1 Predictors</u>                   |            |         |          |
| <i>Surface-Level</i>                        |            |         |          |
| Type of Target                              | 3.616      |         | <.001    |
| Duration                                    | 0.954      |         | .463     |
| Language                                    | 0.809      |         | .368     |
| Medium                                      | 1.066      |         | .377     |
| Distance                                    | 4.505      |         | <.001    |
| <i>Trustee Perception</i>                   |            |         |          |
| Warmth                                      | 0.155      | 0.13    | <.001    |
| Competence                                  | 0.114      | 0.11    | <.001    |
| Morality                                    | 0.141      | 0.14    | <.001    |
| <i>Trustor-Trustee Relationship</i>         |            |         |          |
| Closeness                                   | 0.201      | 0.25    | <.001    |
| <i>Situational Interdependence</i>          |            |         |          |
| Conflict                                    | -0.084     | -0.10   | <.001    |
| Information Certainty                       | 0.085      | 0.08    | <.001    |
| Mutual Dependence                           | -0.002     | 0.00    | .795     |
| Future Interdependence                      | 0.015      | 0.02    | .088     |
| Power Difference (linear)                   | 0.014      | 0.01    | .201     |
| Power Difference (quadratic)                | -0.022     | -0.01   | .022     |

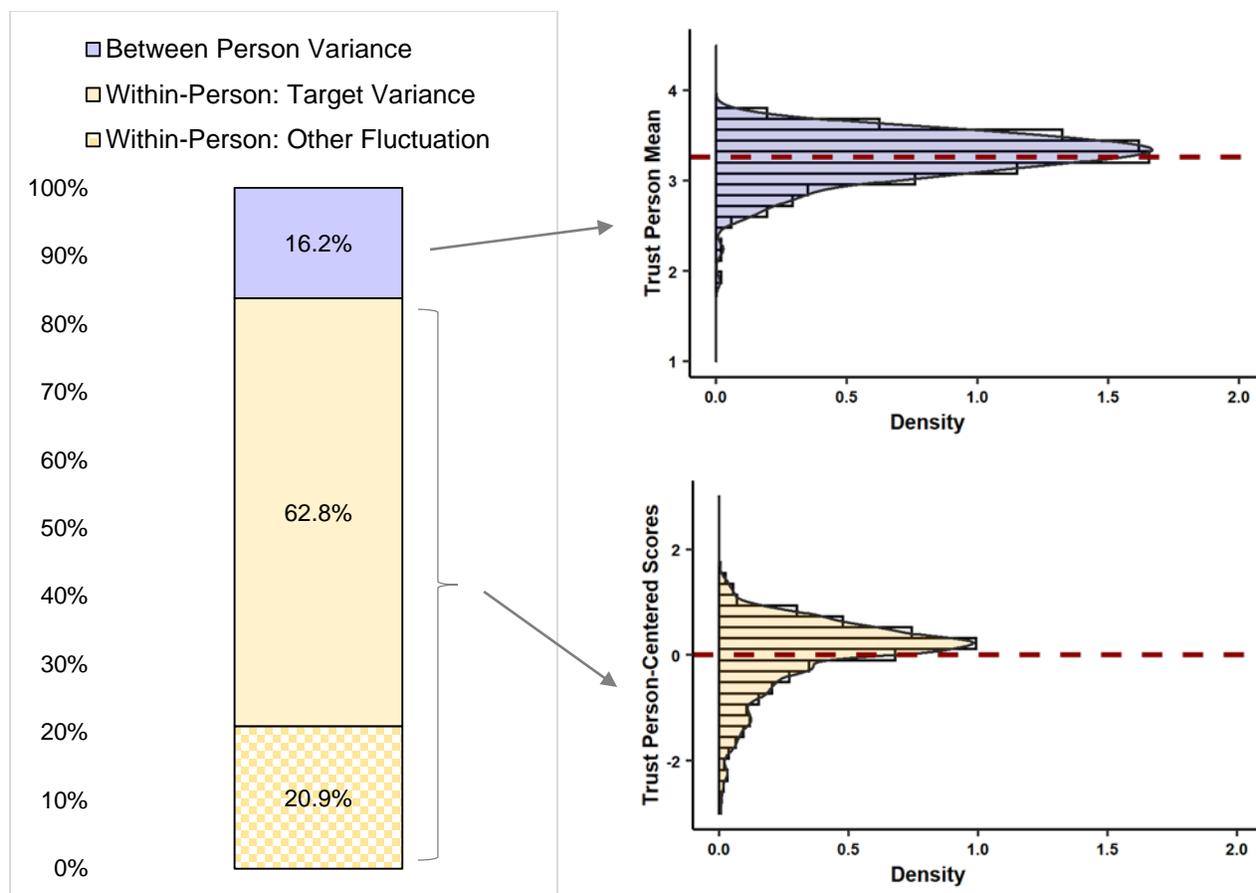
Supplementary Table S8. *Estimated Multilevel Correlations Among All Uncentered Level-1 Variables.*

|                            | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) |  |
|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| (1) Trust Score            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (2) Closeness              | .59  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (3) Warmth                 | .56  | .45  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (4) Competence             | .55  | .54  | .53  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (5) Morality               | .57  | .43  | .64  | .56  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (6) Conflict               | -.27 | -.04 | -.22 | -.14 | -.22 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (7) Information Certainty  | .29  | .15  | .21  | .21  | .21  | -.27 |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (8) Mutual Dependence      | .05  | .08  | .04  | .10  | .04  | .11  | .07  |      |      |      |      |      |      |      |      |      |      |      |      |  |
| (9) Future Interdependence | .03  | .05  | .02  | .09  | .03  | .11  | .04  | .47  |      |      |      |      |      |      |      |      |      |      |      |  |
| (10) Power                 | .01  | .03  | .03  | -.07 | -.01 | -.02 | .02  | .00  | -.01 |      |      |      |      |      |      |      |      |      |      |  |
| (11) Cooperation           | .39  | .17  | .34  | .27  | .34  | -.34 | .32  | .15  | .15  | .05  |      |      |      |      |      |      |      |      |      |  |
| (12) Self-disclosure       | .43  | .40  | .31  | .27  | .29  | -.20 | .23  | -.06 | -.07 | .04  | .19  |      |      |      |      |      |      |      |      |  |
| (13) Mentalizing           | -.05 | .07  | -.01 | .05  | .00  | .16  | -.08 | .25  | .25  | -.05 | .01  | -.16 |      |      |      |      |      |      |      |  |
| (14) Moral Self-Worth      | .07  | .04  | .09  | .09  | .10  | -.05 | .08  | .04  | .05  | .02  | .13  | .02  | .06  |      |      |      |      |      |      |  |
| (15) Happiness             | .22  | .15  | .24  | .19  | .23  | -.18 | .18  | .04  | .00  | .05  | .21  | .16  | .00  | .24  |      |      |      |      |      |  |
| (16) Life Satisfaction     | .15  | .11  | .16  | .12  | .18  | -.13 | .13  | .01  | -.01 | .05  | .16  | .11  | .00  | .21  | .53  |      |      |      |      |  |
| (17) Loneliness            | -.10 | -.06 | -.10 | -.08 | -.09 | .08  | -.07 | -.02 | .02  | -.03 | -.12 | -.09 | .04  | -.09 | -.33 | -.31 |      |      |      |  |
| (18) Authenticity          | .20  | .13  | .21  | .13  | .20  | -.20 | .18  | .05  | .02  | .08  | .20  | .15  | .02  | .25  | .53  | .46  | -.25 |      |      |  |
| (19) Arousal               | -.09 | -.03 | -.06 | -.03 | -.07 | .12  | -.05 | .07  | .10  | -.03 | -.06 | -.09 | .07  | -.01 | -.09 | -.04 | .07  | -.09 |      |  |
| (20) Sense of Control      | .13  | .05  | .12  | .05  | .13  | -.15 | .12  | -.01 | -.04 | .09  | .15  | .11  | -.09 | .13  | .40  | .37  | -.39 | .32  | -.19 |  |

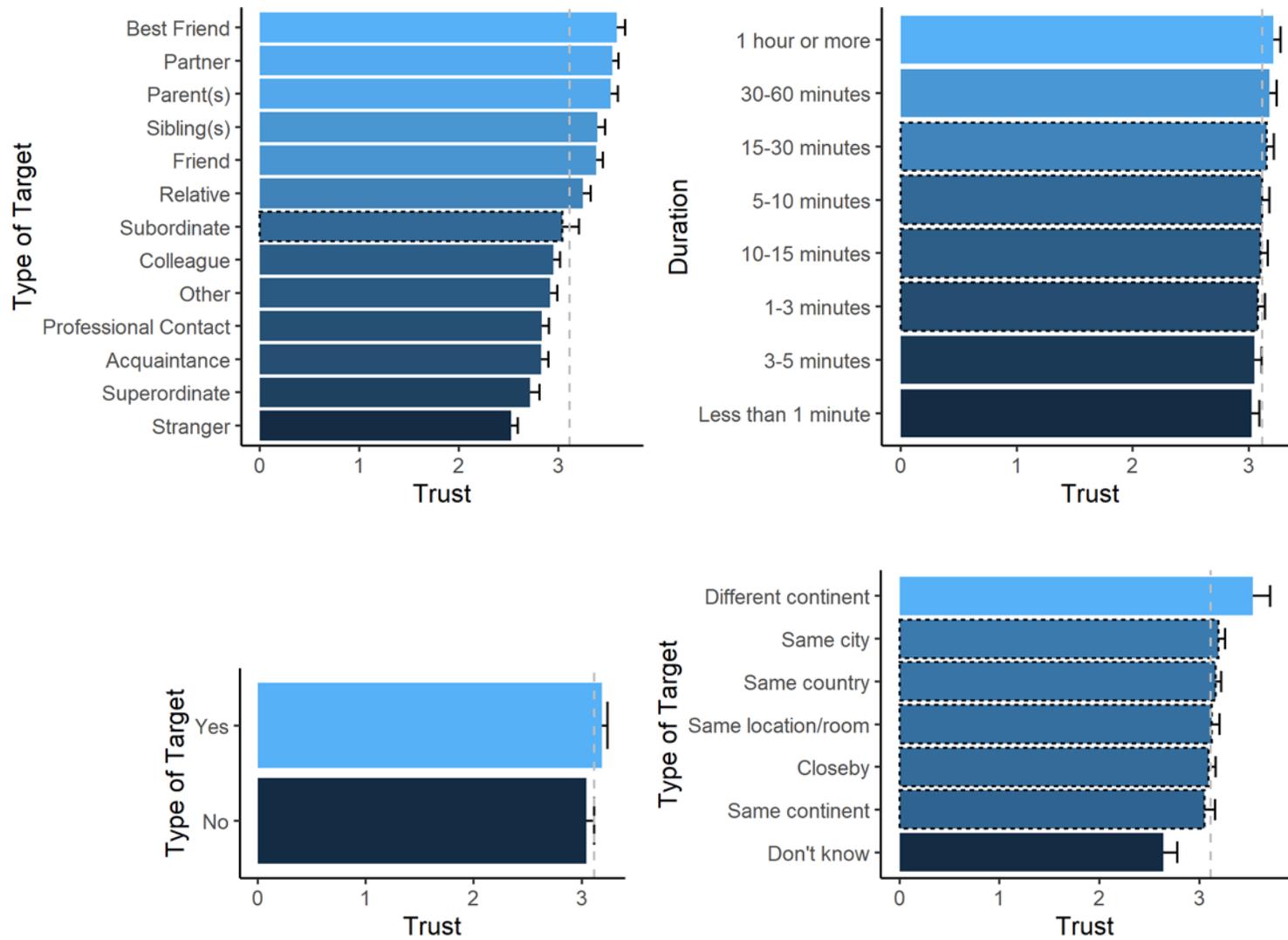
## 5. Supplementary Figures S1 to S6



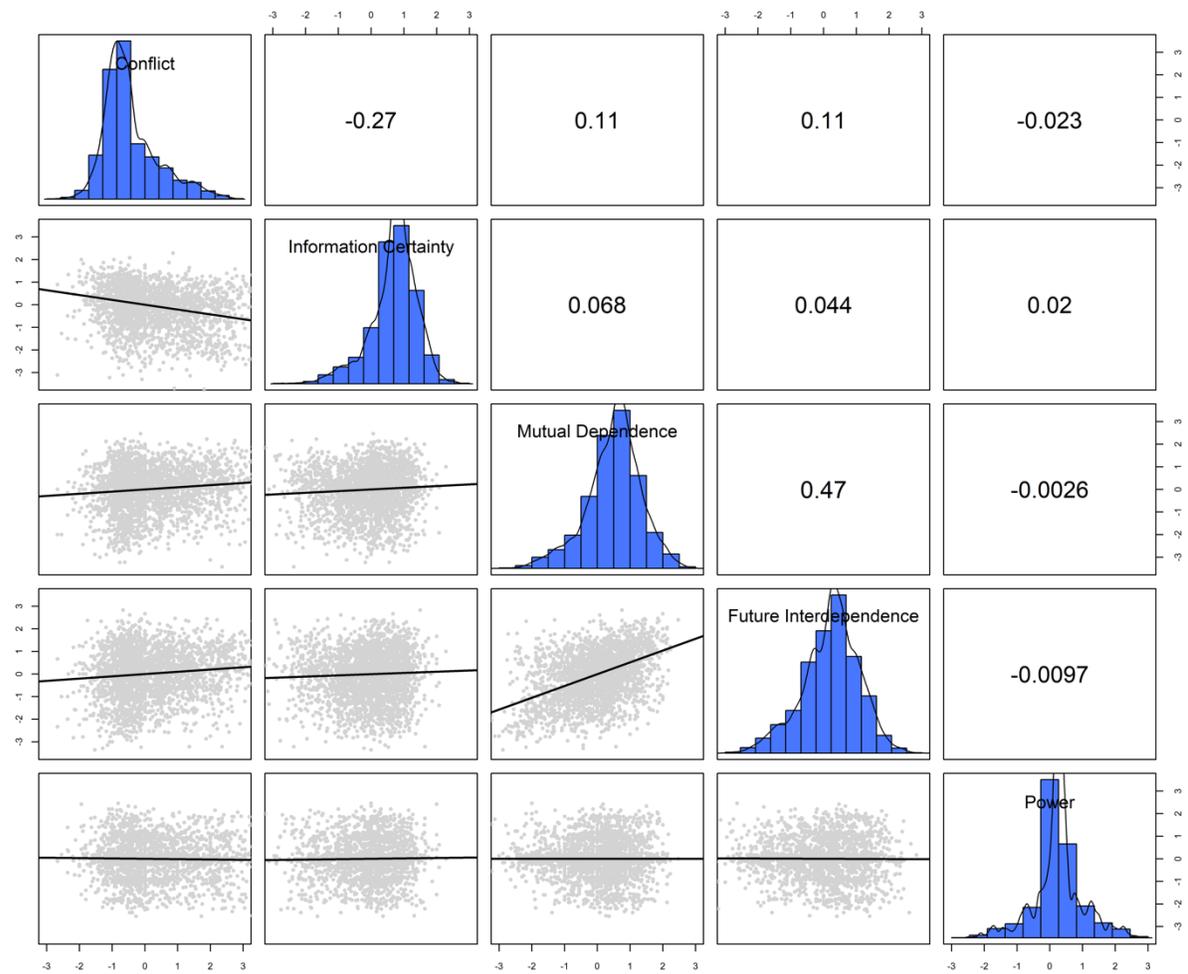
**Supplementary Figure S1.** Illustration of variability of trust (compound score) for a subset of 40 participants. Only participants with more than 5 measurement occasions were selected.



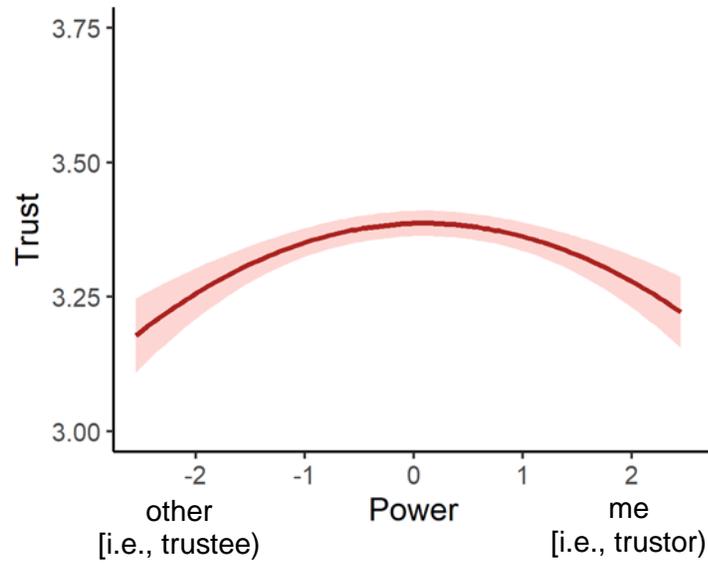
**Supplementary Figure S2.** Multilevel variance decomposition of trust experiences into between-person (violet) and within-person (yellow) components (left panel). Within-person variation is composed of target variance and other fluctuation. The right panels show how between-person means (right upper panel) and within-person (person-centered) scores (right lower panel) distribute around their respective grand means.



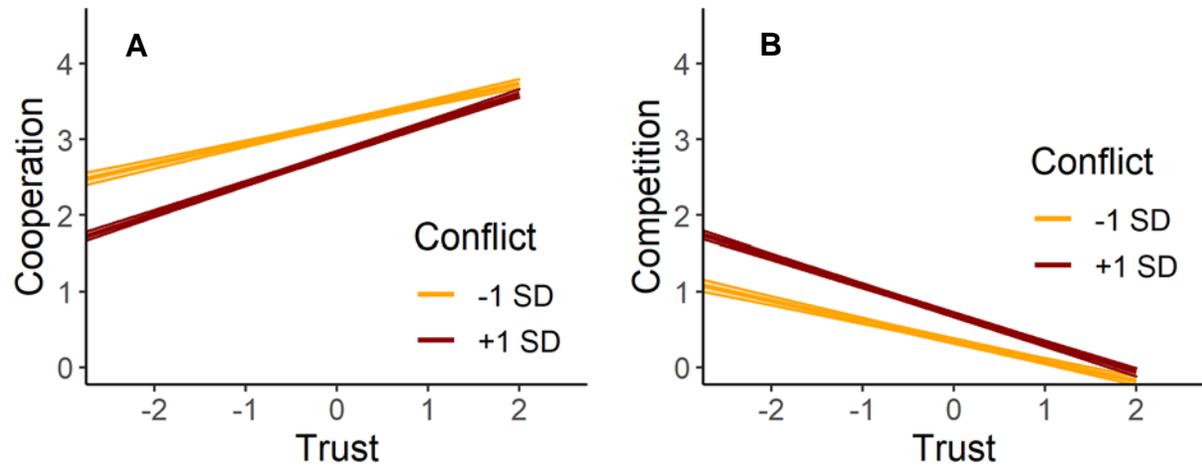
**Supplementary Figure S3.** Average trust levels per category for type of target, duration, language, and physical distance as surface-level characteristics. Bars with a dotted border are not significantly different from the grand mean (dashed grey line).



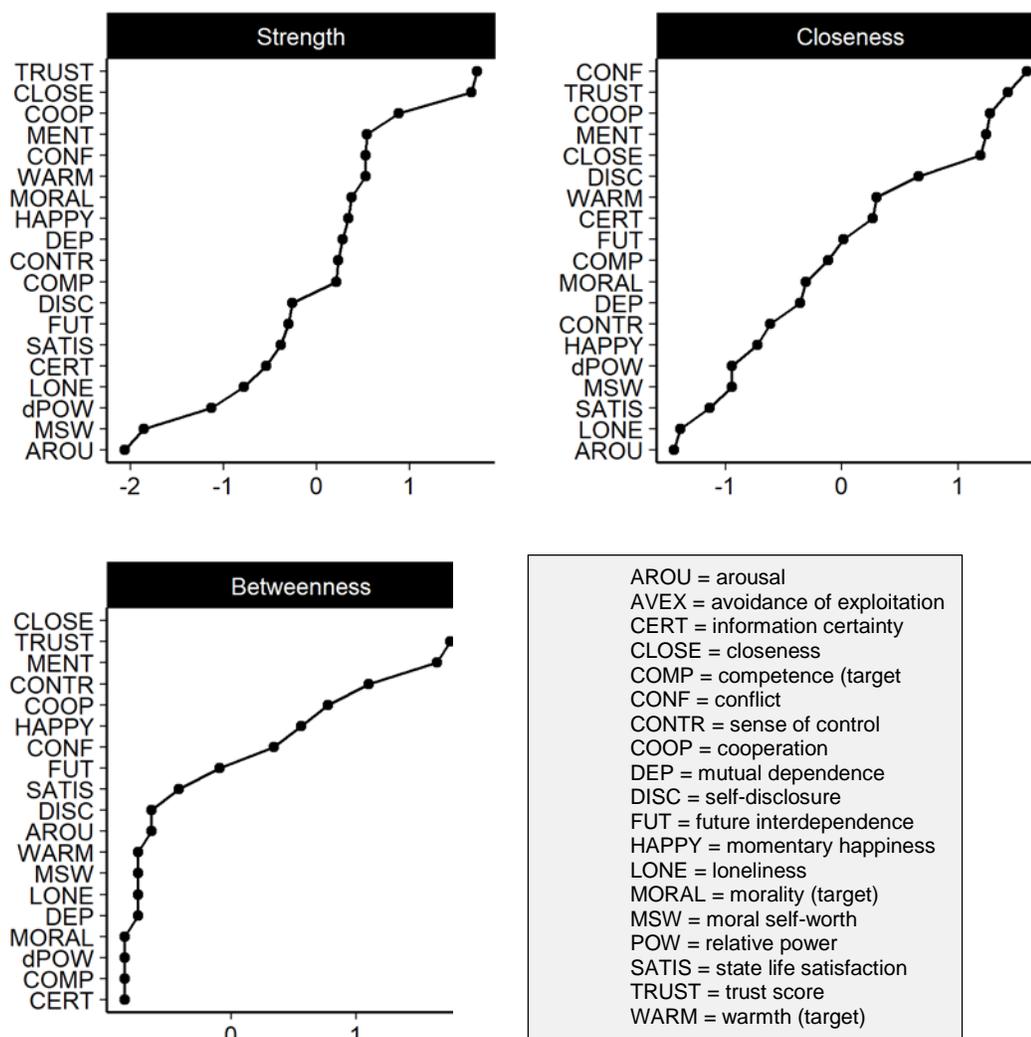
**Supplementary Figure S4.** Distribution (diagonal), scatterplots (with estimated linear regression lines), and numerical zero-order correlations among the five person-centered dimensions of interdependence.



**Supplementary Figure S5.** Curvilinear effect of relative differences in power between trustor and trustee and experienced trust levels of the trustor, illustrating the role of imbalance (in each direction) on trust.



**Supplementary Figure S6.** Interplay of trust and conflict in shaping cooperation (Panel A) and competition (Panel B) in everyday interactions.



**Supplementary Figure S7.** Centrality indices for the multilevel psychological network analysis ( $z$ -standardized). The three common centrality indices assess the importance of individual nodes in the network (for details, see Epskamp et al., 2018). Node *strength* provides a summary of the (absolute) strength of all connected edges (i.e., lines) to a node and thus allows to gauge how strongly a node is *directly* connected to other nodes in the network. In contrast, *closeness* assesses how strongly a node is *indirectly* connected to other nodes in the network. *Betweenness* is a measure of how many of the shortest paths between two nodes pass through the node in question (i.e., the higher, the more important a node is in inter-connecting other nodes).

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