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Exploring differences between employees' trust and distrust toward their supervisors.

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Ivana Lörinc, BSc

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I dedicate this thesis to my little daughter Eliška, the source of joy and love in my life.

PROLOGUE

This study was conducted as a co-joined effort of Diana Resch and Ivana Lörinc. Both parties were involved in the development of the research model as well as in the collection of data through the means of an online questionnaire. Diana Resch concentrated on trust, and in contrast, this thesis deals with the question if distrust is a separate construct from trust. Analysis, interpretation, and composition of the research work were conducted completely independent from one another.

ABSTRACT

The topic of organisational distrust, as a separate construct from trust, remains vastly unresearched. This study adopts an exploratory approach to various antecedents of employees' trust and distrust toward their supervisors. The aim is to compare the diverse relationships of those constructs and to find additional support for the existence of distrust. The antecedents include supervisors' trustworthiness, quality of communication, proportion of ICT and face-to-face communication, perceived supervisors' and organisational control as well as the perceived legitimacy of control. A convenience sample of the online survey study consisted of 420 employees from various organisations, their mean age was 37.95 years (SD = 11.33), ranging from 19 to 65 years. Collected data were analysed by means of a confirmatory factor analysis and structural equation modeling. Results showed that supervisors' control positively influenced employee's trust and negatively distrust only if employees perceived such control as legitimate. In a full model that measured all antecedents simultaneously, only supervisor's trustworthiness and quality of communication were found to be important antecedents of both trust and distrust. The findings of this study support the notion that distrust is a separate construct from trust and underlines the importance of the recognition of this construct in future organisational research.

Keywords: trust, distrust, trustworthiness, communication, ICT, control, legitimacy, employees, supervisors, structural equation modeling (SEM), CFA

ZUSAMMENFASSUNG

Das Thema Misstrauen im Organisationskontext, als von Vertrauen gesondertes Konstrukt, wurde noch wenig erforscht. Diese Studie untersucht in einem explorativen Ansatz die verschiedenen Determinanten des Vertrauens und Misstrauens von MitarbeiterInnen gegenüber ihren direkten Vorgesetzten. Das Ziel ist, die vielfältigen Beziehungen dieser Konstrukte miteinander zu vergleichen und zusätzliche Belege für die Existenz von Misstrauen zu finden. Die Determinanten umfassen die Vertrauenswürdigkeit der Vorgesetzten, Kommunikationsqualität, den Anteil von virtueller und persönlicher Kommunikation, die Wahrnehmung von Kontrolle sowie die Wahrnehmung der Legitimität dieser Kontrolle. An der Fragebogenstudie beteiligte sich eine Gelegenheitsstichprobe (N = 420) die aus MitarbeiterInnen aus unterschiedlichen Unternehmen bestand. Das Durchschnittsalter lag bei 37.95 Jahren (SD = 11.33), das Altersspektrum reichte von 19 bis 65 Jahre. Die gesammelten Daten wurden mithilfe einer konfirmatorischen Faktorenanalyse und Strukturgleichungs-modellen analysiert. Die Ergebnisse zeigten, dass die Kontrolle von Vorgesetzten das Vertrauen von MitarbeiterInnen nur dann positiv bzw. das Misstrauen negativ beeinflusste, wenn die MitarbeiterInnen diese Kontrolle als legitim empfanden. In einem vollständigen Modell, das alle Determinanten gleichzeitig erfasste, zeigten sich nur die Kommunikationsqualität und die Vertrauenswürdigkeit der Vorgesetzten als wichtige Determinanten von sowohl Vertrauen als auch Misstrauen der MitarbeiterInnen. Die Ergebnisse dieser Studie unterstützen die Auffassung, dass Misstrauen im Vergleich zu Vertrauen ein eigenständiges Konstrukt darstellt, und unterstreichen die Bedeutung der Anerkennung dieses Konstrukts für die zukünftige Organisationsforschung.

Schlagwörter: Misstrauen, Vertrauen, Vertrauenswürdigkeit, Kommunikation, virtuelle Kommunikation, Kontrolle, Legitimität, MitarbeiterInnen, Vorgesetzte, Strukturgleichungsmodell (SEM), KFA

CONTENTS

1. INTRODUCTION

"…little is understood about how organisations can identify distrust and its antecedents, and how this destructive force develops."

– Bijlsma-Frankema, Sitkin, & Weibel, 2015

The aim of this study is to explore the differences between employees' trust and distrust toward their supervisors. In the last 20 years, theoretical as well as empirical studies have tackled the notion of trust and distrust being separate yet connected constructs, and not just two opposite sides of one continuum (e.g., Lewicki, McAllister, & Bies, 1998; Saunders, Dietz, & Thornhill, 2014). Yet, research in the field of organisational distrust is still sparse, and many topics remain unresearched – employees' distrust toward their supervisors being one of them (for an overview see Guo, Lumineau, & Lewicki, 2017). This study represents the first step in exploring this topic and therefore adopts a comparative approach toward trust and distrust. By comparing the antecedents of employees' trust and distrust toward their supervisors, it is first possible to support the notion that they are in fact two different constructs, and second, it allows us to understand better how distrust develops. Such understanding is of particular importance, as research points to the fact that building trust does not equal diminishing distrust (Bijlsma-Frankema, Sitkin, & Weibel, 2015).

This thesis has one main aim that is approached from two different angles. The aim is to contribute to the organisational distrust literature by finding additional support for the notion that trust and distrust are in fact two separate constructs. First, the convergent and discriminant validity of both constructs is analysed by means of a confirmatory factor analysis. Second, the dissimilar relationship between various antecedents of trust and distrust is compared. The antecedents include supervisors' trustworthiness, quality of communication, and perceived supervisors' and organisational control and the perceived legitimacy of control – all perceived from the viewpoint of the employees. This study also acknowledges the contemporary work arrangements and examines how employees' trust and distrust toward their supervisors is affected by the proportion of communication mediated by information and communication technologies (i.e., ICTs). As no previous study has addressed those specific concepts, this thesis has a potential to substantially contribute to the existing distrust literature.

This thesis has been divided into four sections. The first section gives an overview of the theoretical foundation as well as past empirical research in reference to trust, distrust and their proposed antecedents and builds a basis for the hypotheses. The second section describes the research methods, and the third section presents the results. In the fourth section, the obtained results are discussed in reference to the underlying theories and past research, and the possible limitations of this current study are further noted.

1.1 Trust and Distrust: The Two-Dimensional Approach

In 1998, Lewicki et al. hypothesised that trust and distrust are separate but linked constructs and introduced a new theoretical framework for understanding how trust and distrust can occur simultaneously within relationships in organisations. They postulated that interpersonal relationships are complex and encompass various facets and therefore the opportunity arises for people to simultaneously trust and distrust each other (Lewicki, McAllister, & Bies, 1998; Lewicki, Tomlinson, & Gillespie, 2006). Such as A can trust B to do X, but at the same time distrusts B to do Y (e.g. an employee can trust his supervisor's abilities but at the same time be cautious about which information he or she discloses).

Even though there is no single universally accepted definition of trust within organisational research, it has been widely accepted that the willingness to take a risk and to be vulnerable toward the actions of another party (Mayer, Davis, & Schoorman, 1995; Rousseau, Sitkin, Burt, & Camerer, 1998) represent the central concepts of trust. Trust takes place when employees are willing to accept their colleagues' actions, without the possibility of monitoring or control. In other words, they make the necessary leap of faith (Lewis & Weigert, 1985) because they have positive expectations of their colleagues' behaviour (Rousseau et al., 1998). It has also been recognised that trust plays an important role for organisational and interpersonal consequences (Kramer, 1999; Mayer et al., 1995).

Traditionally, trust and distrust were perceived as the opposite sides of one unidimensional construct and distrust was simply seen as the absence of trust (Schoorman, Mayer, & Davis, 2007). In the last 20 years, however, the existence of distrust, as a separate construct from trust has been acknowledged in theoretical (Lewicki et al., 1998) as well as empirical publications (Saunders et al., 2014). Two brain imaging studies have also confirmed that trusting and distrusting beliefs are connected to the activation of different brain regions (Dimoka, 2010, 2011). In this two-dimensional view, distrust between two parties has been defined as a concern that the other party may act in a malevolent way toward oneself (Govier, 1993), as a lack of confidence in the other party (McKnight & Chervany, 2001), or is thought to be engendered when the other party is perceived as not sharing key values (Sitkin & Roth, 1993). Distrust is also marked by "confident negative expectations regarding another's conduct" (Lewicki et al., 1998, p. 439). This definition is based on Luhmann's (1979) proposition that trust and distrust serve to manage social complexity and uncertainty by different means. Trust reduces social complexity by allowing desirable outcomes to be seen as certain, whereas in case of distrust, undesirable outcomes are seen as more likely (Luhmann, 1979). Those negative expectations help the individual to take protective action, such as being vigilant or watchful (Lewicki et al., 1998). In other words, distrusting intentions are grounded in negative expectations, lack of confidence, pessimism and fear (Lewicki & Brinsfield, 2012) and are characterised by cynicism, scepticism, vigilance and watchfulness (Lewicki & Brinsfield, 2009).

When trust and distrust are regarded as two separate constructs, it also implies that (1) low trust is not the same as high distrust and vice versa (Lewicki et al., 1998, 2006), and that (2) trust and distrust have different antecedents (Bijlsma-Frankema, Sitkin, & Weibel, 2015; Cho, 2006; Lewicki et al., 1998; Saunders et al., 2014; Sitkin & Roth, 1993). Finding the specific factors for building trust and diminishing distrust is of major importance for organisational research as it is possible that high distrust will not be remedied by strategies for building trust. For example, Cho (2006) demonstrated that benevolence fosters trust whereas distrust is reduced by a show of competence. Further, Bijlsma-Frankema et al. (2015) suggest that first, distrust should be lowered by reducing the levels of value incongruence and only then trust can start to be built.

Another approach to trust and distrust is to compare their roles in social exchange. Blau (1964) proposed that social exchanges are based on the trust that the other party will reciprocate positive behaviour at some point in the future or are themselves reciprocal actions to gestures of goodwill of the other party. Additionally, those exchanged benefits may be especially valued because they represent a high-quality relationship of the involved parties (Blau, 1964; Settoon, Bennett, & Liden, 1996). Based on Blau's social exchange theory (1964), Connelly, Zweig, Webster, and Trougakos (2012) proposed that ineffective social exchanges can be based on interpersonal distrust. There is a very important difference between not expecting positive behaviour and expecting negative behaviour. For example, there is a difference whether I do not expect that a colleague will go out of her way to help me or if I expect her to talk about me behind my back. While not trusting that my colleague will reciprocate my positive actions, may still leave a small possibility that I will nevertheless help her, expecting that she will actively try to disadvantage me will close that door altogether. Reasons to trust and distrust another person accumulate over time as the number of mutual interactions increases and the relationship broadens (i.e., crosses more facets) and deepens (i.e., increases the richness within the facets; Lewicki et al., 2006). Therefore, recognising distrust as a separate construct is important to understand complex work relationships.

Distrust, as a separate construct from trust, has received considerable notice in the research of online consumer decisions (e.g., Benamati, Serva, & Fuller, 2010; Cho, 2006; Y. A. Kim & Ahmad, 2013; Moody, Galletta, & Lowry, 2014), however in the field of organisational research, distrust has yet to be thoroughly studied. In the available research, distrust has been shown as a predictor of knowledge hiding (Connelly et al., 2012) and was linked to the change of organisational culture (Kujala, Lehtimäki, & Pučėtaitė, 2016). In 2017, Guo, Lumineau and Lewicki summarised the available organisational distrust literature and asserted that "not enough attention has been given to the nature, the dynamics, and the relational context of distrust" (2017, p. 68). More specifically, Saunders et al. (2014) recommended that future research on organisational distrust should restrict the referent "to a single pertinent relationship (e.g. immediate line manager)" (p.661). In line with these recommendations, this study specifically focuses on interpersonal distrust between employees and their supervisors.

1.2 Antecedents of Trust and Distrust

The antecedents of organisational trust have been thoroughly researched (Bijlsma & Van de Bunt, 2003; Dirks & Ferrin, 2002) however the antecedents of distrust remain vastly unexplored (Guo et al., 2017). Understanding the possible antecedents of distrust is of major importance (Bijlsma-Frankema et al., 2015), as the limited research on distrust already underlines its possible negative effects (Sitkin & Roth, 1993; Tomlinson & Lewicki, 2006). As the aim of this study is to explore the differences between employees' trust and distrust toward their supervisors, the chosen antecedents are constructs that have been well researched in reference to trust but not to distrust. By adopting this approach, it is possible to spot the difference in their relationship with trust and distrust. Additionally, based on the extant trust literature, Guo, Lumineau, & Lewicki (2017, p. 14) proposed that to better understand the antecedents of organisational distrust, the possible causes need to be organised into three categories: (1) the characteristics and behaviours and of the one who is being distrusted (i.e. supervisors), (2) the dispositional factors of the one who distrusts (i.e. employees), and (3) the contextual factors in which distrust occurs. In this study, supervisors' characteristics are represented by their trustworthiness. Further, supervisors' behaviour is represented by the quality of communication with their subordinates as well as by how they control their subordinates (i.e. supervisors' control). The dispositional factors of the employees are represented by their perception of the legitimacy of the supervisors' control. The contextual factors are represented by the prevalent norm of organisational control and the proportion of ICT and face-to-face communication between employees and their supervisors. Figure 1 depicts the explored antecedents grouped into the three above mentioned categories. The following sections explore each of the concepts and explain how they might play a role as antecedents of employees' trust and distrust toward their supervisors.

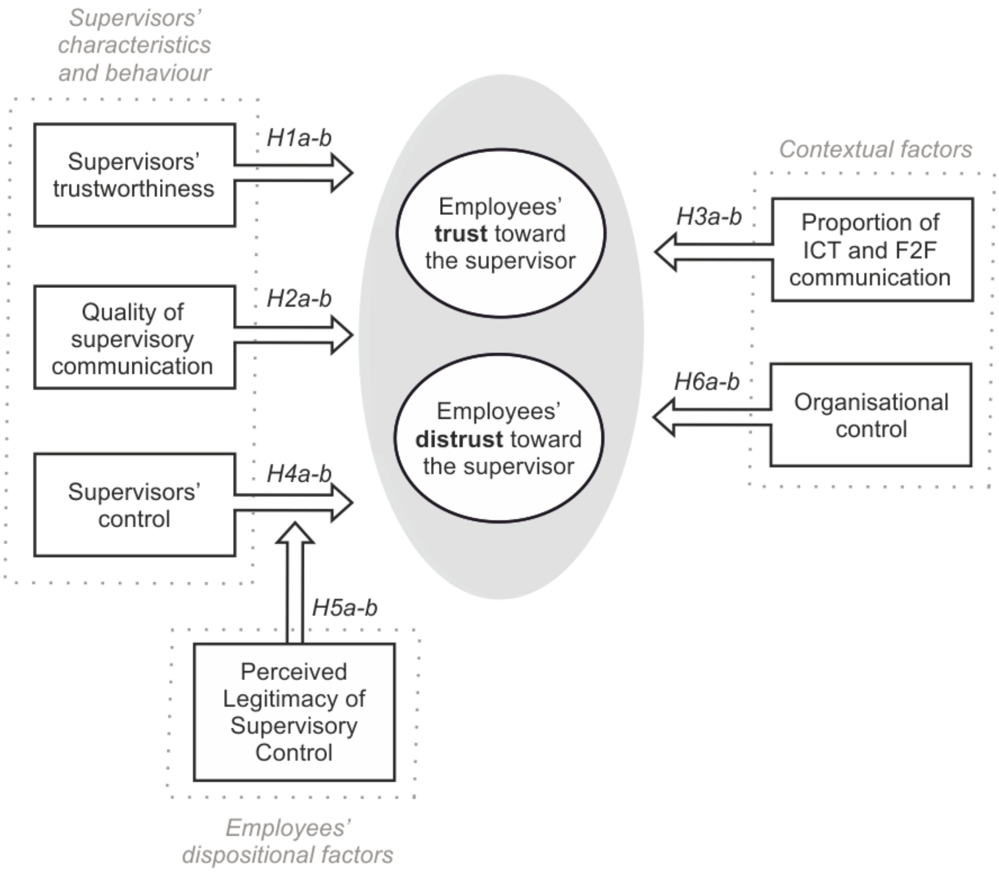

Figure 1. Research framework. The explored antecedents of trust and distrust toward the supervisors grouped into three categories proposed by Guo et al. (2017)

1.2.1 Supervisors' trustworthiness

Assessing the trustworthiness of another person does not equal trusting that person (Colquitt, Scott, & LePine, 2007). Assessing trustworthiness only involves judging person's certain characteristics, whereas trusting that person requires vulnerability or risk (Mayer et al., 1995; Rousseau et al., 1998). As Flores and Solomon (1998) said: "In the ideal case, one trusts someone because she is trustworthy, and one's trustworthiness inspires trust." (p. 209). According to the widely accepted Integrative Model of Organisational Trust (Mayer, Davis, & Schoorman, 1995), a person (i.e., an employee) determines the trustworthiness of another person (i.e., a supervisor) by assessing his or her ability, benevolence, and integrity. A*bility* refers to the skills and competencies that allow the supervisors to have influence in a specific domain, *benevolence* represents the extent to which the supervisor is selflessly willing to satisfy their subordinates' needs, and *integrity* represents the employees' perception that the supervisor "adheres to a set of principles that the trustor finds acceptable" (Mayer et al., 1995, p. 719). It has also been empirically demonstrated that trustworthiness and trust have diverse relationships with other important constructs. Trustworthiness was found to have a stronger relationship with job satisfaction and intentions to quit whereas trust was more strongly associated with performance and the quality of the leader-member relationship (Dirks & Ferrin, 2002).

The relationship between trustworthiness and trust toward leadership has been well documented in the past and trustworthiness has been shown to be an important antecedent of trust (Colquitt et al., 2007; Dirks & Ferrin, 2002). For example, Davis, Schoorman, Mayer, and Tan (2000), reported that trustworthiness accounted for 46% of employees trust in their general manager. In a meta-analytic study, Colquitt et al. (2007) found that all three components of trustworthiness (i.e., ability, benevolence and integrity) had a significant and unique relationship with trust. The magnitudes of their relationships had a descending order, with ability being the strongest and integrity the weakest (Colquitt et al., 2007)

The connection between trustworthiness and distrust toward leadership has not yet been empirically examined. In the field of online consumer decisions, Benamati, Serva and Fuller (2006) found that all three dimensions of trustworthiness (ability, benevolence, and integrity) were negatively related to distrust. More specifically, Cho (2006) investigated the symmetry of relationships between two trustworthiness dimensions (ability and benevolence) and consumers' distrust toward an online store. He found that they were both negatively related to distrust. However, his results also showed that ability affected distrust significantly more than benevolence.

Based on the theoretical and empirical foundations it is possible to postulate, that trustworthiness will be positively related to trust and negatively related to distrust. Additionally, it is also possible to expect that the three components (ability, benevolence, integrity) will have an asymmetric relationship with trust and distrust.

Hypothesis 1a: The three components of trustworthiness (ability, benevolence, integrity) will have a positive and asymmetric relationship with employees' trust toward their supervisors.

Hypothesis 1b: The three components of trustworthiness (ability, benevolence, integrity) will have a negative and asymmetric relationship with employees' distrust toward their supervisors.

1.2.2 Quality of supervisors' communication

Quality of communication is generally seen as a multidimensional construct (Moenaert & Souder, 1996). However, there is little agreement on which dimensions should be included, as such specification is dependent on communication's referents and context. For example, communication between employees and their supervisors is marked by the fact that supervisors have the official and formal authority to direct and evaluate their subordinates' activities (Jablin, 1979). This study concentrates on three dimensions of supervisory communication identified by Miles, Patrick, & King (1996), namely (1) job-relevant, (2) upward openness and (3) positive relationship communication. These three dimensions remain current, and have been adopted in recent studies on supervisory communication (e.g., Bakar, Dilbeck, & McCroskey, 2010; H. Kim & Lee, 2009). *Job-relevant communication* can be seen as a type of support and represents the exchange about work assignments, rules, and policies and also includes supervisor's feedback on performance (Miles et al., 1996). *Upward openness communication* refers to the way employees communicate with their supervisors and is characterised by the employee's "opportunity to question supervisor's instructions and vary their disagreement with the supervisor" (Bakar et al., 2010, p. 639). *Positive relationship communication* incorporates supervisor's openness toward employees' suggestions and seeking employees' input on decisions, as well as relating to the employees in a casual manner and being interested in their non-work activities (Miles et al., 1996). Hence, the quality of supervisory communication is perceived as high, when job relevant, upward openness and positive relationship communication are present.

In general, effective communication is considered as an essential ingredient for trust between employees and their managers (de Ridder, 2004; Zeffane, Tipu, & Ryan, 2011). In a study on the antecedents of trust in managers, Bijlsma and Van de Bunt (2003) found that being open to employees' suggestions and giving feedback on performance played an important role in explaining employees' trust. Employees who did not fully trust their managers complained about the "lack of fruitful discussions" and "lack of openness to the ideas of subordinates" on the part of the manager (Bijlsma & Van de Bunt, 2003, p. 643). Additionally, Mackenzie (2010) found that employees thought their supervisors were trying to develop a trusting relationship with them through consistent, job related and friendly communication. In their meta-analysis of organisational distrust research, Guo et al. (2017) recommended that specific types of communication should be studied as a possible antecedent of distrust.

As the main aim of this study is to explore the differences between antecedents of employees' trust and distrust toward their supervisors, the relationship of each component of quality of communication will be investigated. Similarly, to the concept of trustworthiness, it is possible that an asymmetry (see Cho, 2006) will arise in the importance of specific components of supervisory communication.

Hypothesis 2a: The three components of quality of supervisory communication (upward openness, positive relations, and job relevant communication) will have a positive relationship with employees' trust toward their supervisors.

Hypothesis 2b: The three components of quality of supervisory communication (upward openness, positive relations, and job relevant communication) will have a negative relationship with employees' distrust toward their supervisors.

1.2.3 Proportion of ICT and F2F communication

Due to the widespread availability of ICTs and the increasing prevalence of flexible working arrangements (Eurofound, 2015), decreased amount of face-to-face (F2F) communication became a part of daily work-life. Supervisors as well as employees utilise ICT communication when they work outside of the office (e.g. at home or other work sites), have different work times, or simply because it is more convenient or abides by the communication norms within the organisation (e.g. when is it more appropriate to send an email than seek a F2F meeting). The effects of ICT communication are often explored in connection with telework (Fonner & Roloff, 2012) or within virtual teams (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015). While it is possible to draw from this literature, those findings cannot be directly transferred to the relationship between regular employees and their supervisors. Virtual teams consist of multiple members who have only minimal F2F contact, and the team typically exists only for the duration of a specific project or a task (Jarvenpaa & Leidner, 1999).

In this study, it is acknowledged that communicating via ICTs can be a part of employees` everyday work life. As ICT communication becomes more and more commonplace, it is crucial to explore its effects on employees' trust and distrust toward their supervisors. Swaab, Galinsky, Medvec, and Diermeier (2012) noted that, due to the limited communication channels, it is harder to develop trust via ICT than F2F communication. Trust can usually develop more quickly through F2F communication (Wilson, Straus, & McEvily, 2006), but with the right means, it is also possible to develop trust over ICT communication (Jarvenpaa, Knoll, & Leidner, 1998). In an experimental study, Bos et al. (2002) found that purely text-based communication via chat was connected with lowest levels of trust. While groups using video and audio conferencing achieved comparable levels of trust as the F2F groups, their trust development was notably slower, and they were more vulnerable to opportunistic behaviour (Bos et al., 2002). Similarly, Peñarroja, Orengo, Zornoza, & Hernández (2013) found that virtuality of communication was negatively related to team trust. Additionally, Mackenzie (2010) found that the majority of employees prefer F2F communication for relationship-building opportunities with their supervisor and only 2.6% prefer video conferencing, telephone or instant messaging.

All those findings also point to the direction, that not only the extent of ICT communication is important, but also its proportion with F2F communication. For example, an employee who daily sends emails to his or her supervisor, yet also see him or her every day, might have a different experience than an employee who also daily sends emails yet gets to see his or her supervisor only on a weekly basis. Therefore, the proportion of ICT communication will be measured relative to the proportion of F2F communication. As an antecedent of employees' trust and distrust toward their supervisors, the proportion of ICT and F2F communication represent a contextual factor (Guo et al., 2017)

Hypothesis 3a: Employees with a lower proportion of ICT communication will have higher levels of trust toward their supervisors.

Hypothesis 3b: Employees with a higher proportion of ICT communication will have higher levels of distrust toward their supervisors.

1.2.4 Control

In this study, control is represented in all three categories of possible antecedents of employees' trust and distrust toward their supervisors: as a contextual factor (i.e. the prevalent norm of organisational control), as supervisors' behaviour (i.e. perceived supervisors' control), and as employees' dispositional factor (i.e. the perceived legitimacy of the supervisors' control). In the following section, first control within organisations is defined, and its connection to employees' trust and distrust is discussed.

In organisational research, control is defined as a process by which an organisation (or a supervisor) adjusts, influences and regulates the behaviour of organisational members to achieve organisational goals and objectives (Cardinal, Sitkin, & Long, 2010; Jaworski, Stathakopoulos, & Krishnan, 1993; Ouchi, 1979; Snell, 1992; Weibel et al., 2016). An organisational control system consists of a multitude control practices (i.e., individual units of organisational control such as standards or policies; Cardinal et al., 2010) that provide information and enable corrections of deviations from established plans (Whitley, 1999).

Control practices can either encompass the whole organisation (e.g., official time schedules or dress code) or can be specific to departments and teams (e.g., the specific ways in which supervisors control their subordinates).

Previous research has conceptualised two main classes of organisational control: formal and informal (Jaworski et al., 1993; Sitkin & George, 2005). *Informal control* refers to unofficial and unwritten rules that are prevalent among organisational members (Sitkin & George, 2005) and also embraces shared values and beliefs (Jaworski et al., 1993). Such shared beliefs, values and common agreement are often transmitted by stories and rituals (Kurland & Cooper, 2002). Overall, informal control is powerful in guiding norms of behaviour within the organisation (Jaworski et al., 1993). *Formal control*, on the other hand, refers to specific, official and usually written rules and regulations (Sitkin & George, 2005). The perceived level of formal and informal control within an organisation is in this study explored as a contextual factor that can affect employees' trust and distrust.

On an interpersonal level, formal control and can be divided into output and process control (Jaworski et al., 1993; Snell, 1992). *Output control* is exercised "when performance standards are set, monitored and the results evaluated" (Jaworski et al., 1993, p.58). This form of control allows organisational members to choose how they want to achieve their goals and is therefore more suitable for non-routine tasks (Ouchi, 1977). Further, output control often includes predefined targets that enable the appraisal of employees' results, or the distribution of rewards (Snell, 1992). *Process control* targets employees' behaviour and is exercised "when the supervisor monitors and influences the means of achieving desired ends" (Jaworski et al., 1993, p.58). Typically, process control entails explicit work assignments, precise rules and procedures, or step-by-step fulfilling of project plans (Pinto, Pinto, & Prescott, 1993). *Output* and *process control*, as two types of formal control, relate to employees' day-to-day work (Weibel et al., 2016), and are therefore suitable to be studied on the individual level as they can be traced back to the direct supervisor. In this study, the perceived supervisors' output and process control are explored as possible antecedents of employees trust and distrust towards them.

Control and trust are two concepts that are commonly being investigated together (Costa & Bijlsma-Frankema, 2007; Ning, 2017) as it has been acknowledged that these two concepts have a unique relationship (Bijlsma-Frankema & Costa, 2005). They are seen as interlinked processes which are crucial for effective inter- and intraorganisational relations (Costa & Bijlsma-Frankema, 2007). One of the main topics of the control-trust nexus research is the question whether control and trust substitute or complement each other (Bijlsma-Frankema &

Costa, 2005). There have been opposing findings – some showing that control and trust substitute each other (Sitkin & Roth, 1993), or even that control hinders trust-building (Schoorman et al., 2007). Das and Teng (2001) postulated that control becomes redundant when a specific level of trust is achieved. Other research points out that absence of control does not necessarily mean the presence of trust, rather a sign of not caring (Bijlsma & Van de Bunt, 2003). In other cases, control and trust were positively related (Weibel et al., 2016). Bachmann, Knights, and Sydow (2001, p. v) concisely summarised the relationship between trust and control, and wrote that "while there are numerous examples in the literature where control chases out trust there are equally as many examples of trust and control being complementary, or going hand in hand". Searle, Weibel and Den Hartog (2011) noted that those "controversies in the literature seem to stem from a failure to define control clearly" and therefore it is important to define organisational control and specify what it entails. Further, Weibel et al. (2016) pointed out, that the conflicting findings about the relationship between control and trust may be caused by the fact, that previous studies usually focused on very specific control mechanism, such as monitoring or performance appraisal. They postulated that those divergent results are connected to the particular types of control mechanisms and recommended a broader approach that focuses on different types of control and not only on control mechanisms (Weibel et al., 2016). This approach is adopted in this study, as the broad concepts of organisational control (i.e., the perceived level of formal and informal organisational control) and supervisors' control (i.e., perceived supervisors' output and process control) are explored.

Organisational and supervisors' control, as a possible antecedent of employees' distrust toward their supervisors, has not yet been empirically examined. There are references to the connection between control and distrust in the extant literature. However, those studies differ significantly from the concept, which this study aims to examine. Vlaar, Van den Bosch, & Volberda (2007) proposed a theoretical framework that involved distrust and control in the interorganisational context. However, it is imperative to distinguish among various referents of control and distrust (see Saunders et al., 2014; Weibel et al., 2016), and therefore their framework cannot be directly transferred to the relationship between employees and their supervisors. Other studies explored the association of control and distrust in general (e.g., Falk & Kosfeld, 2006), however, in such cases, distrust was perceived as the opposite of trust, not as a separate construct.

There are two possible ways to look at the relationship between supervisors' control and employees' distrust toward them. First, employees that are controlled by their supervisors are aware of the expected goals (i.e., outcome control) and know which steps to take or which procedures to follow (i.e., process control; Jaworski et al., 1993). In such cases, they do not have a reason to have negative expectations or to be vigilant (Lewicki et al., 1998) and therefore it could be expected that their distrust toward their supervisors will be low. Additionally, when supervisors neither specify the expected goals nor the means to achieve them, employees could be watchful (Lewicki et al., 1998) and compensate this uncertainty (Luhmann, 1979) by developing distrust. Second, previous research has shown that control undermines trust by signaling suspicion (Das & Teng, 1998) and that being suspicious also represents a part of distrust (Lewicki et al., 1998). It is therefore possible that by enforcing control, supervisors signal suspicion and provoke distrust from their subordinates and thus enter a vicious circle of distrust (Marr, Thau, Aquino, & Barclay, 2012). Based on the arguments mentioned above and due to the exploratory nature of this study, the proposed hypotheses in reference to supervisors' control remain non-directional.

Hypothesis 4a: The perceived supervisors' control (i.e., output and process control) will be significantly related to employees' trust toward them.

Hypothesis 4b: The perceived supervisors' control (i.e., output and process control) will be significantly related to employees' distrust toward them.

Bijlsma-Frankema & Costa (2010) proposed that to understand how supervisory control works, it is important to examine how employees interpret control and how they react to it. They further note, that irrespective of the control mechanism, it is "most important whether a control mechanism is experienced as appropriate by employees and why" (Bijlsma-Frankema & Costa, 2010, p. 407). Additionally, legitimacy interpretations promote employees' commitment to organisational goals (Bijlsma-Frankema & Costa, 2010). It is possible to expect, that when employees perceive supervisors' control as not legitimate, employees start to scrutinise their supervisors' behaviour, question their decisions and consequently develop distrust toward them.

Hypothesis 5a: The relationship between supervisors' control and employees' trust toward them is moderated by the perceived legitimacy of such control.

Hypothesis 5b: The relationship between supervisors' control and employees' distrust toward them is moderated by the perceived legitimacy of such control

As the dyadic relationships between employees and their supervisors are embedded in their organisations, the context also needs to be taken into account (Guo et al., 2017). Therefore, the effects of the prevalent norm *of organisational control* (i.e., the perceived level of formal and informal organisational control) on employees' trust and distrust toward their supervisor will be explored. It is possible that control exercised by the supervisors will be perceived differently by the employees, depending on the prevalent norm of control within the organisation. If an organisation relies highly on formal control practices, employees might perceive their supervisors' control as aligned with the higher organisational values, and hence would not feel distrustful (Sitkin & Roth, 1993).

Hypothesis 6a: The prevalent norm of organisational control (i.e. formal and informal control) will be significantly related to employees' trust toward their supervisors.

Hypothesis 6b: The prevalent norm of organisational control (i.e. formal and informal control) will be significantly related to employees' distrust toward their supervisors.

2. METHODS

2.1 Pretest

A pretest was conducted to measure the reliability and validity of a new distrust scale that was developed for the purpose of this study. A new scale had to be constructed, as there was no available scale in the published literature that could be used to measure distrust between employees and their supervisors. Authors that measured distrust at an interpersonal level did not include the items in their publications and also did not make them available upon request.

The distrust scale consisted of eight items based on Lewicki et al. (1998) and Saunders et al. (2014) – see Appendix C. The pre-test questionnaire also included scales for reliance and disclosure based trust (Gillespie, 2003). All items were assessed by a five-point Likert scale (1=strongly disagree to 5=strongly agree).

The pretest was conducted in November 2015, and the participants were 134 bachelor students of the TU Wien who completed the online questionnaire for extra credit for their course. While filling out the questionnaire, the students were asked to think about their current supervisor, or about their last supervisor, if they were not currently working. The mean age was 21.8 years (*SD* = 3.7 years), 20 participants (14%) were female, and 126 (94%) had only completed their high school diploma so far, while the remaining 8 (6%) had already completed higher education. The nationality of the participants was distributed as follows: Austria - 77%, Germany – 8%, Turkey – 5%, other countries – 10%.

Upon an initial reliability analysis, three items were removed from the distrust scale – (see Appendix C). Scales for reliance based trust and disclosure based trust had acceptable reliability (Cronbach's α was .73 and .75 respectively). Distrust scale had the lowest reliability, with Cronbach's alpha of .65, which can be seen as questionable (George & Mallery, 2003).

To further assess the validity of the newly constructed distrust scale, a confirmatory factor analysis (CFA) was conducted using the statistical program Mplus (Muthén & Muthén, 2017). The fit of the measurement model was assessed by the incremental fit indices - Comparative Fit Index (CFI), Tucker Lewis Index (TLI) - as well as absolute fit indices - Root-Mean-Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR). When RMSEA and SRMR are below.08 (Browne & Cudek, 1993; Hu & Bentler, 1999), and CFI and TLI are above .90 (Hu & Bentler, 1999; Kline, 2016), the model is considered to have an acceptable fit. The measurement model included distrust and trust as second order latent variable composed of reliance and disclosure based trust and had an acceptable fit (χ^2(74)= 87.56; $p < .001$; CFI = .95; TLI = .95; RMSEA = .04; SRMR = .06).

Despite the low reliability of the newly constructed distrust scale, the results from the CFA point in the direction that the scale measures a separate construct from trust. As the low Cronbach's alpha score could have been caused by the nature of the student sample, it was decided to use the scale in the main study.

2.2 Main Study

2.2.1 Design

The online survey was conducted between May 4th and June 30th, 2016. The questionnaire was programmed using the online survey software Unipark (the academic program of Questback GmbH) in the German language. The survey link was spread via social media services (e.g., via Xing, LinkedIn and Facebook). The survey link was published with a short text motivating people to participate and stating that the study aimed to examine the communication processes between employees and their supervisors. The participation was incentivised with three lottery prices in the amount of 50,- €. Email addresses for the lottery were collected separately to ensure the anonymity of the participants.

2.2.2 Participants

An apriori power analysis was conducted using an online tool developed by Preacher and Coffman (2006). This online tool calculates the minimum sample size required to achieve a selected level of power on the basis of the desired level of RMSEA. Based on the recommendation of MacCallum, Browne, & Sugawara (1996) following values for RMSEA were used: null RMSEA = .05; alternative RMSEA = .08. Alpha level was set at .05, and the desired power was .80. The calculation was conducted for a model with 31 degrees of freedom. As models with a low number of degrees of freedom require larger samples to attain acceptable power (MacCallum et al., 1996), the structural model with the lowest number of degrees of freedom was used to calculate the required sample size for the study. It was estimated that none of the structural models used for hypothesis testing would have less than 31 degrees of freedom. To attain a power of .80 with the above mentioned values, a minimum of 307 participants was necessary.

The final sample used for the statistical analysis included 420 participants. Out of 3541 persons who clicked on the survey link, 553 proceeded to the next page and answered the first two questions and 424 completed the whole questionnaire (i.e., all 74 items were answered, only the demographics section did not have to be complete). Four participants were excluded from the statistical analysis since they completed the questionnaire in under five minutes. Due to the length of the questionnaire and the complexity of the questions, it can be assumed that participants who took less than five minutes to complete it did not carefully read all the items. The fifth quickest participant completed the survey in 6.5 minutes.

The mean age of participants was 37.95 years (*SD* = 11.33), ranging from 19 to 65 years. The median age was 36 years. 63.1% of the participants were female, and 36.9% were male. 81.0% of the participants indicated that their native language is German, 9.5% indicated Slovak, 5.2% indicated a different language (e.g., Spanish, Polish or Armenian) and 4.3% did not answer this question. 61.9% of the participants had a completed higher education, 31.2% completed secondary school, and 6.4% completed an apprenticeship. Two participants (0.5%) completed only the compulsory educational minimum. All the participants were currently employed and had a supervisor. 17.4% of the participants indicated that they also hold a supervisory position over other employees in their organisation.

Participants were also asked to indicate the age, gender and education level of their supervisor. The demographic statistics about the supervisors thus represent the descriptions provided by their employees. The mean supervisor's age was 46.97 years (*SD* = 8.81) ranging from 23 to 69 years. The median age was 47 years. 61.2% of the supervisors completed higher education, 23.6% completed secondary school, 3.8% completed an apprenticeship and 1.0% completed the compulsory educational minimum. 10.5% of the participants did not know their supervisor's education level.

2.2.3 Measures

All items used in this study are presented in German in Appendix A and in English in Appendix B. If the scale was not previously translated into German, the English version was translated using the forward-backwards method. Unless stated otherwise, all items were assessed by a five-point Likert scale (1=strongly disagree to 5=strongly agree). The reliability of the scales was measured by Cronbach's alpha. The fit of each scale calculated by a conducting a CFA using the statistical program Mplus (Muthén & Muthén, 2017).

Distrust

Due to the lack of any published scale that would measure distrust between employees and their supervisors, a new scale was developed based on Lewicki, McAllister, and Bies (1998) and Saunders, Dietz, and Thornhill (2014) and validated in a pre-test. (see section 2.1). An example item would be "I am cautious about saying my opinion to my direct supervisor." Initial reliability analysis of the scale revealed that the item referring to the supervisor's competence („I question the competence of my direct supervisor to do his/her job adequately" – see

Appendix C) was confounding the scale and was therefore excluded from the analysis. The new distrust scale (*M* = 2.64, *SD* = .96) had a good reliability, with Cronbach's alpha = .83. The scale had also an acceptable fit with the collected data ($\chi^2(2) = 8.22$; $p < .001$; CFI = .98; TLI = .96; RMSEA = .08; SRMR = .02).

Trust

The Behavioural Trust Inventory (BTI; Gillespie, 2003) was used to assess employees' trust toward their supervisors. This inventory measured reliance based trust (Cronbach's α = .85, *M*=3.64; *SD*=.96) and disclosure based trust (Cronbach's α = .82, *M* = 3.34, *SD* = .89). A two factor measurement model consisting of reliance based and disclosure based trust had a good fit ($\chi^2(13) = 43.64$; $p < .001$; CFI = .97; TLI = .96; RMSEA = .08; SRMR = .03). Additionally, this trust scale was suitable for the current study since Gillespie (2003) acknowledged distrust as a separate construct from trust during the development of the BTI.

Trustworthiness

Trustworthiness was measured by a shortened version of *ability* (Cronbach's α = .86, *M* = 3.64, *SD* = .94), *benevolence* (Cronbach's α = .91, *M* = 3.06, *SD* = .99) and *integrity* (Cronbach's α = .84, *M* = 3.70, *SD* = .98) scales by Mayer and Davis (1999). An example item for *ability* is "He/She is known to be successful at the things she/he tries to do.", for *benevolence* "My needs and desires are very important to him/her" and for *integrity* "He/She tries hard to be fair in dealings with others." (Mayer & Davis, 1999). A three factor measurement model had a good fit ($\chi^2(24) = 31.72$; $p < .001$; CFI = .99; TLI = .99; RMSEA = .03; SRMR = .02).

Quality of communication

To assess the quality of communication, scales developed by Miles et al. (1996) were used. Those communication scales have also been used in recently published works (e.g., Bakar et al., 2010). The scales in the questionnaire included: positive relationship communication (Cronbach's α = .82, *M* = 3.41, *SD* = 1.06), job relevant communication (Cronbach's α = .82, *M* = 3.63, *SD* = .91) and upward openness communication (Cronbach's α = .74, *M* = 3.93, *SD* = .72). A three factor model did not have an acceptable fit ($\chi^2(51) = 315.04$; $p < .001$; CFI = .86; TLI = .82; RMSEA = .11; SRMR = .07). A closer analysis of modification indices revealed that the *positive relationship* scale did not possess enough discriminant validity and was therefore dropped from the analysis. A two factor model including *job relevan*t communication and *upward openness* communication had a very good fit ($\chi^2(19) = 39.99$; $p < .001$; CFI = .98; TLI = .97; RMSEA = .05; SRMR = .04).

Proportion of ICT and F2F communication

Participants were asked to indicate the proportion of F2F and ICT-mediated communication with their direct supervisor. The answer scale had five points which depicted the following proportions: 100:0, 75:25, 50:50, 25:75 and 0:100. Appendix A and B include the graphical representation used in the online survey.

Supevisors' control

Supervisors' control (i.e. process and output control) was measured by the scales published by Jaworski et al. (1993) who adapted the control scales originally published by Ouchi and Maguire (1975). For the purpose of this study, the items were adapted to replace words such as "boss" or "superior" with "direct supervisor". An example item for output control would be "My direct supervisor monitors the extent to which I attain my performance goals", and an example item for process control would be "My direct supervisor evaluates the procedures I use to accomplish a given task". Both scales had acceptable reliability (process control: Cronbach's $\alpha = .78$, $M= 3.07$, $SD = .88$; output control: Cronbach's $\alpha = .81$, $M = 3.15$, $SD = .96$). The scale for legitimacy of supervisors' control was constructed for the purpose of this study, as there was none available in the published literature. (Cronbach's $\alpha = .76$, $M = 3.66$, $SD = .71$). The scale for legitimacy of control was included in the measurement model of supervisors' control, since it is treated as a moderating variable in the structural model. A four factor measurement model including a second order latent variable *supervisors' control* (i.e., composed of *process control*, *output control*) and *legitimacy of supervisor's control* fit the data well ($\chi^2(49) = 165.27$; $p < .001$; CFI = .94; TLI = .92; RMSEA = .08, SRMR = .05).

Organisational control

To assess the prevalent norm of organisational control (i.e., formal and informal control) within the participants' organisation, the items developed by Sitkin and George (2005) and translated into German by Weibel et al. (2016) were used. An example item for informal control is "Unwritten norms about how things are to be done are generally followed" and for formal control "There are written rules concerning many organisational activities" (Sitkin & George, 2005, p. 223). The reliability of the formal control scale was acceptable (Cronbach's $\alpha = .78$, $M = 2.97$, $SD = .89$) but the reliability of the informal control scale was low (Cronbach's $\alpha = .56$, $M= 2.53$, $SD=.81$). A two factor measurement model including formal and informal control, did not have a good fit ($\chi^2(19) = 99.51$; $p < .001$; CFI = .89; TLI = .84; RMSEA = .10, SRMR = .06). Based on the modification indices and the low reliability, the informal control scale was subsequently dropped from the analysis. A one factor model including only formal control had an acceptable fit ($\chi^2(2) = 11.42$; $p < .001$; CFI = .98; TLI = .94; RMSEA = .08; SRMR = .02).

3. RESULTS

3.1 Distrust as Separate Construct

The first step in the data analysis was to analyse if the collected data support the general notion that distrust is a separate construct from trust. To assess construct validity, Campbell and Fiske (1959) proposed two aspects that should be considered: the convergent validity (i.e., the degree of confidence we have that a trait is well measured by its indicators) and discriminant validity (i.e., the degree to which measures of different traits are unrelated). For convergent validity, average variance extracted (AVE) should be higher than .50 (Hair et al., 2010) and for discriminant validity, the square root of AVE of a scale should be higher than the scale's correlations with other scales (Fornell & Larcker, 1981). Table 1 presents the means, standard deviations, and average variance extracted (AVE) of each scale, as well as the intercorrelations of the scales. All the scales meet the requirements for the convergent and discriminant validity.

Table 1. Descriptive Statistics, Correlations, Reliability, and AVE of Distrust and Trust Scales (N = 420)

	M	SD	1	2	3
1. Distrust	2.64	.96	(.55 /.74)		
2. Trust (Reliance)	3.64	.96	-.67	(.66/.81)	
3. Trusts (Disclosure)	3.34	.89	-.56	.60	(.57/.75)

Note. AVE and its square root of are displayed in the parentheses.
All correlations are significant at p<.001

To further assess the discriminant validity of the distrust scale, a CFA was conducted. Since all items were measured by a 5-point Likert scale, the obtained data were ordinal in nature and normally, diagonally weighted least squares (DWLS) would be used for estimating models in a CFA (Mîndrilă, 2010). However, a robust maximum likelihood estimator with Satorra–Bentler scaled chi-square statistic (MLR in Mplus; Satorra & Bentler, 1994) was applied instead, due to two following reasons. First, none of the item responses were normally distributed (Shapiro-Wilk's test was significant at $p < .000$ for all items), and DWLS is more sensitive to non-normally distributed data than the MLR estimator (Li, 2015). Second, ordinal data with five and more categories can be treated as continuous and therefore can also be analysed using maximum likelihood estimators (Rhemtulla, Brosseau-Liard, & Savalei, 2012).

According to Hair, Black, Babin, and Anderson (2010) the strongest test of fit is to test several competing models representing distinct hypothetical relationships. In this study, three competing models of the relationship between trust and distrust were identified (see Table 2). The null model (or independence model) estimates that there is no relationship between the eleven items and provides a baseline against which the relative fit of the other models is compared (Byrne, 2013). The one-factor model assumed that all trust and distrust items would load onto a single factor. This model depicts one of the theoretical approaches toward trust and distrust, placing them on two ends of one continuum (Schoorman et al., 2007). The two factor model included one factor for trust and one for distrust and represented the theory that trust and distrust are two separate constructs (Lewicki et al., 1998). The final model again represented trust and distrust as two separate constructs but included trust as a second order latent variable composed of reliance based and disclosure based trust (Gillespie, 2003).

Chi square difference tests indicated that each of the models had a significantly better fit than the previous one (see Table 2). To further assess the fit of the model, four fit indices CFI, TLI, RMSEA and SRMR were calculated. The final model was the only one that had the fit statistics within the expected range. RMSEA and SRMR were below the .08 cut off value (Browne & Cudeck, 1993; Hu & Bentler, 1999), and CFI and TLI were above .90 cut off value (Hu & Bentler, 1999; Kline, 2015).

Table 2. Confirmatory Factor Analysis of Distrust, Trust, and Trustworthiness (21 items, N = 420)

	χ^2	*df*	$\Delta\chi^2$*	Δdf	sig $\Delta\chi^2$	CFI	TLI	RMSEA	SRMR
Null model	2110.90	55							
1 factor model [1]	408.34	44	1702.56	11	p<.001	.82	.78	.14	.08
2 factor model [2]	329.13	43	79.21	1	p<.001	.86	.82	.12	.07
4 factor model [3]	172.10	41	157.03	2	p<.001	.94	.92	.08	.05

Note.
[1] Distrust and trust
[2] Distrust and trust as separate constructs
[3] Distrust, trust as second order latent variable composed of trust-reliance and trust-disclosure
* The chi-square change was calculated by a scaling correction because the chi-square values for MLR cannot be compared directly (Muthén & Muthén, 2017)

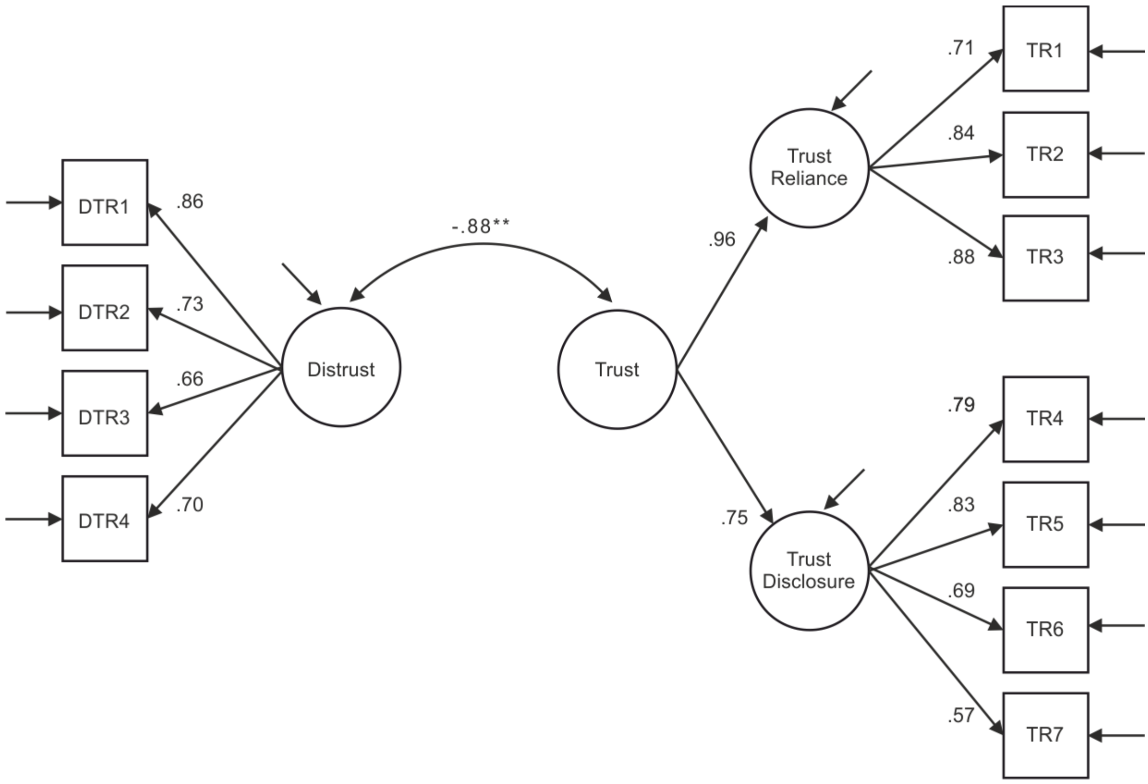

Figure 2. Confirmatory factor analysis - a four factor model with trust as second order latent variable and distrust as a separate construct. **p<.01

3.2 Antecedents of Trust and Distrust

The following sections present the analysis of the proposed antecedents of employees' trust and distrust using structural equation modeling in Mplus (Muthén & Muthén, 2017). Due to the large number of antecedents and their complex interrelations, each of them is first separately analysed in reference to trust and distrust. Subsequently, an overall model including all antecedents will be estimated and evaluated. All reported coefficients are standardised (STDYX in Mplus). All factor loadings of observed variables, as well as coefficients of first order latent variables, were significant at $p < .01$. For better readability, the asterisk notation at their values is omitted in the presented figures and the values of residual variances are also not displayed.

Table 3 presents the means, standard deviations, reliabilities and intercorrelations of the scales. To rule out multicollinearity of the variables, the variance inflation factor (VIF) was calculated based on a regression analysis with distrust and trust as the dependent variables and all other scales as independent variables. All scales had VIF lower than 4, which is lower than the recommended guideline of 10 (Hair, Anderson, Tatham, & Black, 1995), and therefore multicollinearity of the independent variables will not be a problem.

Table 3. Descriptive Statistics, Correlations, Reliability of all Scales (N = 420)

Scale	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Distrust															
1. Distrust	2.64	0.96	.83												
Trust															
2. Trust (Reliance)	3.64	0.96	-.67**	.85											
3. Trust (Disclosure)	3.34	0.89	-.56**	.60**	.82										
Trustworthiness															
4. Ability	3.64	0.94	-.61**	.77**	.44**	.86									
5. Benevolence	3.06	0.99	-.67**	.70**	.58**	.64**	.91								
6. Integrity	3.70	0.98	-.64**	.77**	.56**	.75**	.75**	.84							
Quality of communication															
7. Upward openness com.	3.93	0.72	-.31**	.28**	.37**	.20**	.26**	.26**	.74						
8. Job relevant com.	3.64	0.91	-.58**	.69**	.48**	.66**	.70**	.73**	.29**	.82					
Proportion of ICT and F2F com.															
9. Proportion of ICT and F2F com.	2.56	1.05	.02	.06	.02	.06	.08	.05	.02	-.12*	---				
Supervisors' control															
10. Output control	3.14	0.96	-.22**	.29**	.21**	.32**	.27**	.26**	.12*	.35**	.09	.81			
11. Process control	3.07	0.89	-.18**	.28**	.17**	.30**	.21**	.25**	.03	.34**	.02	.77**	.78		
Legitimacy of control															
12. Legitimacy of control	3.66	0.71	.02	.01	.03	.02	.05	.00	.15**	-.03	.03	.35**	.28**	.76	
Organisational Control															
13. Formal control	2.97	0.89	-.20**	.24**	.13**	.25**	.24**	.24**	.06	.32**	-.01	.40**	.42**	.12*	.78

Note. Reliability of the scales is presented in the diagonal. Proportion of ICT and F2F communication was coded on a scale from 1 (only F2F communication) to 5 (only ICT communication). All other items were answered on a scale from 1 (totally disagree) to 5 (totally agree). *p < .05, **p < .01

3.2.1 Supervisors' trustworthiness

Hypothesis 1a and 1b referred to the relationship between trustworthiness and trust and distrust. The model had a very good fit ($\chi^2(158) = 410.02$; $p < .001$; CFI = .95; TLI = .94; RMSEA = .06; SRMR = .04) and is represented in Figure 3. For better readability, the non-significant paths between latent variables are represented by a dotted line. Trustworthiness explained 86% of variance of *trust* ($R^2 = .86$; $p < .001$) and 68% of variance of *distrust* ($R^2 = .68$; $p < .001$). All three components of trustworthiness (*ability, benevolence and integrity*) were positively and significantly related to trust. *Integrity* had the strongest relationship with trust ($\beta = .47$; $p = .002$), followed by *ability* ($\beta = .31$; $p = .001$) and *benevolence* ($\beta = .20$; $p = .026$). While all trustworthiness components were negatively related to distrust, only the relationship with *benevolence* was significant ($\beta = -.44$; $p < .001$). *Ability* was marginally significant ($\beta = -.19$; $p = .059$) and *integrity* remained insignificant ($\beta = -.24$; $p = .115$) in connection to distrust. Additionally, all three components of supervisors' trustworthiness were significantly intercorrelated, correlation coefficients ranging from .73 to .88.

To test the asymmetric effects of the three components of trustworthiness on trust and distrusts, alternative structural models with equality constraints were developed. The fit of the alternative models that included the constraints were then compared to the original model without any constraints. The deterioration of the model fit was based on the difference in the χ^2 values. If $\Delta\chi^2$ was not significant, the equality constraint could remain in the model, implying that there is no significant difference between the relative strength of the coefficients. On the other hand, if $\Delta\chi^2$ is significant, the equality constraints harm the model fit, and the relative strengths of the coefficients can be interpreted. The fit of the models is presented in Table 4.

First, the coefficients of all three trustworthiness components (i.e., ability, benevolence and integrity) were set equal, either in reference to trust or distrust (e.g., $\beta_{\text{Ability(Trust)}} = \beta_{\text{Benevolence(Trust)}} = \beta_{\text{Integrity(Trust)}}$; see Figure 4). Neither of the equality constraints deteriorated the fit of the model, suggesting that none of the trustworthiness components impacted trust ($\Delta\chi^2(2) = 2.63$; $p = .268$) or distrust ($\Delta\chi^2(2) = 4.60$; $p = .100$) more significantly than the others. Even though the general direction of the relationships between trustworthiness and trust and distrust was as predicted in the hypotheses, the asymmetry of the relationship between the individual trustworthiness components and trust and distrust was not supported. Therefore the presented results reject both H1a and H1b.

Second, the coefficients of each trustworthiness component were set equal in reference to both trust and distrust at the same time (e.g., $\beta_{\text{Ability(Trust)}} = \beta_{\text{Ability(Distrust)}}$; see Figure 4). In other words, it was tested for example, if the perceived supervisors' ability had a stronger impact on employees' trust than on distrust. The model fit deteriorated significantly ($\Delta\chi^2(3) = 17.62$; $p < .001$) and therefore follow-up tests were conducted to see which of the three coefficient pairs were significantly different. Based on the recommendation of Green & Babyak (1997), who suggested a control of Type I errors when conducting multiple tests of constraints in structural equation modeling, a Bonferroni approach was adopted. Here, individual hypotheses are tested at α/n-level (n representing the number of follow up tests). For this study the adapted α-level was .017 (.05 / 3 = .017). From the follow up tests, only the test on benevolence (i.e., $\beta_{\text{Benevolence(Trust)}} = \beta_{\text{Benevolence(Distrust)}}$) was significant ($\Delta\chi^2(1) = 7.70$; $p = .006$). Despite their large absolute difference, the coefficients of neither ability ($\Delta\chi^2(1) = 0.42$; $p = .516$) or integrity ($\Delta\chi^2(1) = 0.75$; $p = .386$) had significantly different absolute strengths in reference to trust and distrust.

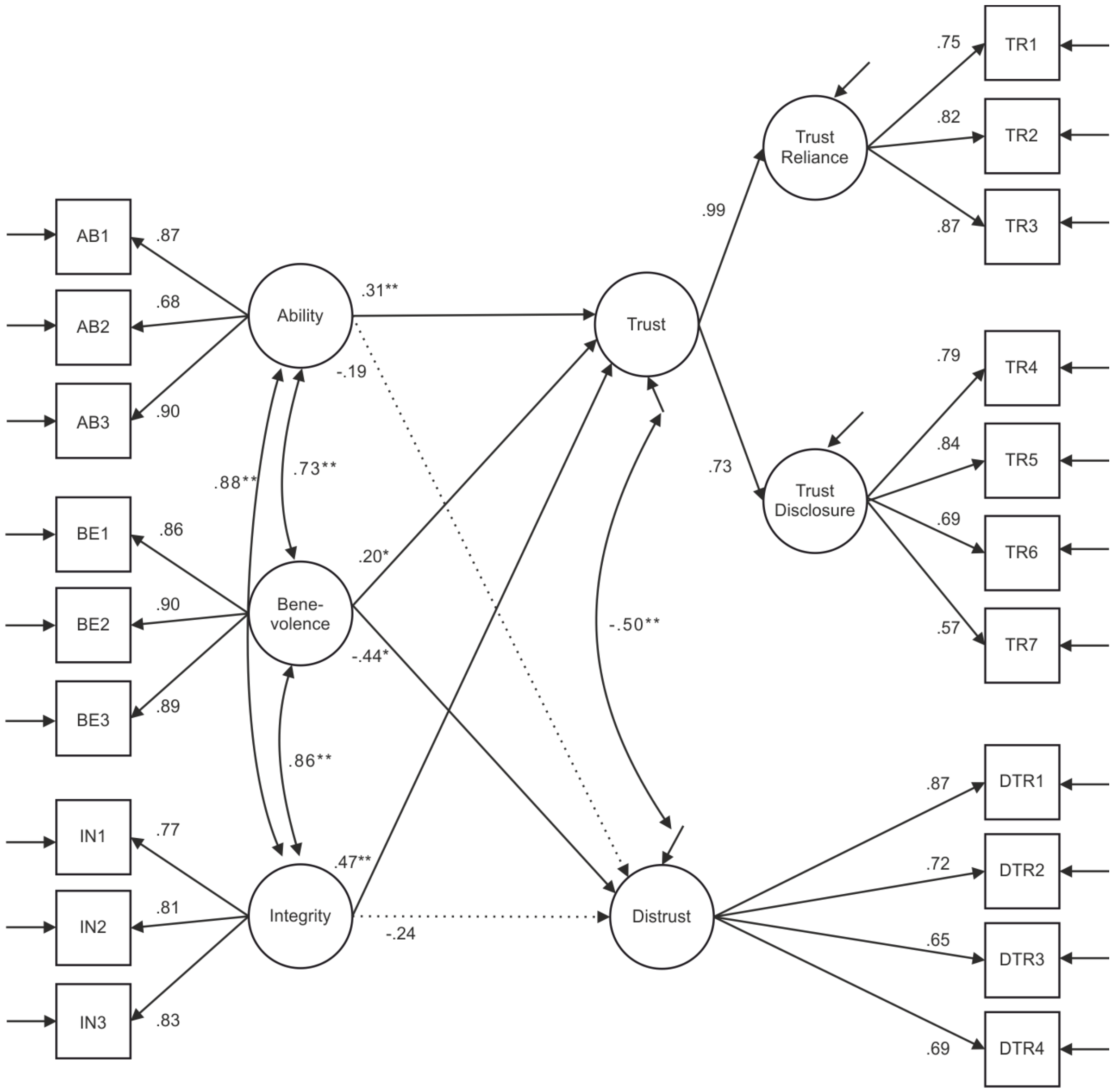

Figure 3. Structural model with trustworthiness as an antecedent of trust and distrust. * $p < .05$, ** $p<.01$

The reason, why the difference was not significant can be found in the underlying principles of constraining a structural equation model: the constraint is applied to the unstandardized coefficients. While the difference between the standardised path coefficients of *ability* and *integrity* to trust and distrust was large, the difference between their unstandardised coefficients was less noticeable ($\beta_{\text{Ability(Trust)}} = -0.25$; $\beta_{\text{Ability(Distrust)}} = 0.21$; $\beta_{\text{Integrity(Trust)}} = 0.37$; $\beta_{\text{Integrity(Distrust)}} = -0.27$). For comparison, the difference between the unstandardised coefficients of *benevolence* to trust and distrust remained large ($\beta_{\text{Benevolence(Trust)}} = 0.16$; $\beta_{\text{Benevolence(Distrust)}} = -0.47$)

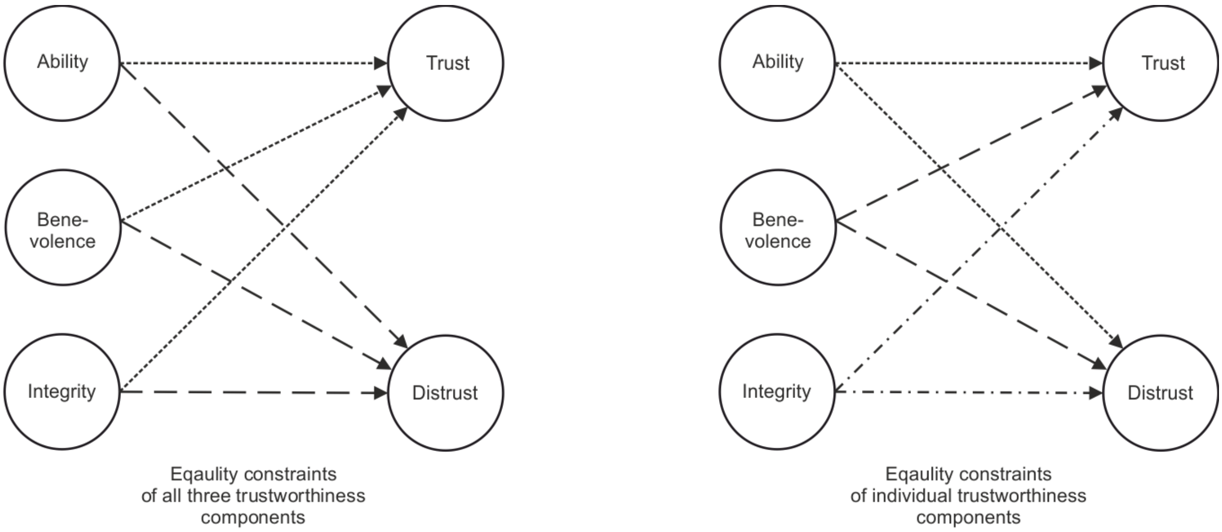

Figure 4. Equality constraints - line of equal design represent the paths constrained to equality

Table 4. Model tests of coefficient equality

	χ^2	*df*	$\Delta\chi^2$	Δdf
Model without equality constraint	410.02	158		
Models with equality constraint				
All trustworthiness components on trust				
$\beta_{\text{Ability (Trust)}} = \beta_{\text{Benevolence (Trust)}} = \beta_{\text{Integrity (Trust)}}$	412.65	160	2.63	2
All trustworthiness components on distrust				
$\beta_{\text{Ability (Distrust)}} = \beta_{\text{Benevolence (Distrust)}} = \beta_{\text{Integrity (Distrust)}}$	414.62	160	4.60	2
Individual trustworthiness components on trust and distrust				
($\beta_{\text{Ability (Trust)}} = \beta_{\text{Ability (Distrust)}}$) and ($\beta_{\text{Benevolence (Trust)}} = \beta_{\text{Benevolence (Distrust)}}$) and ($\beta_{\text{Integrity (Trust)}} = \beta_{\text{Integrity (Distrust)}}$)	427.64	161	17.62**	3
Follow up tests for each trustworthiness component				
$\beta_{\text{Ability (Trust)}} = \beta_{\text{Ability (Distrust)}}$	410.44	159	0.42	1
$\beta_{\text{Benevolence (Trust)}} = \beta_{\text{Benevolence (Distrust)}}$	417.72	159	7.70**	1
$\beta_{\text{Integrity (Trust)}} = \beta_{\text{Integrity (Distrust)}}$	410.77	159	0.75	1

Note. ** $p < .01$

3.2.2 Quality of supervisors' communication

For Hypothesis 2a and 2b, the relationship between the components of quality of supervisory communication and trust and distrust was analysed. As mentioned in the section 2.2.3, one of the components of quality of communication, namely *positive relationship communication,* was dropped from the analysis. The scale did not possess enough discriminant validity to be included in the model. Therefore, only the relationship between *upward openness communication* and *job relevant communication* with trust and distrust was assessed. The model had an acceptable fit ($\chi^2(145) = 447.21$; $p < .001$; CFI = .91; TLI = .90; RMSEA = .07; SRMR = .06) and is presented in Figure 4. The quality of supervisors' communication explained 69% of variance of *trust* ($R^2 = .69$; $p < .001$) and 54% of variance of *distrust* ($R^2 = .54$; $p < .001$). Both *upward openness* ($\beta = .13$; $p < .001$) and *job relevant communication* ($\beta = .77$; $p = .004$) were positively and significantly related to trust. In contrary, both components had a significant negative relationship with distrust ($\beta = -.17$; $p < .001$ and $\beta = -.66$; $p < .001$ respectively). While all path coefficients are significant, there is notable difference in their magnitude. Both Hypothesis 2a and 2b are corroborated by those results.

3.2.3 Proportion of ICT and F2F Communication

Participants were asked to indicate their current proportion of ICT and F2F communication with their supervisors. Figure 6 depicts the answer options and format. 15% of the participants communicated solely in a F2F fashion with their supervisors, 39% used mostly F2F communication, 23% used F2F communication and ICTs to the same extent, 21% used ICTs more frequently than F2F communication, and only 2% used ICTs exclusively. Mean trust ranged from 3.36 to 3.52 and mean distrust ranged from 2.54 to 2.69 among the five categories. Proportion of ICT and F2F communication was entered as a predictor of trust and distrust in the structural model. The model had a good fit ($\chi^2(50) = 181.88$; $p < .001$; CFI = .94; TLI = .92; RMSEA = .08; SRMR = .05), however the proportion of ICT and F2F communication did not have a significant relationship with trust ($\beta = -.06$; $p = .277$) or distrust ($\beta = .04$; $p = .493$), nor did it explain enough variance of trust ($R^2 = .004$; $p = .586$) or distrust ($R^2 = .001$; $p = .732$). Thus, neither Hypothesis 3a nor Hypothesis 3b was supported.

Figure 5. Indicating the proportion of F2F and ICT communication.

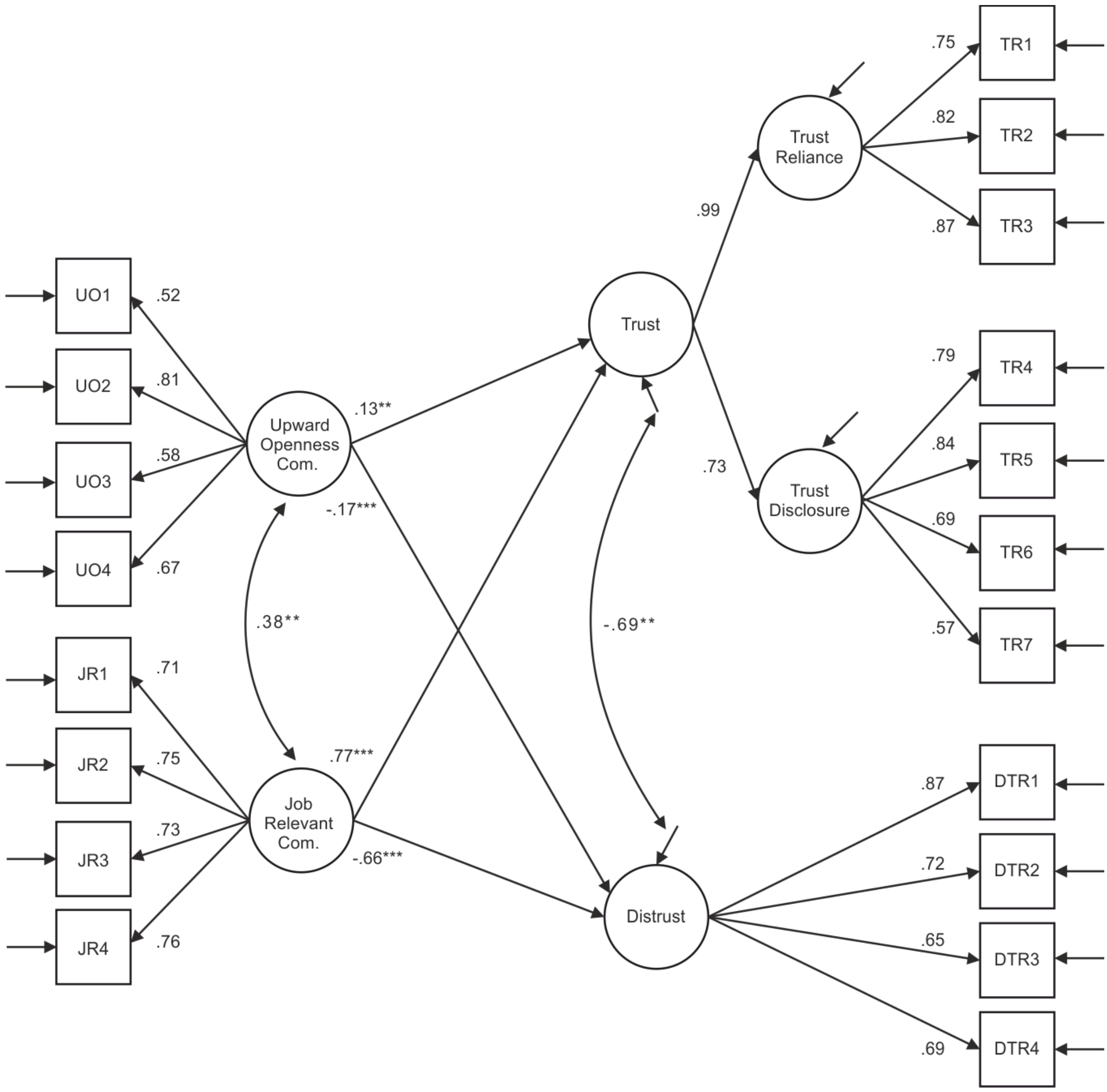

Figure 6. Structural model with quality of supervisory communication as antecedent of employees' trust and distrust. $^{**}p$<.01, $^{***}p$<.001

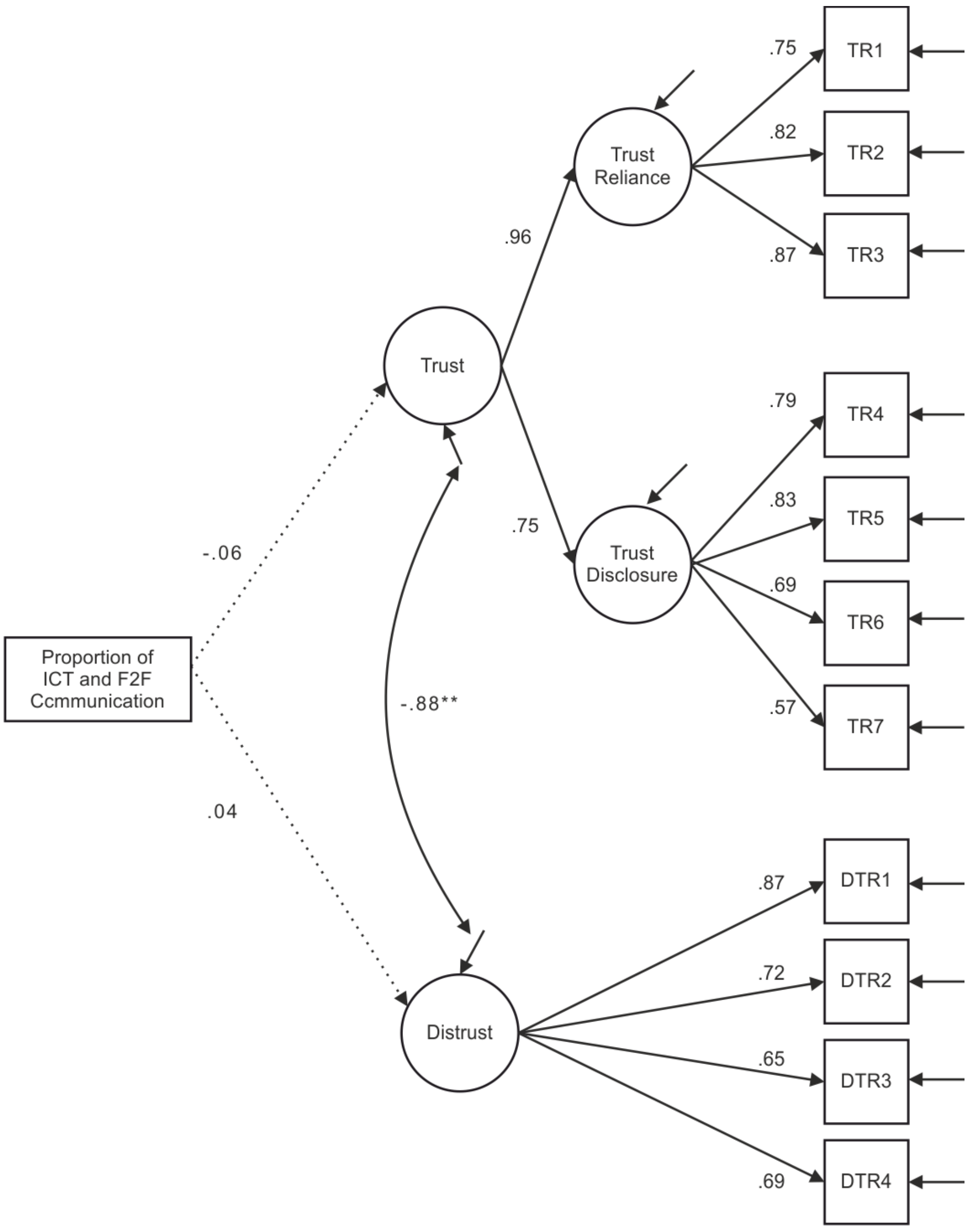

Figure 7. Structural model with proportion of ICT and F2F communication as antecedent of employees' trust and distrust. $^{**}p<.01$,

3.2.4 Supervisors' control

Hypothesis 4a and 4b predicted that perceived supervisors' control, composed of process and outcome control, will be significantly related to employees' trust and distrust. The model had a good fit (χ^2(144) = 426.08; p < .001; CFI = .92; TLI = .91; RMSEA = .07; SRMR = .07). The second order latent variable *control* was negatively related to distrust (β = -.32; p = .001) and positively to trust (β = .39; p < .001) and both relationships were highly significant. The amount of explained variance of trust (R^2 = .15; p = .001) and distrust (R^2 = .10; p = .006) were small, but significant. The results support both hypothesis 4a and 4b.

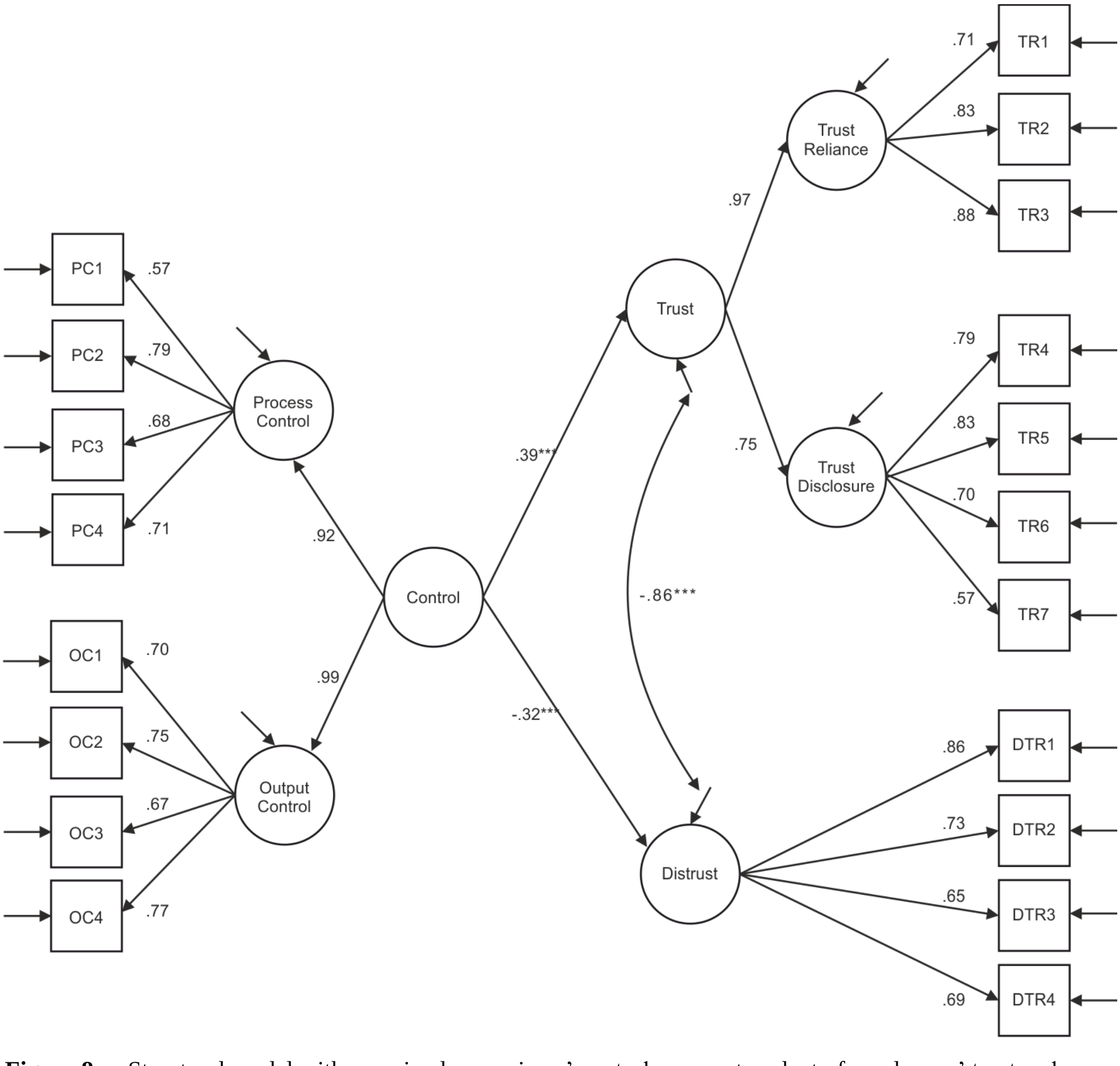

Figure 8. Structural model with perceived supervisors' control as an antecedent of employees' trust and distrust. *** p<.001

3.2.5 Legitimacy of supervisors' control

To explore the possible moderating effect of perceived legitimacy of control, a two-group (high, low) structural equation model was created using a median split for the legitimacy scale. In such way, it was possible to systematically compare the structural effects of supervisors' control on employees' trust and distrust across the two groups (the first group with low perceived legitimacy and the second group with high perceived legitimacy).

First, the fit of the established model on the two subgroups was evaluated (Byrne, 2012). Then an alternative model can be developed, where the paths from supervisors' control to employees trust and distrust are constrained to equality across both groups. In other words, the alternative model assumes that the supervisors' control has the same effect on employees' trust (or distrust) in both groups. A moderating effect can be uncovered by comparing the χ^2 values of the free and constrained (i.e., alternative) models. If $\Delta\chi^2$ is not significant, the equality constraint does not hurt the model fit and it can be assumed that supervisor's control has the same effect on employees' trust and distrust irrespective of the perceived legitimacy of control.

The median of the perceived legitimacy scale was 3.75, and thus the sample was split into two groups (n_{low} = 194; n_{high} = 226). The means and standard deviations of the relevant scales within the two groups are presented in Table 5. It can be observed, that only the means of process control and output *control* scales changed between the two legitimacy groups. The scales intercorrelations in Table 3 (Page 29) also show that legitimacy of control does not correlate with distrust or trust scales, only with scales of process and output control.

The model had a good fit in the *high legitimacy* group (χ^2(128) = 236.26; p < .001; CFI = .93; TLI = .92; RMSEA = .06; SRMR = .06), but not in the *low legitimacy* group (χ^2(128) = 320.96; p < .001; CFI = .87; TLI = .85; RMSEA = .09; SRMR = .10). In the high legitimacy group, supervisors' control explained 45% of variance of trust (R^2 = .45; p < .001) and 32% of variance of distrust (R^2 = .32; p < .001). Figure 9 presents the structural model of both groups (the values for the *low legitimacy* group are presented in after the slash). Due to the lack of model fit of the *low legitimacy* group, the SEM analysis could not proceed. Therefore, a moderation analysis in SPSS was conducted, using the add-on PROCESS (Hayes, 2013). The moderation model was significant for both trust (F(3,416) = 17.05, p < .001, R^2 = .13) and distrust (F(3,416) = 14.49, p < .001, R^2 = .11). The results further indicated that perceived legitimacy of control moderated the relationship between control and both trust (incremental F(1,416) = 22.58, p < .001, R^2 increase = .05) and distrust (incremental F(1,416) = 25.88, p < .001, R^2 increase = .06). The moderation effects are plotted in Figure 10.

Table 5. Means and standard deviations of relevant scales for the "low" and "high" legitimacy groups

	Mean (SD)					
	Legitimacy	Distrust	Trust-Reliance	Trust-Disclosure	Output Control	Process Control
Legitimacy						
Low (< 3.75)	3.06 (.49)	2.63 (.94)	3.62 (.96)	3.30 (.86)	2.86 (.90)	2.85 (.87)
High (≥ 3.75)	4.17 (.39)	2.64 (.98)	3.66 (.96)	3.37 (.90)	3.37 (.95)	3.25 (.85)

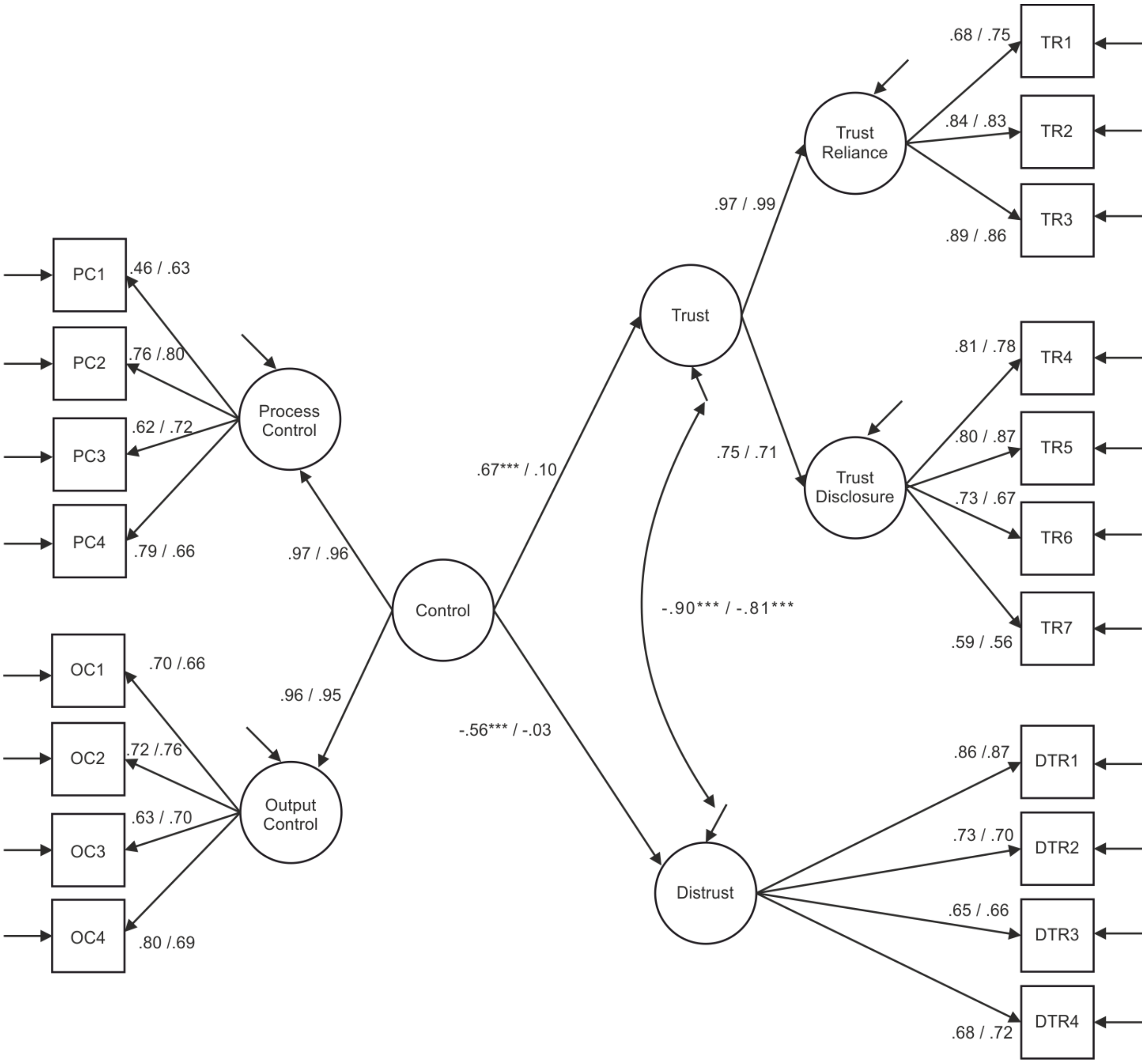

Figure 9. Structural model of "low" and "high" legitimacy groups (H / L) with perceived supervisors' control as an antecedent of employees' trust and distrust. ***p < .001

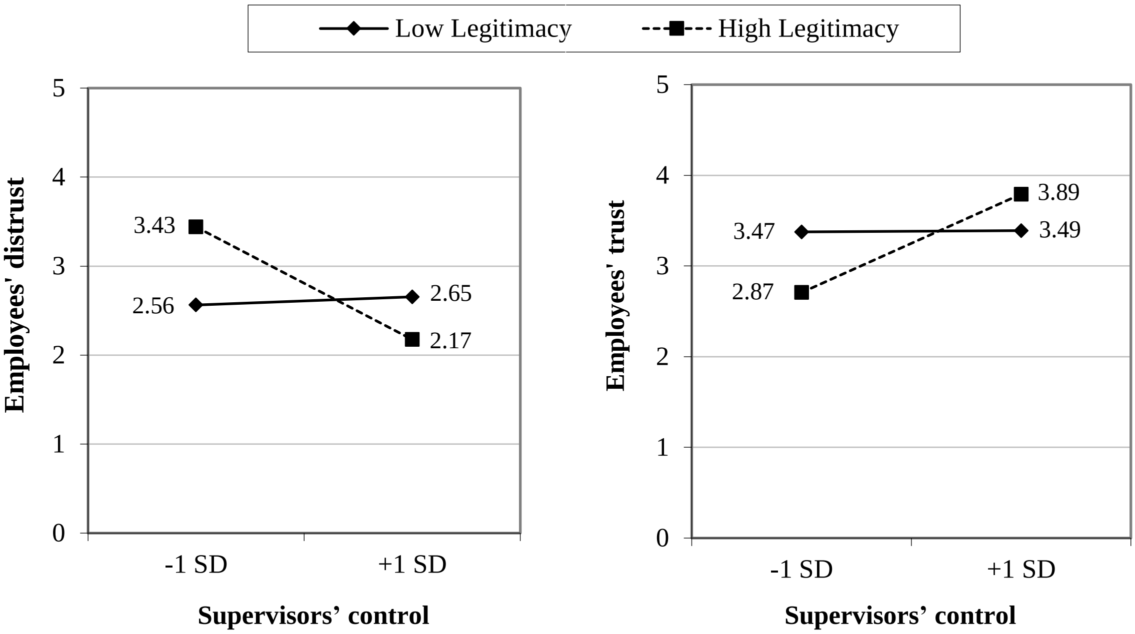

Figure 10. Moderating effect of perceived legitimacy of control on the relationship between supervisors' control and employees' trust and distrust

In Figure 10 it can be observed that the line associated with *low legitimacy* is almost flat. This means that supervisors' control did not have an effect on employees' trust and distrust for those employees who reported low perceived legitimacy. On the other hand, the line associated with *high legitimacy* has a negative slope for distrust and a positive slope for trust. This means that among employees who reported higher levels of perceived legitimacy, supervisors' control had a positive relationship with employees' trust and a negative relationship with employees' distrust. These findings support hypotheses 5a and 5b.

3.2.6 Organisational Control

Hypotheses 6a and 6b stated, that the prevalent norm of organisational control, composed of formal and informal control, will have a significant relationship with employees' trust and distrust toward their supervisors. As mentioned in section 2.2.3, the scale measuring informal control had a low reliability and low internal consistency. Therefore, the prevalent norm of organisational control is represented by the scale measuring the level formal control within the organisation. The model assessed the relationship between organisational control and employees' trust and distrust toward their supervisors and had an acceptable fit ($\chi^2(85) = 238.77$; $p < .001$; CFI = .94; TLI = .93; RMSEA = .07; SRMR = .05). *Organisational control* was positively related to employees' trust ($\beta = .30$; $p < .001$) and negatively to distrust ($\beta = -.26$; $p < .001$). Both relationships were highly significant. The amount of explained variance of both trust ($R^2 = .09$; $p = .008$) and distrust ($R^2 = .07$; $p = .020$) was small, but significant.

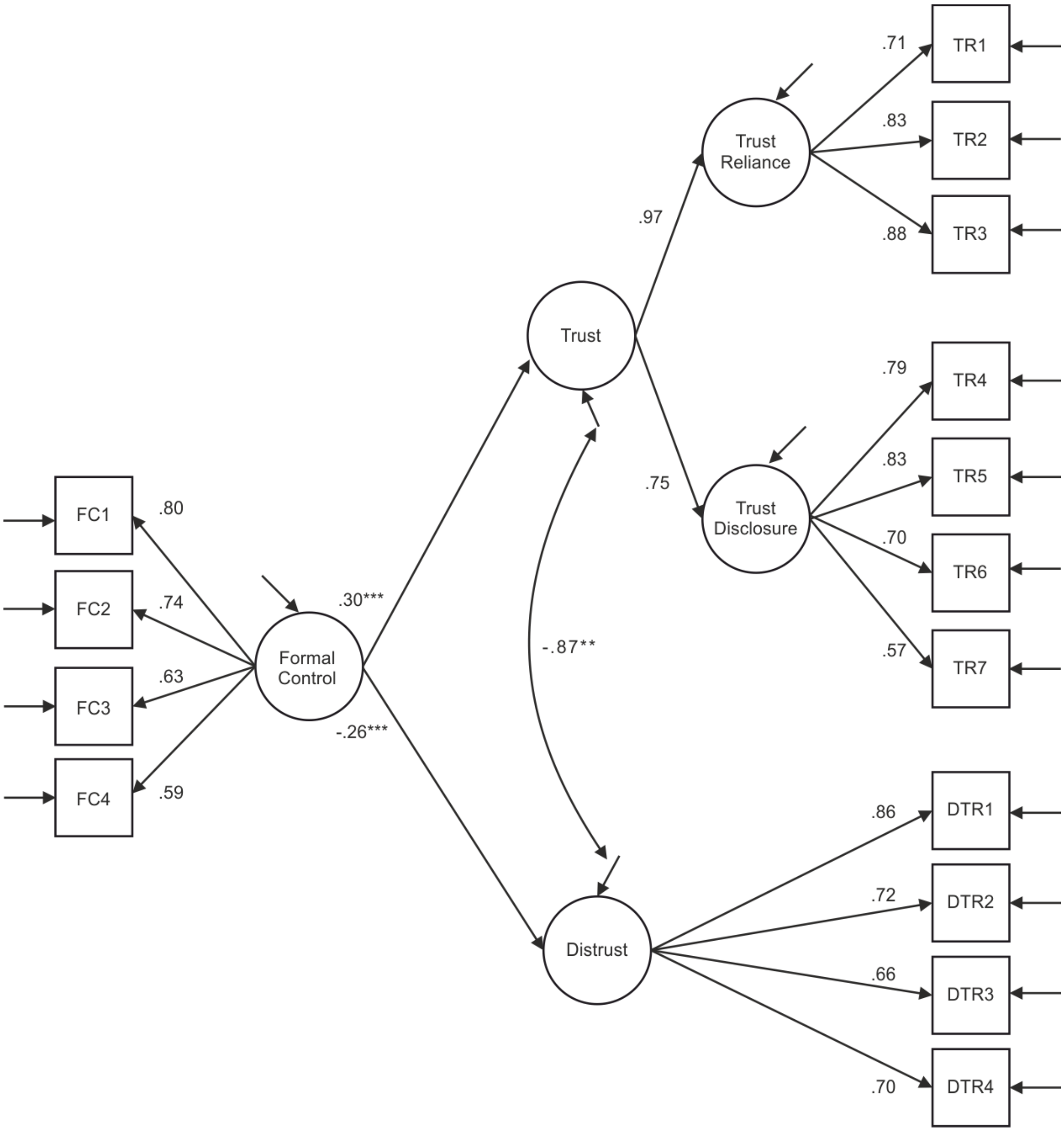

Figure 11. Structural model with formal control (i.e., organisational control) as antecedent of employees' trust and distrust. $^{**}p < .01$, $^{***}p < .001$,

3.2.7 Model with all antecedents

After each of the antecedents of employees' trust and distrust was assessed individually, a model involving all antecedents was estimated (see Figure 12). Due to the complexity of the model, only latent variables were included in the figure, and for better readability, the nonsignificant paths are represented by dotted lines. The model had an acceptable fit (χ^2 (737) = 1551.12; p < .001; CFI = .91; TLI = .90; RMSEA = .05; SRMR = .07) and revealed new information. The paths from *supervisors' control*, *organisational control*, and *job relevant communication* to both trust and distrust became non-significant when all antecedents were included in the model. Trust remained positively related with *ability* (β = .32; p = .001), *benevolence* (β = .19; p = .015), *integrity* (β = .43; p = .013) and *upward openness* communication (β = .11; p = .001). Distrust remained negatively related with *benevolence* (β = -.42; p < .001). and *upward openness* communication (β = -.15; p < .001). Interestingly, the path from *ability* to distrust became significant (β = -.24; p = .021). In the analysis involving only components of trustworthiness as antecedents of trust and distrust, *ability* had only a marginally significant relationship with distrust (β = -.19; p < .059). In the model with all antecedents, 87% of variance of *trust* (R^2 = .87; p < .001) and 70% of variance of *distrust* (R^2 = .70; p < .001) was explained.

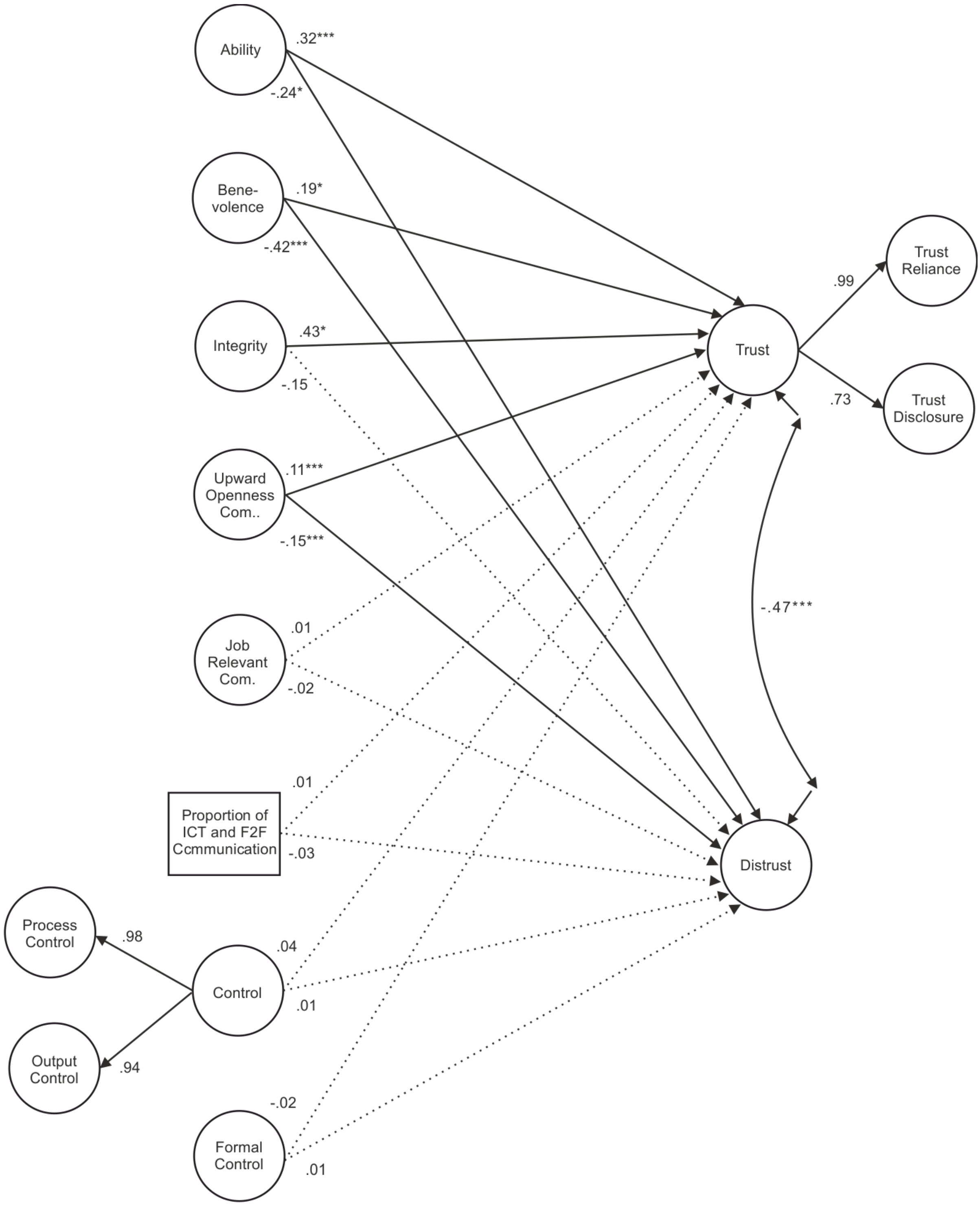

Figure 12. Full structural model with all antecedents of employees' trust and distrust. *p < .05, ***p < .001

4. DISCUSSION

4.1 Antecedents of trust and distrust

The aim of this study was to explore the differences between the antecedents of employees' trust and distrust toward their supervisors. Distrust was recognised as a separate construct from trust (Lewicki et al., 1998) and a new distrust scale was developed and validated in a pretest. To assess the construct validity of the new distrust scale, trust scales were used for comparison. When the scales for distrust and trust were compared, each scale had an AVE larger than .50 (Hair et al., 2010) and the square root of each AVE was larger than the related scale intercorrelations (Fornell & Larcker, 1981). Those results supported the convergent and discriminant validity respectively, together forming the construct validity of the new distrust scale (Campbell & Fiske, 1959). The discriminant validity of the new distrust scale was further analysed by the means of a CFA. The model with the best fit included distrust and trust as two separate constructs. Trust was modeled as a second order latent variable, composed of reliance based trust and disclosure based trust (Gillespie, 2003). Those results support the assumption that distrust is in fact a separate construct from trust. With this in mind, the difference between antecedents of employees' trust and distrust can be explored. In the following section, each of the explored antecedents are first discussed individually. Followingly, the overall model with all antecedents is discussed and the limitations of the study are noted.

The first explored antecedent of employees' trust and distrust was supervisors' trustworthiness (Mayer et al., 1995). Trustworthiness was intentionally not entered as a second order latent variable into the structural model, to uncover if its three components (i.e., *ability, benevolence* and *integrity*) had an asymmetrical relationship with employees' trust and distrust. In line with the meta-analysis of Colquitt et al. (2007), all three components of trustworthiness were found to be significantly positively related to trust. However, as no asymmetry was found in their relationship with trust, it is not possible to differentiate which component of trustworthiness is more important than the other. In other words, employees trusted their supervisors' if they perceived them as overall trustworthy.

The structural model further revealed that only *benevolence* had a significantly negative relationship with distrust (β = -.44; p < .001), implying that employees distrusted especially those supervisors who showed low levels of benevolence. A subsequent test of asymmetry showed, however, that, an equality restraint of all three trustworthiness components did not significantly harm the model fit. This implies, based on the parsimony of the model, that all three components of trustworthiness are equally important predictors of employees' distrust, even though originally only the path from benevolence was significant.

Follow up tests were conducted to compare the importance of individual trustworthiness components between trust and distrust. This analysis revealed, that from the absolute view point, benevolence had a significantly larger impact on distrust (β = -.44; p < .001) than on trust (β = .20; p = .026). Benevolence represents the extent to which a supervisor is selflessly willing to satisfy employee's needs (Mayer et al., 1995). When employees feel that their supervisors are not willing to satisfy their needs, they can develop negative expectations and start to be more watchful and sceptical (Lewicki et al., 1998). It can be interesting to note, that all three benevolence items used in this study (originally published in Mayer & Davis, 1999) reflect the personal relationship between participants and their supervisors. They especially concentrate on how the supervisors impact the participants' work life, while the *ability* and *integrity* items concentrate more on the supervisors' characteristics. This may be the reason why benevolence was more strongly related to employees' distrust - based on the concern that the supervisors may act in a malevolent way toward them (Govier, 1993).

Overall, trustworthiness (i.e., its three components ability, benevolence, and integrity) has been shown as an important antecedent of both trust and distrust. This is based on the significant paths and large R^2 of the model which included only trustworthiness as an antecedent, as well as on the model with all antecedent, where trustworthiness remained equally important. Further, the fact that the results of this study do not support Cho's (2006) findings point in the direction that the antecedents of trust (and distrust) vary with its referents, as Guo et al. (2017) suggested. The referent of trust and distrust in Cho's study was an online store. He found that ability was more important for distrust than benevolence and that this relationship was reversed for trust. While the connection between trustworthiness, trust, and distrust can be applied to many relationships, its direction and significance may change based on the referent, as the results of this study suggest.

The second explored antecedent of employees' trust and distrust, was the quality of communication between employees and their supervisors. The quality was measured by two scales: *upward openness* and *job relevant communication*. Both scales were significantly related to trust (β = .13; p < .00; β = .77; p =.004) and distrust (β = -.17; p < .001; β = -.66; p < .001). The magnitude of the relationships was also comparable; only the direction was inverse. Further, quality of communication as an antecedent explained a large amount of variance in both trust (R^2 = .69; p < .001) and distrust (R^2 = .54; p < .001). Altogether, the results suggest that quality of communication is an important antecedent of both employees' trust and distrust.

The connection between quality of communication and employees' trust has been previously examined (e.g., Bijlsma & Van de Bunt, 2003; Zeffane et al., 2011) and the results of this study corroborate previous findings. However, the relationship between employees' distrust and quality of communication has not been previously addressed.

Interestingly, in the model with all antecedents, the path from *job relevant communication* to both trust and distrust became nonsignificant. The paths from *upward openness communication* to both trust (β = .11; p = .001) and distrust (β = -.15; p < .001) remained significant, and their magnitude remained comparable as well. While both scales measured the quality of communication between employees and their supervisors, each of them encompassed a different direction of communication. *Job relevant communication* scale asked about how the supervisors communicated with their employees, while *upward openness* scale concentrated on employees' opportunity to be open with their supervisors (e.g., to question their supervisors' instructions, Bakar et al., 2010). It is possible that when supervisors forgot to pass not job relevant information to their subordinates it was interpreted as forgetfulness. However, when employees felt they can be open with their supervisors, it made them possibly less willing to make themselves vulnerable toward the actions of their supervisor, and thus lowering their trust (Mayer et al., 1995). It could also have made them watchful and vigilant (Lewicki et al., 1998) , and thus increasing the level of their distrust.

Alongside with the quality of communication, the proportion of ICT and F2F communication between employees and their supervisors was measured as well. Result showed that this proportion did not influence employees' trust (β = -.06; p = .277) or distrust (β = .04; p = .493). This result indicated, that trust between employees and their supervisors can develop despite the lack of F2F contact, and that distrust does not increase if ICT communication is more prevalent.

The last three explored antecedent of employees' trust and distrust were connected to the concept of control. First, the effects of the perceived supervisors' control (composed of output and process control) were explored. Both types of supervisors' control were modeled on a second order latent variable *control*. The paths to both trust (β = .39; p = .001) and distrust (β = -.32; p = .001) were significant. The relationship between control and trust was positive. This direction aligns with the findings of Weibel et al. (2016). It implies that employees who perceive to be more controlled by their supervisors also tend to trust their supervisors more. On the other hand, the relationship between control and distrust was negative. This suggests that employees who are aware of the expected goals (i.e., perceive to be controlled in reference their outcomes) and know which steps to take or which procedures to follow (i.e., perceive to be controlled in reference to the processes of their work) tend to have lower levels of distrust toward their supervisors. It is possible that the extent of control does not leave room for negative expectations (Lewicki et al., 1998) and therefore distrust does not arise.

The next step was to explore if the relationship between supervisors' control and employees' trust and distrust is moderated by the perceived legitimacy of such control. The sample was split into two groups based on the median value of the legitimacy scale. The first group perceived low levels of legitimacy, and thus believed that supervisors are not entitled to enact their control. The second group perceived high levels of legitimacy and consequently believed that their supervisors are allowed to control them. Unfortunately, due to the bad fit of the data to the proposed model in the *low legitimacy* group, it was not possible to conduct the analysis in its full length. However, the available results from the *high legitimacy* group point to an interesting direction. When the overall sample was compared with the *high legitimacy* group, the magnitudes of the relationships were higher between control and trust (β = .39 vs. β = .67) as well as between control and distrust (β = -.32 vs. β = -.56). The amount of explained variance was also higher in the *high legitimacy* group for both trust (R^2 = .15 vs. R^2 = .45) and distrust (R^2 = .10 vs. R^2 = .32). Those results, together with the fact that the legitimacy scale was positively significantly correlated with both output control (r = .35, p < .01) and process control (r = .28, p < .01) point to the direction that the perceived legitimacy of control can strengthen the relationship between control and trust or distrust. Additionally, the results from the moderation analysis using the PROCESS add-on (Hayes, 2013) in SPSS revealed a significant moderation effects. Supervisors' control had an influence on employees' trust and distrust only if the employees perceived such control as legitimate. These findings converge with the proposition, that it is important whether control is perceived as appropriate by the employees (Bijlsma-Frankema & Costa, 2010)

The last explored antecedent of employees' trust and distrust was the prevalent level of organisational control. The results were parallel to the effects of supervisors' control, as organisational control was positively related to trust (β = .30; p < .001) and negatively to distrust (β = -.26; p < .001). These results suggest that in organisations with high level of formal control create an atmosphere that fosters trust (Weibel et al., 2016) and additionally does not allow distrust to flourish. However, in the model with all antecedents, the path from both supervisors' and organisational control to trust and distrust became nonsignificant. This implies, that when other antecedents of employees' trust and distrust toward their supervisors are considered, the effects of control are attenuated.

4.2 Limitations

This study had several limitations. First the convenience sample consisted of individuals from very diverse organisational backgrounds. Even though some variables were controlled for (such as age, gender, education level, prevalent norm of organisational control) it is still possible that some confounding variables influenced the collected data. Additionally, as the participants were recruited via social media among very specific groups people, the ecological validity of the obtained results has to be questioned. Due to the limited length of the online questionnaire, it was not possible to include all the necessary constructs. For example, propensity to trust (Mayer & Davis, 1999) is a very important antecedent of trust, yet was left out from this study. It has been also proposed, that not trustworthiness but distrustworhtiness is a better predictor of interpersonal distrust (Lowry, Schuetzler, Giboney, & Gregory, 2014).

Further the significant relationship between upward openness communication and employees' trust and distrust cannot be clearly interpreted. Due to the nature of the relationships between employees and their supervisors (specifically that supervisors have the formal authority to manage and evaluate their subordinates' activities; Jablin, 1979), it can be expected that employees' openness toward their supervisor is composed of two factors. First, the employee (for example Sally) needs to be willing to express her opinion, and second, she needs to believe that she can be open toward her supervisor without the risk of negative consequences. Therefore, the results of this study show that employees' distrust toward their supervisors is significantly related to either employees' unwillingness to express their opinion openly to their supervisors, or to their perception, that they do not have the possibility or opportunity to be open with their supervisor. The distinction between those two facets of upward openness communication should be addressed in future studies.

4.3 Conclusions

In summary, the collected data support the notion that trust and distrust are two separate, but connected constructs. The explored antecedents revealed reversed relationships, where each antecedent was positively related to trust and negatively to distrust. The sequential analysis of the antecedents, first alone and then altogether, revealed the importance of research designs that include multiple antecedents.

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LIST OF ABBREVIATIONS

AVE	- Average variance extracted
CFA	- Confirmatory factory analysis
CFI	- Comparative fit index
DTR1-4	- Distrust items
DWLS	- Diagonally weighted least squares
F2F	- Face-to-face
FC1-4	- Formal control items
ICT	- Information and communication technologies
LG1-4	- Perceived legitimacy of supervisors’ control items
MLR	- Robust maximum likelihood estimator in Mplus
OC1-4	- Output control items
PC1-4	- Process control items
RMSEA	- Root-mean-square error of approximation (fit index)
SEM	- Structural Equation Modeling
SRMR	- Standardized root mean square residual (fit index)
SD	- Standard deviation
TLI	- Tucker Lewis Index
TR1-7	- Trust items
VIF	- Variance inflation factor

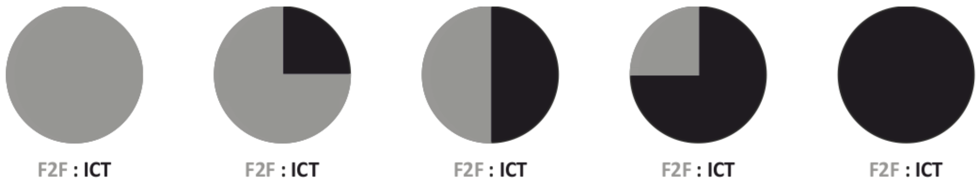
APPENDIX

A. German Version of the Questionnaire

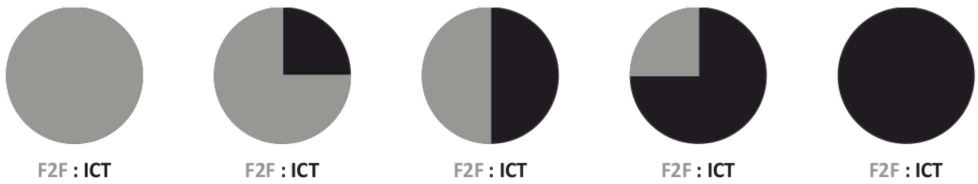
This section depicts the German version of the online questionnaire that was used for data collection. Here, the items are ordered according to the subscales, however their order was randomised in the online version of the questionnaire.

Anteil der virtuellen Kommunikation

1. Wie oft kommunizieren Sie mit ihrer bzw. ihrem direkten Vorgesetzten virtuell, im Vergleich zu persönlichem Face-to-Face-Kontakt?



2. In welchem Verhältnis (virtuell versus Face-to-Face-Kontakt) sollte idealerweise Ihre Kommunikation mit ihrer bzw. ihrem direkten Vorgesetzten ablaufen?



Qualität der Kommunikation

Upward openness

1. Ich hinterfrage ihre/seine Anweisungen, wenn ich sie nicht verstehe.
2. Ich teile es ihr/ihm mit, wenn ich denke, dass etwas falsch gemacht wird.
3. Ich mache ihr/ihm gegenüber Vorschläge, wie die Arbeit gemacht werden könnte.
4. Ich stelle ihre/seine Anweisungen in Frage, wenn ich denke, dass sie falsch sind.

Job-relevant communication

Meine direkte Vorgesetzte bzw. mein direkter Vorgesetzter...

1. ...leitet mir Informationen, die für meine Arbeit wichtig sind, weiter.
2. ...erklärt mir, warum Arbeitsaufträge geändert werden.
3. ...hält mich auf dem Laufenden über Richtlinien und Vorschriften.
4. ...schenkt mir Anerkennung für gute Arbeit.

Positive Relationship

Meine direkte Vorgesetzte bzw. mein direkter Vorgesetzter...

1. ...fragt mich nach meinen Interessen außerhalb der Arbeit.
2. ...initiiert auch ungezwungene Unterhaltungen mit mir.
3. ...bittet mich um Vorschläge für Verbesserungen.
4. ...bittet mich um Vorschläge, wie Arbeitsaufgaben erledigt werden könnten.

Vertrauen

Trust - Reliance

1. Ich bin bereit, mich auf ihre/seine aufgabenbezogenen Kenntnisse und Fähigkeiten zu verlassen.
2. Ich bin bereit, mich auf sie/ihn zu verlassen, eine wichtige Angelegenheit in meinem Interesse zu regeln.
3. Ich bin bereit, mich darauf zu verlassen, dass sie/er in schwierigen Situationen hinter mir steht.

Trust - Disclosure

1. Ich bin bereit, mit ihr/ihm persönliche Angelegenheiten (Gefühle) zu teilen.
2. Ich bin bereit, ihr/ihm persönliche Angelegenheiten, die sich auf meine Arbeit auswirken, anzuvertrauen.
3. Ich bin bereit, mit ihr/ihm ehrlich darüber zu diskutieren, wie es mir bei meiner Arbeit geht, auch über negative Gefühle und Frustration.
4. Ich bin bereit, mit ihr/ihm über arbeitsbezogene Probleme oder Schwierigkeiten zu diskutieren, auch wenn dies möglicherweise zu meinem Nachteil gegen mich eingesetzt werden könnte.

Misstrauen

1. Ich bezweifle, dass sie/er meine Bedürfnisse angemessen verteidigen wird.
2. Ich stelle ihre/seine Kompetenz in Frage, dass sie/er ihre/seine Arbeit adäquat erledigt.
3. Ich zögere, meine beruflichen Perspektiven in ihre/seine Hände zu geben.
4. Ich bin vorsichtig, ihr/ihm meine Meinung mitzuteilen.
5. Ich bin zurückhaltend, wenn ich mit ihr/ihm über meine Zukunftspläne spreche.

Vertrauenswürdigkeit

Integrity

1. Ich muss mich nie fragen, ob sie/er ihr/sein Wort halten wird.
2. Sie/Er bemüht sich sehr, im Umgang mit anderen fair zu sein.
3. Ich schätze ihre/seine Werte.

Competence

1. Sie/Er ist sehr kompetent bei der Ausübung ihrer/seiner Rolle.
2. Sie/Er ist dafür bekannt, erfolgreich zu sein, wenn sie/er etwas versucht.
3. Ich bin von ihren/seinen Fähigkeiten sehr überzeugt.

Benevolence

1. Sie/Er macht sich sehr viele Gedanken um mein Wohlergehen.
2. Meine Bedürfnisse und Wünsche sind für sie/ihn sehr wichtig.
3. Sie/Er achtet sehr auf das, was für mich wichtig ist.

Kontrolle

Output Control

Meine direkte Vorgesetzte bzw. mein direkter Vorgesetzter...

1. ...setzt spezifische Leistungsziele für meine Arbeit fest.
2. ...überwacht das Ausmaß, in dem ich meine Leistungsziele erreiche.
3. ...erwartet von mir, dass ich den Grund erkläre, falls ich meine Leistungsziele nicht erreicht habe.
4. ...gibt mir Feedback über das Ausmaß, in dem ich meine Ziele erreiche.

Process Control

Meine direkte Vorgesetzte bzw. mein direkter Vorgesetzter...

1. ...überwacht, ob ich die vereinbarten Vorgehensweisen einhalte.
2. ...evaluiert meine eingesetzten Vorgehensweisen.
3. ...fordert von mir, meine Vorgehensweisen zu ändern, wenn erwünschte Resultate nicht erreicht werden.
4. ...gibt mir Feedback, wie ich meine Vorgehensweisen ändern soll, um meine Ziele zu erreichen.

Legitimität der Kontrolle

	Ich denke, dass Vorgesetzte... 1. ...genaue Leistungsziele für Mitarbeiter/innen festsetzen sollten. 2. ...die Erreichung von Leistungszielen der Mitarbeiter/innen überwachen sollten. 3. ...den Mitarbeiter/innen Feedback über die Erreichung ihrer Ziele geben sollten. 4. ...Arbeitsweisen der Mitarbeiter/innen überwachen sollten. 5. ...Arbeitsweisen der Mitarbeiter/innen steuern sollten. 6. ...den Mitarbeiter/innen Feedback über ihre Arbeitsweisen geben sollten.

Formelle und informelle Kontrolle

Formelle Kontrolle	1. Bei uns werden schriftlich festgehaltene Regeln strikt durchgesetzt. 2. In unserem Unternehmen werden schriftlich festgehaltene Regeln und Vorgehensweisen eingehalten. 3. Bei uns werden viele Handlungsanweisungen schriftlich festgehalten. 4. In unserem Unternehmen sind Vorgehensweisen zur unternehmensinternen Konfliktlösung klar formalisiert.
Informelle Kontrolle	1. Bei uns werden Mitarbeiter/innen, die gegen wichtige Unternehmenswerte verstoßen, disziplinarisch bestraft (z.B. werden sie verwarnt). 2. In unserem Unternehmen werden Mitarbeiter/innen, die gegen wichtige Normen verstoßen, durch Gruppendruck zu einer Verhaltensänderung gebracht. 3. Im Allgemeinen werden Verstöße gegen ungeschriebene Normen bestraft (z.B. Mitarbeiter/innen, die Klatsch verbreiten, werden gemieden). 4. Im Allgemeinen werden ungeschriebene Normen, wie bestimmte Dinge getan werden, eingehalten.

Angaben zu den Vorgesetzen

	1. Geschlecht der bzw. des direkten Vorgesetzten: (männlich / weiblich) 2. Bitte schätzen Sie das Alter Ihrer bzw. Ihres direkten Vorgesetzten: (Jahren) 3. Wie lange ist diese Person bereits Ihre direkte Vorgesetzte bzw. Ihr direkter Vorgesetzter? (Jahren) 4. Bitte geben Sie die höchste abgeschlossene Ausbildung Ihrer bzw. Ihres direkten Vorgesetzten an:

Demographische Angaben

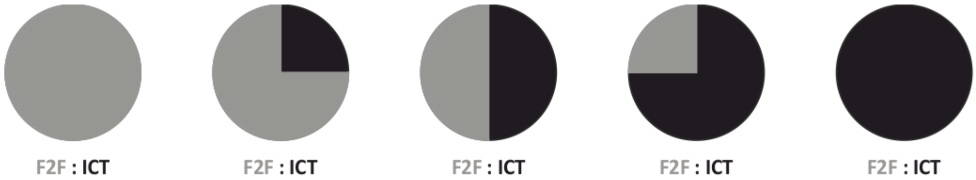
	1. Geschlecht: (männlich / weiblich) 2. Alter (Jahren) 3. Muttersprache 4. Wie viele Stunden arbeiten Sie durchschnittlich pro Woche? (inkl. Mehrarbeit/Überstunden) 5. Falls Sie selber eine direkte Vorgesetzte bzw. ein direkter Vorgesetzter sind, geben Sie bitte an, für wie viele Mitarbeiter Sie zuständig sind (Falls Sie keine Vorgesetzte bzw. kein Vorgesetzter sind, schreiben Sie bitte eine 0) 6. Höchste abgeschlossene Ausbildung: 7. Bitte geben Sie die Branche an, in der Sie tätig sind

B. English Version of the Questionnaire

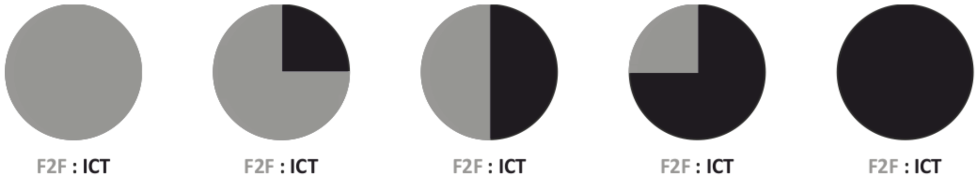
This section depicts the English version of the online questionnaire. Here, the items are ordered according to the subscales, however their order was randomised in the online version.

Proportion of ICT and F2F Communication

1. How frequently do you communicate with your direct supervisor virtually, compared to face-to-face contact?



2. Ideally, how would you like the portion of face-to-face to virtual communication with your immediate supervisor to look like?



Communication Quality

Upward openness

1. I question my direct supervisor’s instructions when I don’t understand them.
2. I tell my direct supervisor when I think things are being done wrong.
3. I make suggestions to my direct supervisor how work could be done.
4. I question my direct supervisor’s instructions when I think they are wrong.

Job-relevant communication

I think my direct supervisor…

1. ... provides all relevant information I need to do my job.
2. ...lets me know why changes are made in work assignments.
3. …keeps me informed about rules and policies.
4. …gives me recognition for good work.

Positive Relationship

I think my direct supervisor…

1. ...asks me about my interests outside of work.
2. ...strikes up casual conversations with me.
3. ...asks me for suggestions for improvements.
4. ...asks for my suggestions about how each work task could be done.

Trust

Trust - Reliance

1. I am willing to rely on hers/his task-related skills and abilities.
2. I am willing to rely on her/him to handle an important issue on my behalf.
3. I am willing to depend on her/him to back me up in difficult situations.

Trust - Disclosure

1. I am willing to share my personal feelings with her/him.
2. I am willing to confide in her/him about personal issues that are affecting my work.
3. I am willing to discuss with her/him how I honestly feel about my work, even negative feelings and frustration.
4. I am willing to discuss with her/him work-related problems or difficulties even when they could potentially be used to disadvantage me.

Distrust

	1. I am doubtful, that she/he will adequately defend my needs. 2. I question her/his competence to do her/his job adequately. 3. I hesitate to leave my career prospects in her/his hands. 4. I am cautious about telling her/him my opinion. 5. I am cautious when I talk to her/him about my plans for the future.

Trustworthiness

Integrity	1. I never have to wonder whether she/he will stick to her/his word. 2. She/he tries hard to be fair in dealings with others. 3. I like her/his values.
Ability	1. She/he is very capable of performing her/his job. 2. She/he is known to be successful at the things she/he tries to do. 3. I feel very confident about her/his skills.
Benevolence	1. She/he is very concerned about my welfare. 2. My needs and desires are very important to her/him. 3. She/he really looks out for what is important to me.

Control

Output Control	My direct supervisor… 1. ... sets specific goals for my job. 2. ...monitors the extent to which I attain expected goals. 3. ...expects me to explain the reason for not meeting the expected goals. 4. ... gives me feedback concerning the extent to which I fulfil my goals.
Process Control	My direct supervisor… 1. ...monitors the extent to which I follow established procedures. 2. ... evaluates the procedures I use to accomplish a given task. 3. ... asks me to modify my procedures when desired results are not obtained. 4. ... gives me feedback on how to change my procedures to meet my goals.

Legitimacy of Control

	I think direct supervisors … 1. ...should set specific goals for their employees. 2. ...should monitor the extent to which the employees fulfil their goals. 3. ...should give feedback to their employees on how to attain their goals. 4. ...should monitor the procedures their employees use to accomplish a given task. 5. ...should control the procedures their employees use to accomplish a given task. 6. ...should give their employees feedback on their procedures.

Formal and Informal Control

Formal Control	1. Written rules are strictly enforced. 2. In our company, written rules and procedures are generally followed. 3. Many rules and procedures are written. 4. Conflict is generally resolved through structured, formal mechanisms.
Informal Control	1. Employees who violate important organizational values/ ethics are disciplined (e.g. they get issued a caution). 2. Peer pressure or informal supervision intervention is used to correct the situation when norms are violated. 3. Violations of unwritten norms and procedures are punished (e.g. employees who always gossip are shunned). 4. There are unwritten norms about how things are to be done and they are generally followed

Details about the direct supervisor

1. Gender of your direct supervisor
2. Please estimate the age of your direct supervisor
3. For how long is this person your direct supervisor? (Years)
4. Please provide the highest level of completed education of your direct supervisor

Demographics

1. Gender
2. Age
3. Mother tongue
4. How many hours do you work on average per week (incl. overtime)?
5. In case you are a direct supervisor yourself, please, write down the number of employees under your responsibility (in case you are not a direct supervisor, please write down a 0).
6. Highest level of completed education
7. Please, provide the industry sector you work in

C. Item composition of the distrust scale

Items	Pre-test survey	Pre-test analysis	Main Study survey	Main Study analysis
1. I am doubtful, that my direct supervisor will adequately defend my needs.	x	x	x	x
2. I hesitate to leave my career prospects in the hands of my direct supervisor.	x	x	x	x
3. I am cautious about saying my opinion to my direct supervisor.	x	x	x	x
4. I am cautious when I talk to my direct supervisor about my plans for the future.	x	x	x	x
5. I question the competence of my direct supervisor to do his/her job adequately.	x	x	x	
6. I am careful about what I say to my direct supervisor about work-related topics.	x			
7. I am attentive to the way my direct supervisor presents my work to others.	x			
8. When possible, I closely observe the decisions of my direct supervisor.	x			