



# Trust in democratic societies

A conceptual, methodological, and empirical contribution

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## Summary

This thesis is a comprehensive study of trust. The study rests on the argument that all forms of trust stem from the same universal concept. Once trust has been defined at its core, the concept can be specified within a wide variety of contexts, such as trust in your friends and family, in your fellow citizens, or in different kinds of institutions within your country. Although trust is an increasingly popular topic within the social sciences, a lack of consensus on the true meaning of the concept remains. On the one hand, this can be attributed to diverging conceptualisations in a rich and multidisciplinary conceptual literature. On the other, to empirical studies where quantifiable measures do not spring from a clear conceptual account, but rather take survey responses directly at face value. Based on this fundamental issue, the overarching goal of my thesis is to bridge the gap between the conceptual and empirical literature.

I achieve this goal with three contributions. Firstly, I conduct a conceptual analysis of trust, which results in a unifying conceptual framework. The framework acknowledges and combines different conceptual understandings from political science, psychology and sociology, thereby representing a move towards clearer consensus on the meaning of trust within the conceptual literature. Secondly, I develop a new measurement model for trust, which is directly rooted in the conceptual framework. The model reflects an alternative approach to empirical research, where quantitative measures of trust are derived from a conceptual argument on the appropriate structure and dimensionality. Thirdly, I identify a typology of citizens who trust in fundamentally different ways. The typology acts as a complementary perspective on the meaning of trust, studied from the viewpoint of citizens in a heterogeneous population.

As a whole, I argue that the thesis represents a new approach to trust research, where conceptual and empirical methods are closely intertwined. In order to advance our understanding of this fundamentally important concept, it is crucial to bring the two strands of the literature closer together.

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# Table of contents

<b>Chapter 1: Introduction</b> .....	<b>11</b>
1.1 Research questions .....	12
1.2 A multidisciplinary conceptual debate .....	14
1.3 Bridging the gap between the conceptual and empirical literature .....	16
<i>A conceptual contribution: Chapter 2</i> .....	16
<i>A methodological contribution: Chapter 3</i> .....	17
<i>An empirical contribution: Chapter 4 and 5</i> .....	19
<b>Chapter 2: A conceptual analysis of trust</b> .....	<b>22</b>
2.1 Sartori's guidelines for conceptual analysis .....	24
<i>The ladder of abstraction</i> .....	25
2.2 Building the concept of trust .....	27
<i>High abstraction: Trust as a universal concept</i> .....	28
Semantic field .....	31
<i>Medium abstraction: Interpersonal and institutional trust</i> .....	32
<i>Low abstraction: The concrete subtypes of trust</i> .....	34
Subtypes of interpersonal trust .....	35
Subtypes of institutional trust .....	36
2.3 Combining the disciplines .....	38
<i>Sociology as the bridging discipline</i> .....	39
<i>Rationality and psychology in my conceptual framework</i> .....	40
Rationality and psychology at the lowest level of abstraction ...	42
2.4 Concluding remarks.....	44
<b>Chapter 3: The measurement of trust</b> .....	<b>46</b>
3.1 The data, the literature, and prior measures of trust .....	49
<i>Measuring institutional trust</i> .....	51
<i>Measuring interpersonal trust</i> .....	53
<i>Measuring trust through survey data</i> .....	55
3.2 The scope conditions: Individualistic societies and developed democracies	57
<i>Individualistic societies</i> .....	58
<i>Developed democracies</i> .....	61

3.3 A bifactor-ESEM approach .....	64
<i>The exploratory structural equation model (ESEM)</i> .....	64
<i>The bifactor model</i> .....	66
<i>The combined model: Bifactor-ESEM</i> .....	68
3.4 Empirical results .....	70
3.5 Concluding remarks .....	73
<b>Chapter 4: A typology of citizens</b> .....	<b>74</b>
4.1 A heterogeneous approach to the study of trust .....	77
<i>Person-centred studies in the trust literature</i> .....	78
4.2 The method: Latent profile analysis (LPA) .....	82
<i>Model specification</i> .....	83
4.3 Empirical results .....	86
<i>Finding the optimal typology</i> .....	87
<i>Interpreting the typology</i> .....	91
Type 1: Low trusters .....	94
Type 2: Mid-level trusters .....	95
Type 3: Institutional trusters .....	96
Type 4: In-group trusters .....	97
Type 5: Out-group trusters .....	98
4.4 Concluding remarks .....	99
<b>Chapter 5: Deepening the typology</b> .....	<b>101</b>
5.1 Variables associated with trust in the literature .....	103
<i>Sociodemographic variables</i> .....	104
Level of education .....	104
Age and gender .....	105
Immigrant status .....	106
<i>Psychological variables</i> .....	107
Life satisfaction .....	108
Sense of control .....	108
<i>Identity-based variables</i> .....	109
National attachment .....	109
Local attachment .....	110
<i>Political interest</i> .....	111

<i>Country differences</i> .....	112
5.2 Data and operationalisations .....	114
5.3 The methods .....	115
<i>Welch's ANOVA</i> .....	118
<i>Chi-square test of independence</i> .....	119
<i>Effect sizes</i> .....	120
5.4 Empirical results .....	121
<i>Individual-level variables</i> .....	121
Type 1: Low trusters .....	125
Type 2: Mid-level trusters .....	126
Type 3: Institutional trusters .....	127
Type 4: In-group trusters .....	128
Type 5: Out-group trusters .....	129
<i>Country differences</i> .....	130
5.5 Concluding remarks .....	134
<b>Chapter 6: Conclusion</b> .....	<b>136</b>
6.1 Answering the research questions .....	137
<i>What is trust?</i> .....	137
<i>How should trust be measured?</i> .....	139
<i>How do citizens trust?</i> .....	141
6.2 Final remarks .....	143
6.3 Limitations and avenues for future research .....	144
<i>A new measure of trust</i> .....	146
<b>Bibliography</b> .....	<b>148</b>
<b>Appendix A: Appendix for chapter 3</b> .....	<b>163</b>
<b>Appendix B: Appendix for chapter 4</b> .....	<b>165</b>
<b>Appendix C: Appendix for chapter 5</b> .....	<b>168</b>

## List of tables

<b>3.1:</b>	<u>Left side:</u> The survey items from the joint survey of the EVS and the WVS (2017-2020) <u>Right side:</u> How I combine them to measure the corresponding subtypes of trust .....	57
<b>3.2:</b>	<u>Left side:</u> Applying the two scope conditions to the set of countries included in the joint survey of the EVS and the WVS (2017-2020). <u>Right side:</u> The resulting set of countries included in my study .....	63
<b>3.3:</b>	Model fit information for the bifactor-ESEM, compared to the CFA model and the ESEM .....	71
<b>3.4:</b>	Standardized factor loadings for the measurement model of trust, applying the bifactor-ESEM framework .....	72
<b>4.1:</b>	Comparison of the two latent variable models used in chapters 3 and 4 respectively .....	82
<b>4.2:</b>	Descriptive statistics for the observed variables: Pearson correlations, means, and standard deviations .....	86
<b>4.3:</b>	Model fit information from latent profile analyses with 1 to 7 types .....	89
<b>4.4:</b>	Elevation, scatter and proportion of the data for each of the five types .....	92
<b>5.1:</b>	Summary of the associations for the socio-demographic variables .....	107
<b>5.2:</b>	Summary of the associations for the psychological variables .....	109
<b>5.3:</b>	Summary of the associations for the identity-based variables .....	111
<b>5.4:</b>	Summary of the association for the political variable .....	112
<b>5.5:</b>	Operationalisations of the individual variables .....	114
<b>5.6:</b>	Results for the socio-demographic variables .....	123
<b>5.7:</b>	Results for the psychological, identity-based, and political variables .....	124
<b>5.8:</b>	The proportion of types within each country .....	133
<b>C.1:</b>	Chi-square tests, effect sizes, and pairwise comparisons for each country across the five types of citizens.....	170



## List of figures

<b>2.1:</b>	Sartori's (1984) basic scheme for conceptual analysis .....	24
<b>2.2:</b>	The ladder of abstraction (Sartori, 1970, 1984) .....	26
<b>2.3:</b>	The conceptual framework for trust .....	28
<b>2.4:</b>	<u>Left side:</u> The ladder of abstraction as shown in figure 2.2 <u>Right side:</u> An extension, showing how the same ladder can be used to combine rational and psychological aspects of trust .....	41
<b>3.1:</b>	Graphical representation of the CFA model and the ESEM .....	66
<b>3.2:</b>	Graphical representation of the bifactor-ESEM .....	69
<b>4.1:</b>	Graphical representation of the LPA model .....	85
<b>4.2:</b>	Elbow plot of the information criteria (AIC, BIC, SABIC) .....	90
<b>4.3:</b>	The typology of citizens, characterised by five distinct patterns of trust .....	91
<b>B.1:</b>	Illustration of the four-type latent profile solution for comparison .....	167
<b>C.1:</b>	Graphical representation of the results for the socio-demographic variables .....	168
<b>C.2:</b>	Graphical representation of the results for the psychological, identity-based, political variables .....	169

## List of abbreviations

**AIC:** Akaike's Information Criterion

**ANOVA:** Analysis of Variance

**BIC:** Bayesian Information Criterion

**CFA:** Confirmatory Factor Analysis

**CFI:** Comparative Fit Index

**EVS:** European Values Study

**ESEM:** Exploratory Structural Equation Modelling

**LPA:** Latent Profile Analysis

**RMSEA:** Root Mean Square Error of Approximation

**SABIC:** Sample-Adjusted Bayesian Information Criterion

**SRMR:** Standardized Root Mean Square Residual

**TLI:** Tucker-Lewis Index

**WVS:** World Values Survey

## Chapter 1: Introduction

*“All the world is made of faith, and **trust**, and pixie dust” (Peter Pan/J.M. Barrie, 1911)*

The prevalence of trust across the social science disciplines reflects the prevalence of trust in our lives. It is a fundamentally important concept. Closely intertwined with writings of democracy, trust is a core building block for a well-functioning society (Offe, 1999; Putnam, 1993, 2000; Yamagishi & Yamagishi, 1994). Taking different shapes and sizes, the overarching concept of trust is central to both our personal and political identities, and, when rightly placed, ensures smooth and successful interactions with the world around us. As social beings, we have a desire to build meaningful relationships, to engage with our fellow citizens, and to be governed by institutions that work and maintain our interests. All of this requires trust.

Although inherently desirable, conceptual scholars tend to initiate their writings by stating that no general definition of the concept exists (Lewis & Weigert, 1985; Misztal, 2011; Offe, 2004; Yamagishi, 2011). Trust is acknowledged as a meaningful and central concept within all disciplines of the social sciences, but its underlying assumptions and foundation significantly diverge depending on the school of thought. The political scientist will highlight its strategic and evaluative nature (Hardin, 2002), the psychologist will highlight its traits in personality (Jones, 1996), and the sociologist will highlight its embeddedness in social relations (Misztal, 1996). What they do agree on, though, is that trust is complex, trust is multifaceted, and trust is often times misunderstood. Thus, efforts to combine diverging understandings of trust into a single, conceptual framework are limited, making it difficult to

reach scholarly consensus on the meaning of this multidisciplinary concept (Wuthnow, 2004).

I emphasise that the complexity of trust, as found in the conceptual literature, clashes with the simplicity of current empirical measures. Overall, empirical research tends to measure trust directly with one or a few survey questions, without explicitly discussing the underlying conceptual definition (see Nannestad, 2008 for summary). Consequently, the comparability of empirical work on this increasingly popular topic is continuously challenged. By not engaging with the comprehensive and somewhat conflicting conceptual perspectives, the empirical literature arguably detaches itself from the actual meaning of trust.

## 1.1 Research questions

On the one hand, there exists a multidisciplinary conceptual debate on how trust should be defined. On the other, a growing number of empirical studies, which do not spring from a clear conceptual account. With my thesis, I wish to bridge the gap between these two strands of the literature. By way of three main research questions, I develop a new basic framework for studying trust, which, I argue, brings empirical work closer to the underlying concept:

RQ1. **What is trust?** *A conceptual contribution.* I develop a systematic conceptual framework for trust that acknowledges and combines influential conceptualisations from the social science literature as a whole. I emphasise diverging conceptual aspects as complementary and develop an argument for how they relate within different forms of trust.

RQ2. **How should trust be measured?** *A methodological contribution.* I develop a new measurement model that is directly rooted in the conceptual framework. The model empirically confirms trust as a hierarchical and multidimensional concept and represents a fundamental shift away from operationalisations based on one or a few survey items directly.

RQ3. **How do citizens trust?** *An empirical contribution.* Directly rooted in the measurement model, I uncover a typology of citizens who trust in fundamentally different ways. I argue that the trusting behaviour of different types of citizens can be linked back to different conceptual understandings from the literature.

While the first two research questions address the scholarly clash between the conceptual definition of trust overall, and how it is applied in empirical research, the third and final research question addresses the meaning of trust from the citizens' perspective. Thus, just as the concept has been understood differently by different parts of the literature, I explore whether the same applies for different types of citizens. Following the development of a cohesive conceptual framework for trust, my thesis will thereby tackle two empirical challenges, which, in combination, will bridge the current gap between the empirical and conceptual literature. Firstly, the development of a new and improved measure with a clear conceptual foundation, and secondly, the development of a typology that shows how citizens understand this concept in different ways.

With the latter, I notably break with a dominant, average-based approach to trust research, where the focus tends to be on average levels of trust in the population (see Wu & Wilkes, 2018; Ruelens & Nicaise, 2020 for overviews). While it is undoubtedly important to understand trends and changes in the trust levels of society as a whole, studying trust as a collective variable implicitly assumes that all citizens trust in the same way. With the third research question, I challenge this assumption. By developing a typology that acknowledges the heterogeneity of the studied population, I provide a complementary perspective on how citizens understand the concept of trust (Morin et al., 2017 for a summary of the methodological approach). As I identify and define types of citizens who trust in different ways, I am motivated by a recent methodological argument from the trust literature: In order to understand what happens to trust collectively, it is crucial to explore trust among those who *make up* the collective, that is, the citizens. Thus, an enhanced understanding of how citizens trust arguably informs empirical research at the aggregate level (Wu & Wilkes, 2018; see also Norris et al. 2019; Ruelens & Nicaise, 2020; Hu & Yin, 2022).

The typology of citizens thereby also has interesting implications for trust from a policy perspective. In recent years, established democracies have experienced declining levels of trust overall, notably fuelled by the financial recession, intensified political polarisation, and the COVID-19 crisis (Citrin & Stoker, 2018; Brezzi et al., 2021; Devine & Valgarðsson, 2023). As a result, efforts to restore losses of trust remain a central policy objective (Devine & Valgarðsson, 2023). Centrally, I will argue that my typology provides empirical evidence against universal solutions to declining levels of trust. If people trust in different ways, they will likely also respond to trust policies in different ways. The typology therefore represent a crucial step towards understanding a population that is currently losing their trust. Consequently, it is central to the development of targeted policies, aiming to restore trust for people with fundamentally different trusting behaviour.

## 1.2 A multidisciplinary conceptual debate

By answering the three research questions, I present three main contributions to the trust literature. Overall, the main goal of the contributions is to bridge a gap between conceptual and empirical research on the topic. I will notably also address a cleavage *within* the conceptual literature in pursuit of this goal. Specifically, I argue that the conceptual debate can broadly be summarised by two contrasting perspectives, reflecting either a psychological or a rational approach to the conceptualisation of trust (Norris, 2022; Uslaner, 2018). I elaborate on the approaches in turn below, placing them within a multidisciplinary conceptual debate that spans the fields of psychology, political science, and sociology.

Within the psychological literature, trust is prominently defined as a personality trait, a predisposition, which is either innate or developed through early childhood socialisation (Jones, 1996; Uslaner, 2002). It is thereby based primarily on one's own configuration of values, and on the fundamental assumption that others share those same values with you. As a trusting person, you will thus be characterised by having an optimistic worldview, and by generally believing in the goodwill of others (Stolle, 2002; Uslaner, 2002). Consequently, from a purely psychological standpoint, trust is stable. When defined as a personality trait, it should not vary significantly across different situations. Instead, it reflects your

predisposed, or general, sense of trust, which is consistent and largely independent of the context (Freitag & Traunmüller, 2009).

Conversely, within the political science literature, a rational perspective on trust prevails (Hardin, 2002; van Elsas, 2015). Here, trust is defined as a calculation, a rational choice that is directly rooted in an assessment of the trustworthiness of others (Coleman, 1990; Hardin, 2002). It thereby reflects concrete knowledge and experiences. By extending your trust, you have evaluated the person or institution in question, and made the rational decision that it is in their interest to be trustworthy. From a purely rational standpoint, it follows that trust is volatile. As a primarily evaluative decision, it is naturally much more specific in nature, targeted directly to the situation at hand (van Elsas, 2015).

Finally, within the sociological literature, trust is broadly defined as a 'multidimensional social reality' (Lewis & Weigert, 1985, p. 967; see also Misztal, 1996; Sztompka, 1999). Intrinsicly embedded in social relationships, trust is a relational concept, which can only exist when there is social uncertainty (Yamagishi & Yamagishi, 1994). In this sense, trust is ultimately a bet; a willingness to accept vulnerability, in the form of potential betrayal, for the chance of building mutually beneficial relations (Sztompka, 1999). Centrally, it follows from the sociological conceptualisation that trust is neither fully psychological nor fully rational (Lewis & Weigert, 1985). The relational attribute makes the psychological definition too narrow, as it refers to an individual, rather than a collective. Similarly, the attribute of uncertainty makes the rational definition too narrow, as the uncertainty will remain even in the most elaborate cost-benefit calculations. In the end, trust will always require an intangible leap of faith beyond cognitive reasoning (Lewis & Weigert, 1985, pp. 968–970; Sztompka, 1999).

Thus, taking neither a fully psychological nor a fully rational standpoint, sociological theory rather suggests that all kinds of trust consist of some combination of both the psychological and rational aspects. Initially proposed by Lewis & Weigert (1985), this idea was further addressed by Misztal (1996) and Sztompka (1997, 1999), and it plays a central role in my conceptualisation of trust (chapter 2). For different kinds of trust, the comparative strength of the two aspects can differ significantly, but both aspects are nonetheless always present. As will be elaborated in chapter 2, I therefore view sociology as the 'bridging discipline' for

diverging conceptualisations of trust. Further, building on the sociological conceptual approach, the cleavage between psychological and rational accounts of trust will be addressed in all three contributions of this thesis, centrally emphasising their complementarity in different ways.

Most generally, I argue that bridging the conceptual and empirical literature on trust necessarily requires a conceptual, methodological, and empirical discussion of how the contrasting aspects of psychology and rationality interact. While sociological scholars have established their mutual importance, I will systematically engage with their comparative strength, first, in the conceptualisation, then, in the measurement model, and finally, in the typology of citizens who trust in different ways. In the following section, I elaborate on each of my contributions to the literature in turn.

### 1.3 Bridging the gap between conceptual and empirical literature

Overall, I argue that the current gap between the conceptual and empirical literature on trust can largely be attributed to the long-standing, multidisciplinary debate on the meaning of the concept. The lack of a common definition naturally distances the diverging and complex conceptual writings from empirical research on the topic. This is reinforced by the empirical tendency to apply measures that are not actively derived from the conceptual debate. As a result, efforts are required within both strands of the literature to bridge the gap. I undertake this task by way of three contributions to the literature, which I develop over the course of four substantive chapters.

#### **A conceptual contribution: Chapter 2**

In chapter 2, I conduct a conceptual analysis of trust that combines diverging and influential conceptualisations from the multidisciplinary literature. Concretely, I employ Sartori's (1984) conceptual guidelines to systematically develop the concept along the ladder of abstraction. The result is an encompassing conceptual framework, where I argue for a hierarchical and multidimensional structure of trust. The framework centrally exists beyond any particular



school of thought, and thereby represents an important move towards multidisciplinary consensus around the meaning of the concept. As I descend the ladder of abstraction (Sartori, 1984), additional characteristics of trust are introduced. Thus, the framework moves from a universal conceptual definition into the development of increasingly concrete subtypes within the specific realms of interpersonal and institutional trust<sup>1</sup>.

Having established the unifying, hierarchical framework overall, I subsequently build on the sociological idea that all forms of trust contain a rational and a psychological aspect (Lewis & Weigert, 1985). Uniquely, I connect the comparative strength of the two aspects to the hierarchical conceptual structure. At the highest level of abstraction, I emphasise the prominence of the psychological aspect, while the rational aspect becomes increasingly prominent as the ladder of abstraction is descended. I thereby argue that the aspects of rationality and psychology within different forms of trust are inversely related and can be systematically linked to the hierarchy of the concept overall.

The argument provides a fundamentally different perspective on current conceptual debates, where discussions of the interplay between rational and psychological aspects are generally limited to the lowest level of abstraction, i.e. across different concrete subtypes of trust. Instead, with the conceptual contribution of chapter 2, I emphasise the value of addressing this relationship within a hierarchical conceptual framework. In particular, I show how it enables a complete conceptualisation of trust, where the interplay of the two diverging aspects is systematically derived at all levels of abstraction.

### **A methodological contribution: Chapter 3**

In chapter 3, I develop a new measurement model for trust, which mirrors the conceptual framework of the previous chapter. As such, I argue that the measurement model represents a new methodological approach to quantitative research on the topic, where the measures

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<sup>1</sup> As will be elaborated in chapter 2, interpersonal trust refers to trust in other people, while institutional trust refers to trust in various institutions (Newton & Zmerli, 2011; 2017). Across the trust literature, there tends to be a rather clear distinction between studies of interpersonal and institutional trust (see Norris, 2022 for summary). In my project, I centrally study trust in its entirety, such that both of these general subtypes are examined in parallel, arising from the same universal concept of trust.

of all forms of trust spring directly from a clear conceptual account. Concretely, I apply the bifactor-exploratory structural equation modelling (bifactor-ESEM) framework to develop the measures. With the framework, I am able to empirically confirm the hierarchical and multidimensional structure of trust, as derived by the conceptual analysis.

The measurement model is based on data from 17 democratic societies included in the joint survey conducted by the European Values Study (EVS) and the World Values Survey (WVS) between 2017 and 2020. The joint survey represents the first instance where the same core of survey items is implemented in all countries surveyed by either of the two renowned research organisations (WVS & EVS, 2016). Prior to this joint effort, the included number of survey questions on trust was significantly smaller in the EVS, compared to the WVS. The joint survey is thereby the first to allow a comprehensive study of trust for a larger set of democratic societies (spanning both European and non-European contexts).

Methodologically, a measurement model developed within a bifactor-ESEM framework includes a hierarchical property, which, given the conceptual implications, I argue is essential for measuring trust. Concretely, the framework will include a higher-order, general dimension that is capturing the 'common core' of the concept (Morin, Arens, et al., 2016; Reise, 2012). As such, it can be interpreted as a measure of individuals' overall level of trust, conceptually comparable to the most universal, or abstract, definition of the concept. The bifactor-ESEM framework uniquely models the general dimension simultaneously with specific dimensions, which are capturing trust within more defined situations (e.g. trust in people you meet for the first time, or trust in political institutions).

By drawing a clear parallel between the conceptual and empirical structure of trust, I further argue for a link between the hierarchy of the measurement model and the varying comparative strengths of rationality and psychology across different dimensions of trust. Thus, I argue that the general dimension reflects a predominantly psychological aspect of the concept. Defined at the highest abstraction level, it is non-situational, and exists without further specifying the trusting relationship. By contrast, the comparative strength of the rational aspect increases with the specific dimensions. Defined at the lowest abstraction level, the trusting relationships are fully specified. As such, the specific dimensions come

with concrete information about the actor or institution in question, thereby enhancing the conditions for including a rational aspect in the trust decisions. With this interpretation, I argue that the measurement model is the first to explicitly disaggregate individuals' overall level of trust, mainly reflecting an inner propensity, from their trust decisions in more concrete contexts.

### **An empirical contribution: Chapter 4 and 5**

With chapter 4 and 5, I provide a complementary perspective on how citizens understand the concept of trust. Thus, following the development of the measurement model, which empirically confirms the structure and multidimensionality of the concept as a whole, I then switch the perspective from trust in the aggregate, to trust among citizens within a heterogeneous population. Using latent profile analysis, I combine the general and specific dimensions of the measurement model into complete patterns of trust, and then explore whether it is possible to identify types of citizens characterised by fundamentally different patterns. I argue that the patterns can be linked to different ways of understanding trust, similar to the different ways that trust has been defined in the conceptual literature.

The result is a typology of citizens who trust in five different ways. Most generally, I distinguish between types of citizens characterised by patterns of trust that are either stable or volatile. I centrally argue that a stable pattern implies a type of citizen with a predominantly psychological understanding of trust. If trust is viewed as a largely psychological concept, i.e. a personality trait, it naturally follows that it must remain at a stable level across different contexts. By contrast, I argue that a volatile pattern implies a type of citizen with a predominantly rational understanding of trust. If trust is viewed as a largely rational concept, i.e. a strategic calculation, the context and information will largely determine the specific trust level, making it a more volatile concept overall. Thus, by connecting the distinct patterns of the typology to more psychological or rational understandings of trust, I provide an additional perspective on the complementarity of these two conceptual aspects. Not only does their varying comparative strengths characterise different forms, or dimensions, of trust, they arguably also characterise different types of citizens.

Representing a heterogeneous approach to trust research, the typology builds on recent studies by Hu & Yin (2022), Norris et al. (2019), Ruelens & Nicaise (2020), and Wu & Wilkes (2018). In these studies, the scholars have examined different types of trusting citizens within the realm of institutional trust specifically. With the typology developed here, I expand on their results in several ways. Firstly, by exploring how citizens trust across both interpersonal and institutional contexts. Secondly, by anchoring the resulting typology in a robust measurement model, rather than applying single survey items directly<sup>2</sup>. And thirdly, by examining defining characteristics of citizens within each type, beyond their trusting behaviour (e.g. level of education, age, and political interest).

Overall, the typology itself is developed in chapter 4, while the defining characteristics of citizens with each type are examined in chapter 5. With the final substantive chapter, I am thus moving beyond the conceptual interpretation of the typology that characterises chapter 4, as I develop more comprehensive profiles of the different types of citizens. Specifically, for a set of variables that have been prominently associated with trust in the literature, I examine how they can be used to characterise citizens who trust in different ways. Including socio-demographic, psychological, identity-based, and political variables, I am thereby able to present a complete image of each type of citizen, not just in terms of how they trust, but also in terms of external characteristics, such as their level of education, their gender, and their life satisfaction. In addition to the variables explored at the individual level, I show how the five types of citizens are distributed across the democratic societies included in my scope<sup>3</sup>.

At present, scholarly accounts are limited to how variables are associated with trust in the aggregate (key studies include Newton & Zmerli, 2011, 2018; Catterberg & Moreno, 2006; Freitag & Traunmüller, 2009; Uslaner, 2018). The analysis of chapter 5 is thereby the first of its kind to examine these associations within a heterogeneous framework. With this methodological approach, I am able to explore how the variables relate to different types of citizens, rather than to the aggregate trust levels in society overall.

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<sup>2</sup> This idea builds on a general methodological approach put forward by psychologists Morin, Boudrias, et al. (2016). The approach will be elaborated in chapter 4.

<sup>3</sup> In chapter 3, I introduce the data set at length, including a detailed argument for the specific group of countries included in the scope of my study.

In combination, chapters 2 through 5 thus comprise a conceptual, a methodological, and an empirical contribution to the trust literature. By consistently acknowledging the complementarity of diverging conceptual understandings, I show how the conceptual and empirical literature can be brought closer together.

## Chapter 2: A conceptual analysis of trust

The conceptual literature on trust is extensive and cuts across multiple disciplines in the social sciences, particularly psychology, sociology and political science. As a result, there exists no common definition of the concept, and scholarly debates about its nature and attributes are long-standing (Bauer & Freitag, 2018; Hardin, 2002; Nannestad, 2008; Uslaner, 2002). In this chapter, I tackle the issue by presenting a conceptual analysis of trust. Employing the conceptual guidelines of Giovanni Sartori (1970, 1984), the highly prominent scholar in the study of social science concepts (Collier & Gerring, 2009), I develop the concept of trust systematically along the ladder of abstraction. This enables me to acknowledge different and influential definitions from the multidisciplinary literature and combine them into a single conceptual framework. At descending levels of abstraction, I then identify increasingly concrete subtypes of the concept by adding more defining characteristics (Sartori, 1970). Ultimately, I reach a complete conceptualisation of trust.

Overall, the conceptual framework developed here will act as the foundation for the empirical studies presented in the subsequent chapters. As such, in line with Sartori's (1970) school of thought, I aim to closely connect a clear and unambiguous conceptualisation, firstly, to a measurement model in chapter 3, and, secondly, to an empirical typology of citizens in chapter 4 and 5. By engaging in a careful conceptualisation prior to efforts of measurement and empirical research, I thus emphasise 'quality before quantity', 'meaning before measurement', and 'what is' before 'how much', all of which encompass the key message of Sartori's influential paper on concept misformation from 1970.

From a broader perspective, I argue that the systematic approach to conceptualisation presented in this chapter lays the groundwork for bridging a gap between the conceptual and empirical literature on trust. The structure of the subsequent measurement model will be directly anchored in the structure of the current conceptual framework, through which I aim to strengthen the theoretical soundness and accuracy of the measurement model overall. Specifically, the hierarchical nature of Sartori's ladder of abstraction, starting from the most universal definition of the concept before descending to lower abstraction levels, mirrors the nature of a bifactor model of measurement. Here, too, is a higher-order, general dimension of a concept modelled simultaneously with lower-order, specific dimensions, thus reflecting different conceptual levels of abstraction (Reise, 2012).

By closely connecting the conceptual framework to the measurement of trust, I apply a methodological idea put forward by psychologists Morin, Arens, et al. (2016). Specifically, the authors assert that if one suspects the multidimensionality of a concept to be most adequately captured with a hierarchical conceptual structure, the corresponding empirical measure should be developed within a bifactor modelling framework. With my current conceptual analysis, I argue that this is the case for trust. With my subsequent measurement model, I confirm the hierarchical and multidimensional structure of trust empirically.

As a multidisciplinary conceptual analysis, I conclude by discussing how the disciplines of political science, psychology, and sociology interact within the structure of my overarching framework. In particular, I emphasise sociology as a bridging discipline, advocating for the complementarity of a rational and a psychological approach in the conceptualisation of trust. According to the influential sociological scholars Lewis & Weigert (1985), Misztal (1996) and Sztompka (1997, 1999), all kinds of trust contain aspects of rationality and psychology, but their comparative strength varies. I build on this idea by arguing that the comparative strength of the two aspects can be linked to the hierarchical nature of my conceptual framework overall.

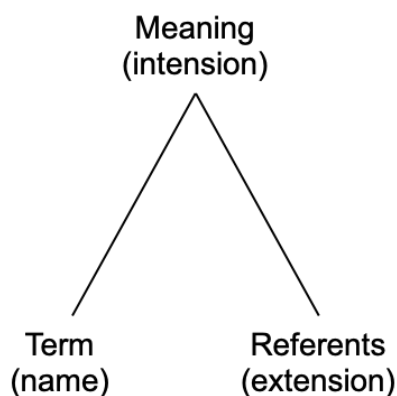
Specifically, I argue that at the highest level of abstraction, the psychological aspect of trust is at its strongest. As the ladder of abstraction is descended, the trusting relationship becomes increasingly defined, making the conditions for rational trust assessments

correspondingly better. It thereby follows that the two aspects are inversely related, just like the conceptual intension and extension of trust itself. In current literature, discussions about the interplay between rationality and psychology in different forms of trust generally take place at the lowest level of abstraction (Freitag & Traunmüller, 2009; Glanville & Paxton, 2007). My argument thereby adds a different perspective on current conceptual debates, suggesting that the relationship between the two core aspects of trust is best understood when considering the hierarchical concept across all levels of abstraction.

## 2.1 Sartori's guidelines for conceptual analysis

As the basic scheme for any conceptual analysis, Sartori (1984) introduced an amended version of the Ogden & Richards triangle (1946), emphasising three basic components: 1) the term used to denote the concept, 2) the meaning of the concept, and 3) its empirical referents. Defining concepts as the basic units of thinking, the starting point for Sartori's approach is thus that 'a concept has a meaning, needs a term, and, if empirical, points to referents' (Sartori, 1984, p. 27). Figure 2.1 illustrates the triangular relationship.

*Figure 2.1: Sartori's (1984) basic scheme for conceptual analysis*



The meaning, also called the intension, consists of all defining characteristics or attributes of the concept. As the first analytical step, it can essentially be viewed as a reconstruction of the concept from the literature. Specifically, it is achieved by collecting a set of representative definitions, extracting relevant characteristics, and organising them in a



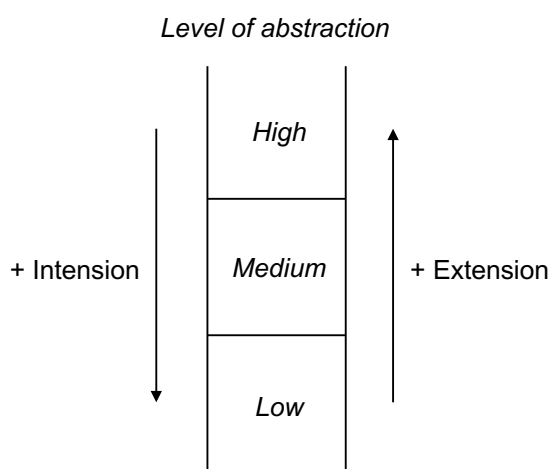
meaningful way (Sartori, 1984). According to a study by Patrick (1984), where the author applies Sartori's guidelines, representative definitions should be assessed based on their originality and scholarly influence. The intension is juxtaposed to the extension, i.e. the empirical referents. The extension is the collection of objects or entities to which the concept refers, that is, the 'real-world counterpart' to the concept in our heads (Sartori, 1984, p. 24).

The relation between meaning and referents in figure 2.1 indicates that the set of defining characteristics should be able to bind the concept empirically, thus clearly distinguishing between objects that belong inside and outside of these boundaries. If this is not achieved, it will introduce vagueness into the analysis, such that the meaning-to-referent relation becomes fuzzy and unclear. Finally, the relation between meaning and term, i.e. the other side of figure 2.1, indicates that the conceptualisation should be free of ambiguity. Ideally, the term should thus univocally represent the meaning of the concept. According to Sartori (1984), this is achieved by relating the term to its semantic field, i.e. to associated, neighbouring words, clearly establishing their similarities and, more importantly, their differences. In combination, the overall goal of the three components of the analysis is to reach a conceptualisation that is both adequate and parsimonious (Sartori, 1984).

### **The ladder of abstraction**

Overall, the relationship between the meaning and the referents, i.e. between the intension and the extension, is inverse. As such, the number of empirical referents increases as the number of defining characteristics decreases. Within Sartori's (1970, 1984) approach, a concept is therefore vertically, or hierarchically, organised along a ladder of abstraction. At each step of the ladder, the intension-to-extension ratio is different, starting with the smallest intension and the largest extension at the top, and then inverting this relationship as the ladder is descended. Figure 2.2 illustrates the ladder of abstraction graphically.

Figure 2.2: The ladder of abstraction (Sartori, 1970, 1984). A greater intension descends the ladder, while a greater extension climbs the ladder.



From the logic of the ladder, it follows that when the concept is at its highest level of abstraction, the intension consists only of the very core characteristics, such that it refers to the largest possible collection of objects. It is universal. The ladder is descended by adding characteristics, i.e. increasing the intension, thereby decreasing the number of objects to which the concept can refer. Specifically, additional characteristics thus lead to the development of more concrete subtypes. According to Sartori (1970, p. 1041), this involves at least two additional analytical steps, that is, the descend to a medium and to a low level of abstraction. At the medium level, categorisations 'fall short of universality', enabling the development of general subtypes or classes (Sartori, 1970, p. 1041). At the low level of abstraction, the extension is at its most specific, often situated within a concrete context. Here, the corresponding subtypes are consequently as concrete and differentiated as possible (ibid).

As a final methodological point, the rigidity of balancing the intension and extension along the ladder of abstraction is central to avoiding the pitfall of conceptual stretching. Sartori (1970, p. 1041) defined conceptual stretching as 'an attempt to augment the extension without diminishing the intension', and he coined this to be a key issue in the social science discipline. In general terms, any movement along the ladder must involve a change in *both* characteristics *and* empirical referents, thus steering clear of vagueness and generalities that are not conceptually sound. In an oft-cited paper by Radaelli (2002), the author exemplifies the issue of conceptual stretching for the concept of Europeanisation. Applying

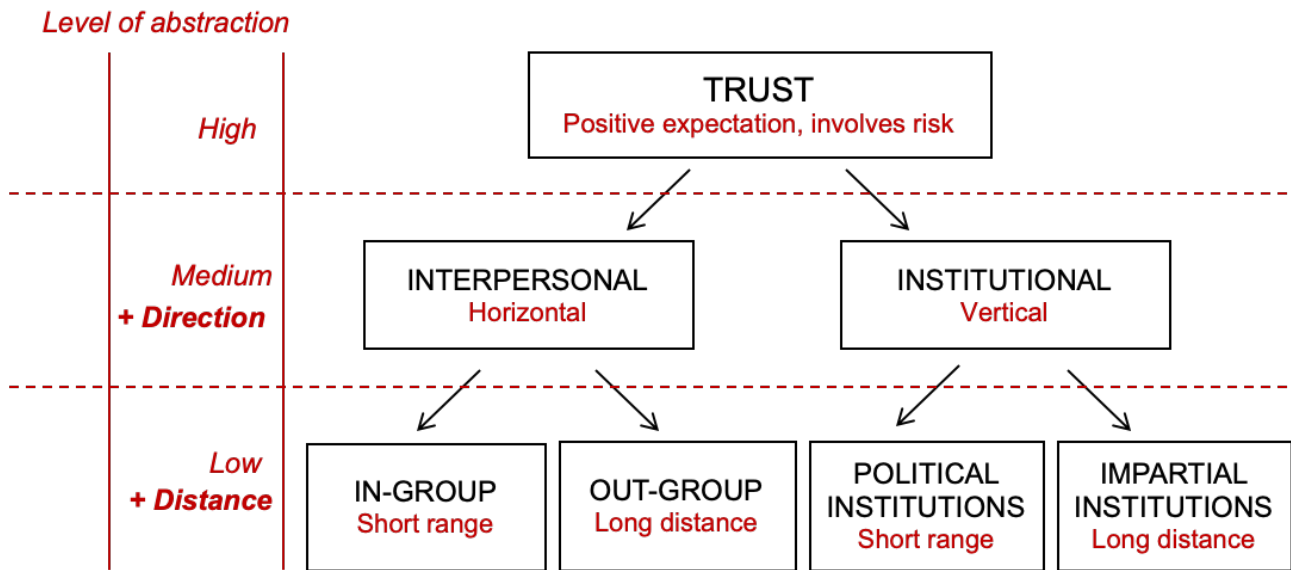
Sartori's guidelines, Radaelli (2002, p. 4) argues that studies of Europeanisation tend to 'privilege extension', such that scholarly definitions include an increasing amount of empirical observations, spanning changes in culture, identity, policy and administration. However, if this is done without a clear reduction in the intension, it becomes difficult to identify the conceptual boundaries. As such, in his paper, Radaelli (2002) stresses the need to restore conceptual clarity by ensuring balance between intension and extension at the desired level of abstraction.

## 2.2 Building the concept of trust

Having introduced Sartori's conceptual guidelines, I will now apply them to the concept of trust. The analysis will centre around the three levels of abstraction, increasing the intension with additional characteristics at each step. At the highest level, I discuss relevant definitions of trust across multiple disciplines in the social sciences, which I use to identify and extract the most universal, common characteristics of the concept. At the medium level, I develop a general distinction between interpersonal and institutional trust, achieved by introducing the additional characteristic of *direction*. At the low level, both interpersonal and institutional trust are further split into two distinct subtypes, achieved by introducing the additional characteristic of *distance*. The result is a systematic conceptual framework, which is hierarchically organised and ultimately describes the concept of trust in its entirety. As mentioned initially, the structure of the framework acts as the underlying conceptualisation for the measurement model of trust developed in the next chapter.

I start off this section by displaying the complete conceptual framework graphically with figure 2.3. I conduct the conceptual analysis below, developing the concept at each level of abstraction in turn and using figure 2.3 as my point of reference.

Figure 2.3: The conceptual framework for trust



### High abstraction: Trust as a universal concept

As influentially stated by sociologist Robert Wuthnow, diverging conceptualisations of trust across the multidisciplinary literature represent a core conceptual challenge,

*‘The diversity of ways in which trust has been conceptualized has meant that scholars sometimes seem to be writing about different things, or at least could benefit by an effort to bring their various perspectives closer together (2004, p. 147).’*

With the conceptual analysis conducted here, I set out to tackle this challenge. In particular, I aim to define trust in a way that can travel across disciplines and establish common conceptual ground. Overall, I argue that past efforts to achieve this are mainly found within sociology. During the 1990s, sociologists Misztal (1996) and Sztompka (1999) both published comprehensive and influential studies of trust, generally stressing that trust entered the sociological scene later than it did other disciplines. Their conceptualisations therefore sprung from political and psychological writings and included both a calculative aspect, emphasising the trustworthiness of others, and a personal aspect, emphasising the trustfulness of oneself (Misztal, 1996; Sztompka, 1999). In line with a general notion raised by Lewis & Weigert (1985), the mix of the aspects are likely to differ for different types of

trust. I elaborate on this point at the end of the analysis, as I discuss how the disciplines interact within the structure of the conceptual framework overall.

At the highest level of abstraction, I am therefore looking for common and 'neutral' characteristics within the range of multidisciplinary scholarly definitions. Overall, I have identified two such characteristics, which I argue define trust at its core. First, trust is defined as a *positive expectation* about the intentions and behaviour of others (Rousseau et al., 1998). Second, trust involves *risk*. Once extended, one does not engage in monitoring activities, but instead accepts a certain vulnerability for the chance of building efficient and beneficial relationships (Offe, 1999). Across the literature, the idea of trust as a positive expectation, or relatedly, an anticipation or a belief, permeates the conceptualisations of central scholars, notably those of Fukuyama (1995), Offe (1999) and Rousseau et al. (1998), in addition to those of Misztal (1996) and Sztompka (1999). The same holds true for the intimate relationship between trust and risk. As such, I argue that these two characteristics always define the concept, regardless of the school of thought. Appearing as the most recurring defining attributes in the literature, they comprise the intension of trust at the highest level of abstraction.

Furthermore, in an oft-cited study from 1994, Yamagishi & Yamagishi argued that for trust to exist, there must be social uncertainty, where one cannot completely predict the actions of others, who, in turn, might have an incentive to act dishonestly. Social uncertainty can thus be viewed as the underlying assumption for any kind of trust to arise in the first place. If social relations could be characterised by total certainty or commitment, it would no longer be necessary to take the leap of faith, or the bet, of extending trust to others in society (Stolle, 2002; Sztompka, 1999). In fact, Yamagishi & Yamagishi (1994, p. 131) take this notion one step further by arguing that 'trust provides a solution to the problems caused by social uncertainty'. Specifically, it makes it possible to step out of committed relations and engage with opportunities in society as a whole, without incurring significant transaction costs in the process (ibid).

A wider theme in the study by Yamagishi & Yamagishi (1994), which holds true for the literature of trust overall, has been a generally positive portrayal of the concept. Trust is

desirable. Closely intertwined with scholarly accounts of democracy, trust has been described as an 'efficient and money-saving' tool (Offe, 1999), a 'social lubricant' (Yamagishi & Yamagishi, 1994), which 'makes democracy work' (Putnam, 1993). The positive notion of trust resonates most clearly with social capital theory, greatly advanced by Putnam (1993, 2000). Social capital theory specifically argues for the importance of trust towards fellow citizens in general, which, through formal and informal social networks, enables the cooperative behaviour necessary for a well-functioning democratic society. As such, the presence (or absence) of trust arguably plays a central role in all of our relationships, not just in the private sphere, but also in our interactions within wider society and the political system as a whole. It encourages tolerance, breeds cooperation, and lessens the general need to enforce compliance, thereby freeing up public resources for other activities (Putnam, 1993; Tocqueville, 2002; Uslaner, 2002).

While the benefits of trust are well-established in general, the unequivocal need for trust in democracies has been challenged by another scholarly tradition, which centrally emphasises the 'dark side' of trust (Norris, 2022, p. 4). Here, scholars argue for a paradoxical relationship between trust and democracy, stressing the need for *both* trust *and* distrust (Norris, 2022; Sztompka, 1997, 2010; Warren, 1999, 2017). Specifically, the positive consequences of trust are acknowledged at the level of civil society. A democracy flourishes in the presence of a 'culture of trust'; that is, where citizens interact with openness, spontaneity and optimism as a result of mutual trust (Sztompka, 1997). Concurrently, however, there must exist an 'institutionalised distrust', which enables citizens to hold political leaders accountable for their actions, and ensures the alignment of interests between the governed and those in power (Warren, 2017). As such, at the institutional level, democracies call for sceptical citizens. In this context, low trust can be just as valuable as high trust among citizens, merely reflecting their assessment and monitoring of current political institutions (Wu & Wilkes, 2018).

So far, I have defined trust as a positive expectation that will always involve an element of risk. Related, I have introduced social uncertainty as a necessary condition for trust to occur. I have further specified that, despite a dominant narrative, the concept should neither be portrayed as fundamentally 'good' nor 'bad'. While still keeping the conceptualisation

multidisciplinary, I wish to emphasise a unique feature about the origin of trust, which holds true for the concept universally. The feature was made prominent by sociologist Misztal (1996), who, building on the work of Elster (1993), described trust as a 'social mechanism', that is, as an explanation for people's actions, based on their motivations and beliefs. Elster (1993) further defined a social mechanism as 'a specific causal pattern that can be recognised after the event but rarely foreseen' (p. 3), which, in this regard, would suggest that trust can only be achieved indirectly: Bluntly telling someone to trust you will likely make them question your intentions, thereby creating distrust towards you instead. As such, trust does not come from a simple decision to do so, but rather as the result, or the 'by-product' (Elster, 2015) of otherwise desirable behaviour. This perspective has also been seconded in the accounts of sociologist Offe (1999, 2004), who centrally stressed that trust cannot be created for the 'sake of its consequences' (Offe, 2004, p. 12). Instead, it must originate indirectly from sources that are unrelated to its potentially beneficial effects.

### *Semantic field*

I conclude this section with a brief discussion of trustworthiness, which I view as the closest concept within the semantic field of trust. The difference between the two concepts was a central aspect of Hardin's (1993, 2002) theoretical writings. Specifically, the author emphasised that,

*'many discussions of trust run trust and trustworthiness together, with claims about trust that might well apply to trustworthiness but that seem off the mark for trust' (Hardin, 1993, p. 512).*

As such, Hardin identified a problematic tendency in the literature, where accounts of trust largely addressed the neighbouring concept of trustworthiness, without specifying or even discussing that the two concepts are distinct. The issue remains relevant, playing a central role both in the early work of Yamagishi & Yamagishi (1994), in the work of Sztompka (1999), and in the recent work of Norris (2022). Examining the authors' conceptual definitions of the two terms, a common theme is that they generally view trust as a broader concept than trustworthiness. Specifically, both Yamagishi & Yamagishi (1994) and Sztompka (1999)

emphasise a close link between trustworthiness and reputation, which essentially makes the assessed trustworthiness of others *one* possible explanation for why individuals extend their trust. Specifically, trustworthiness then becomes a part of the rational explanations of trust, representing the result of strategic assessments of the reputation, performance or appearance of potential trustees (Sztompka, 1999).

More generally, I have argued that a universal conceptualisation of trust exists above any particular school of thought. This centrally implies that trust is neither a fully rational nor a fully psychological concept, but instead that both of these dimensions will always be present in all forms of trust. As such, since trustworthiness appears in the literature as an intrinsic part of rational theories, it must logically not be as universal a concept as trust itself. To exemplify this, I argue that trust, in different forms, can resemble either more of an individual quality, i.e. that one is generally high or low trusting, or a feature of a relationship, i.e. a concrete assessment of others' behaviour or intentions. By contrast, trustworthiness falls entirely in the latter category (Norris, 2022).

In the next sections, I introduce the subtypes of trust at the medium and low levels of abstraction. I do this by sequentially adding more defining characteristics, thereby gradually increasing the intension of the concept.

### **Medium abstraction: Interpersonal and institutional trust**

In line with Sartori's (1984) conceptual guidelines, the medium level of abstraction typically establishes general subtypes of the concept, which fall short of universality. Here, I establish the subtypes by introducing an additional characteristic, which clarifies the *direction* of trust (Offe, 2004; Sztompka, 2010).

If trust is horizontal, it occurs between people. It is symmetrical, such that the actors on both sides of the trusting relationship are on equal terms. As a general subtype, this is called interpersonal trust, and its extension covers any kind of trust you extend to others in society (Freitag & Traummüller, 2009; Rotter, 1980). It thereby includes both the specific kind of trust



shared between family members, friends, or acquaintances, and the general kind of trust shared between strangers (Zmerli & Newton, 2017).

If trust is vertical, on the other hand, it occurs between citizens and power holders. Consequently, it is asymmetrical, such that the actors of the trusting relationship are at different levels of authority. The extension of this subtype covers the trust you extend to all parts of the political system, that is, to a wide range of public institutions. As such, it is called institutional trust (Rothstein & Stolle, 2008). It includes both a more specific and partisan trust towards political institutions, such as the incumbent government and parliament, and a more general and neutral trust towards impartial institutions, such as the justice system or the armed forces (ibid).

With the introduction of institutional trust specifically, it becomes necessary to further define what is meant by 'institutions' in a conceptual framework of trust. Following the work of the prominent scholar North (1990, p. 3), 'institutions are the rules of the game in society, or, more formally, are the humanly devised constraints that shape human interaction'. North (1990) distinguished between formal institutions with established and binding rules for society, and informal institutions characterised by unsystematic, yet generally agreed upon, codes of behaviour. Within the framework of trust, I limit the definition of institutions to formally established rules. As such, I am referring to institutions that provide well-defined structure to society overall, be it through the partisan rules of the political institutions, or through the neutral rules of the impartial institutions.

Overall, interpersonal and institutional trust were developed by increasing the intension of trust to include a horizontal and vertical direction, thereby decreasing the extension of the two subtypes respectively. They are thus placed at the medium level of abstraction, as depicted graphically in figure 2.3. Throughout the literature, interpersonal and institutional trust continues to represent the most general conceptual distinction of trust, albeit discussed under somewhat diverging terms (Luhmann, 1979; Offe, 1999; Putnam, 2000; Sztompka, 1999, 2010; Zmerli & Newton, 2017). Luhmann (1979) influentially argued that personal trust and system trust rest on different bases. Putnam (2000) and Zmerli & Newton (2017) prominently discussed the relationship between social trust and political trust. Finally, Offe

(1999) and Sztompka (1999, 2010) centrally distinguished between interpersonal and institutional trust, emphasising their horizontal and vertical natures as a key conceptual point.

In a topical overview by Algan (2018, p. 291), the author concludes that institutional trust is at 'an earlier stage of both theoretical and empirical development than that of interpersonal trust'. Thus, scholarly consensus on both the intension and the extension of institutional trust is lacking, as compared to interpersonal trust. With the next section, I tackle this issue by developing the two subtypes in parallel. I thereby make their intension and extension at the lowest level of abstraction systematically comparable.

### **Low abstraction: The concrete subtypes of trust**

I descend the ladder of abstraction one last step by introducing an additional characteristic, which clarifies the *distance* of trust (Freitag & Traunmüller, 2009; Offe, 2004). I argue that just by specifying this one characteristic, I am able to define the concrete subtypes of both interpersonal and institutional trust, present at the lowest level of abstraction. Further, the characteristic of distance highlights the relational nature of trust, as it describes the figurative length between the actors in the trusting relationship (Offe, 2004).

In the short range, trust is concrete and particularistic (Offe, 2004). It reflects actual experiences and knowledge about the intention and behaviour of others. More specifically, trust in close proximity is thus reserved for situations with a stronger emotional component, repeated interactions, or known information about the incentive structure of other actors (Putnam, 2000; Yamagishi & Yamagishi, 1994). As such, regardless of whether trust in the short range occurs within interpersonal or institutional contexts, it refers to situations where the other actors in the trusting relationship are personalised<sup>4</sup>. In that sense, it can be described as exclusive, limited only to those about whom one can acquire concrete knowledge (Offe, 2004).

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<sup>4</sup> For interpersonal trust, examples of personalised recipients are family, friends, or neighbours. For institutional trust, examples of personalised recipients are members of parliament, government, or political parties.

At a long distance, on the other hand, trust is generalised. Removed from 'particularistic markers of trustworthiness' (Offe, 2004, p. 6), trust at a long distance rather reflects an optimistic worldview, that is, an assumption that other actors generally share your fundamental values (Freitag & Traunmüller, 2009; Uslaner, 2002). Thus, it refers to situations where the other actors in the trusting relationship are impersonalised, making them figuratively (and likely also literally) distant<sup>5</sup>. Without actor-specific knowledge, trust at a long distance can be described as inclusive (Offe, 2004). The decision no longer depends on, and is limited to, specific actors, but rather reflects a general decision to extend your 'radius of trust' beyond immediate familiarity.

### *Subtypes of interpersonal trust*

Within the literature, the distance-based distinction is usually reserved for trust within the interpersonal realm (Freitag & Traunmüller, 2009). The 'radius of trust' thesis, formulated by Fukuyama (1995), specifically suggests that interpersonal trust is expected to vary by distance. It remains a central part of theoretical and empirical research on the topic, notably with theoretical discussions by Putnam (2000) and Offe (2004), with an empirical analysis by Freitag & Traunmüller (2009) on the 'spheres of trust', and most recently with Norris' (2022) broad empirical study of trust and scepticism.

In the interpersonal context, trust in the short range refers to trust within your daily surroundings, such as that shared with family, friends, or acquaintances. This is usually referred to as in-group trust (Norris, 2022). It has been argued to be the most robust type of trust, since, in the words of Uslaner (1999, p. 123), 'everyone must trust someone'. As such, at the very least, individuals are expected to trust those in their smallest social radius. In a study by Newton & Zmerli (2011, p. 183), they found empirical evidence for this claim in a wide range of democratic countries, where only 0.1% of thousands of surveyed individuals reported no in-group trust whatsoever. This type of trust is comparable to Putnam's (2000, p. 22) 'bonding social capital', and Granovetter's (1973, p. 1360) 'strong ties', both of which described the nature of different kinds of social relations. Thus, in-group trust is thick, it is

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<sup>5</sup> For interpersonal trust, examples of impersonalised recipients are unknown others, or strangers. For institutional trust, examples of impersonalised recipients are the armed forces, or the justice system as a whole.

exclusive, and it usually emerges in closed-knit interactions with people of similar backgrounds (Freitag & Traunmüller, 2009; Granovetter, 1973; Putnam, 2000).

In direct contrast, interpersonal trust at a long distance resembles Putnam's (2000, p. 22) 'bridging social capital' and is characterised by the 'weak ties' that emerge in socially distant interactions among people of various backgrounds (Granovetter, 1973, p. 1360). As such, it refers to trust in people in general, i.e. those about whom one has no prior knowledge. This is usually referred to as out-group trust (Norris, 2022). It is thin and inclusive in nature (Putnam, 2000). The ability of out-group trust to build social relations across different groups, such as social classes, religions, ethnicities, or nationalities, makes it a powerful phenomenon both in civil society and in the political sphere (OECD, 2017; Putnam, 1993; Yamagishi & Yamagishi, 1994). As part of his contributions to social capital theory, Putnam (1993) famously argued that out-group trust vitally enables cooperative behaviour in society at large. Further, Yamagishi & Yamagishi (1994) argued that out-group trust allows individuals to move beyond closed-knit social relations, thereby enabling them to partake in beneficial opportunities in society overall. Both Putnam (1993) and Yamagishi & Yamagishi (1994) stand out as early and central theorists of the importance of out-group trust, and they remain oft-cited in later theoretical and empirical studies on the topic (Freitag & Traunmüller, 2009; Nannestad, 2008; Norris, 2022; OECD, 2017).

### *Subtypes of institutional trust*

As previously mentioned, the subtypes of interpersonal trust are generally more well-established than those of institutional trust. Most concretely, the lack of scholarly consensus surrounds the number and specificity of possible subtypes in the institutional realm (Bauer & Freitag, 2018; Marien, 2017). Extending the distance-based distinction to this context therefore enables me to contribute to a strand of the trust literature that currently lacks conceptual clarity. More specifically, I use the distinction to systematically conceptualise institutional trust, while also ensuring symmetry in my conceptual framework overall. My approach builds on the work of Offe (2004), who made the general argument that trust in the short range and trust at a large distance both can operate at the interpersonal *and* the institutional level. As such, my conceptual framework includes two subtypes of institutional

trust. Just as for interpersonal trust, the subtypes can be distinguished by the characteristic of distance and are placed at the lowest level of abstraction (as depicted on figure 2.3).

Institutional trust in the short range refers to trust in political officials, or groups of officials, about whom you can acquire concrete knowledge. It is therefore particularistic of nature (Offe, 2004). The recipients of this kind of trust are personalised and include political parties, the government, and the parliament. Thus, it covers the representational part of the political system, it is rooted in partisanship, and it can therefore be considered to be volatile (Rothstein & Stolle, 2008). Following the influential study of institutional trust conducted by Rothstein & Stolle (2008), I simply label this subtype 'trust in political institutions'. Figuratively within a short range, this subtype of trust is likely to be updated frequently, as individuals acquire new knowledge about, or discover new experiences with, current political officials (ibid).

By contrast, institutional trust at a long distance refers to trust in the neutral, or impartial, parts of the political system (Offe, 2004). The recipients of this kind of trust are impersonalised and include the courts, the armed forces, and the police in its entirety. As institutions characterised by implementation rather than representation, this type of trust is rooted in impartiality, and consequently labelled 'trust in impartial institutions' (Rothstein & Stolle, 2008). As such, by removing partisan aspects, particularly conflict and diverse political interests, it is the direct counterpart to trust in political institutions, and it can therefore be considered to be more stable overall (ibid). In order to trust impartial institutions, one does not need to actively participate and check whether current political interests align, but can rely on general expectations about the fairness of the political system (ibid). As a result, it is generalised in nature (Offe, 2004). The aspect of impartiality indicates that the institutions are figuratively further away from individuals, compared to the political and partisan institutions of its conceptual counterpart.

In sum, the distinction between partisanship and impartiality in institutional trust gained scholarly ground with the work of Rothstein & Stolle (2008). Though it is still somewhat debated (Zmerli & Newton, 2017), I advocate for its usefulness in trust research more broadly, by developing it in a systematic way and as a central part of my conceptual

framework. With this discussion, I conclude the development of the conceptual framework, as depicted graphically in its totality in figure 2.3.

### 2.3 Combining the disciplines

With the conceptual analysis, I have now established trust at the three levels of abstraction. In addition to the universal concept at the highest level, I have introduced two subtypes at the medium level, and four subtypes at the lowest level of abstraction. The framework has been developed above any particular discipline, since scholars within political science, psychology and sociology tend to emphasise different aspects of trust in their definition. As such, the framework aims to connect and acknowledge the multiple, diverging conceptualisations of this increasingly popular concept in the literature.

In this section, I reintroduce the disciplines. Specifically, I combine the different aspects, as I build an argument for how their comparative strength varies at the different levels of abstraction in my conceptual framework. I thereby build on the work of sociologists Lewis & Weigert (1985), and later Sztompka (1997, 1999), who concretely argued that aspects of rationality and psychology are present in all types of trust. What further distinguishes the types, then, is their variation in the strength and importance of these different aspects (Lewis & Weigert, 1985, p. 972).

Sztompka (1997, 1999) helpfully summarised the aspects of the different disciplines in a three-dimensional theory of the foundations of trust. First, there is 'reflected trustworthiness', which refers to the rational calculation of the trustworthiness of others. This includes assessments of reputation, performance and past experiences, and thereby plays a central role for trust in the short range. Further, it resonates more generally with scholars who emphasise rational choice theory in their discussions of trust, most notably Coleman (1990) and Hardin (2002). The rational aspect is not sufficient for trust on its own though. As argued by Lewis & Weigert (1985, p. 970), 'no matter how much additional knowledge of an object we may gain, however, such knowledge can never cause us to trust'.

We therefore need the second aspect, 'basic trustfulness', which refers to our own basic propensity to trust. Sztompka (1997) described how this can be viewed as a personality trait, a trusting impulse, developed early in life through processes of socialisation. An individual's basic trustfulness is thereby disaggregated from their specific, or concrete, decision to trust. It exists 'in the background' and can be viewed as a stable starting point for all contemporary decisions to trust (Glanville & Paxton, 2007). Thus, it plays a central role for trust at a long distance. Overall, basic trustfulness can be thought to represent a general belief in the goodwill of others, stemming from a common process of socialisation (Stolle, 2002; Uslaner 2002).

As the third aspect of Sztompka's (1997, 1999) theory, he introduced a 'culture of trust', which again refers to your own trustfulness, but stems from a cultural, rather than a psychological orientation. In this sense, trust is based on cultural capital, shared by all individuals, which encourages trust towards society, institutions, and fellow citizens.

### **Sociology as the bridging discipline**

I argue that Sztompka's (1997, 1999) three-dimensional theory illustrates how sociological accounts of trust have generally bridged theories from political science and psychology, reflected by the aspects of trustworthiness and trustfulness respectively. Rather than reducing trust to an entirely cognitive concept, sociologists have presented trust as an 'irreducible and multidimensional social reality' (Lewis & Weigert, 1985, p. 967, based on the accounts of Barber (1983) and Luhmann (1979)). Simply put, each person trusts based on the assumption that others also trust (Lewis & Weigert, 1985, p. 970). As such, sociologists view trust as an intrinsic part of social relationships (Misztal, 1996). It is neither fully rational nor fully psychological, but rather a mix of these two aspects within an environment of social relations and interactions. As stated in general terms by Misztal,

*'a sociological approach, which focuses on the way in which individuals and society interact, generally argues that social relations and interactions are the points of origin of motivations and beliefs (1996, p. 19).'*

This arguably holds true for trust. Defined most generally as a positive expectation, or belief, social relations and interactions can be viewed as the points of origin. Thus, by viewing sociology as the bridging discipline between political science and psychology, I argue that trust matters *because* we engage in various and wide-reaching relationships. Within this arena, trust can then either be driven by a more rational, or by a more psychological aspect, depending on the context.

### **Rationality and psychology in my conceptual framework**

As the final contribution of my conceptual analysis, I therefore develop a systematic argument for how the rational and psychological aspects interact across the entirety of my conceptual framework. Thus, based on the bridging conceptual strategy from sociology, my starting point is that all forms of trust, at all levels of abstraction, contain aspects of rationality and psychology with varying comparative strength. I then concretely propose to connect their comparative strength to the hierarchical structure of my framework. Specifically, I draw a direct parallel between the intension-to-extension ratio of my conceptual approach, and the rationality-to-psychology ratio of the concept itself.

As previously established, the intension and extension of any concept is inversely related, such that the smallest number of defining characteristics, the intension, refers to the largest number of empirical referents, the extension (Sartori, 1984). Just as the dynamic of this relationship was organised along the ladder of abstraction, I argue that the same ladder can be used to describe the relationship between rationality and psychology in the different forms of trust.

At the highest level of abstraction, trust is defined by its core characteristics only. Situated at the top of the ladder, no specifications have been made about the nature of the trusting relationship, neither in terms of the direction, nor in terms of the distance. Trust at this level is thereby non-situational, which, I argue, implies that it must be predominantly psychological. Without any further information about the context, trust is primarily based on the trustfulness of oneself, i.e. one's psychological propensity to trust in general. As previously outlined, trust is viewed as a personality trait within the psychological literature

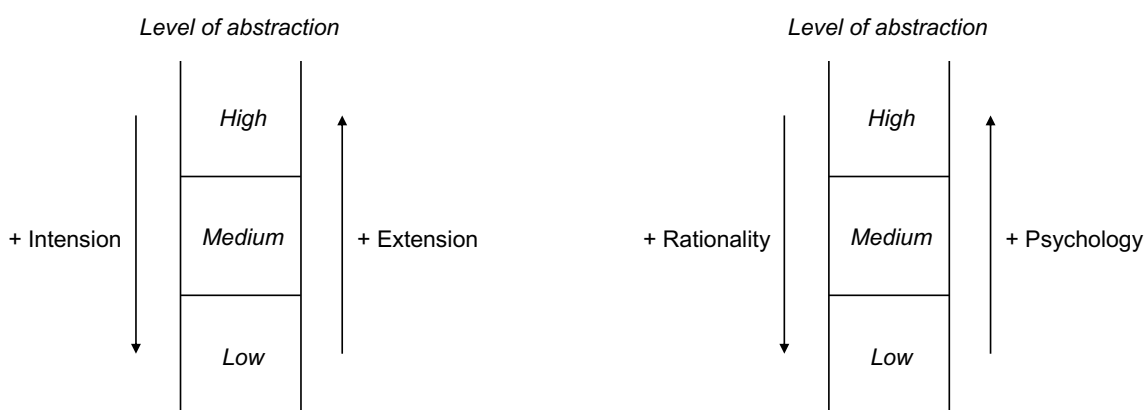


(Jones, 1996). When making trust decisions, this implies that the concrete situation matters much less than one's predisposed, or general, level of trust. No concrete situation is defined at the highest level of abstraction, which must make the psychological aspect of the concept dominant.

By descending the ladder of abstraction, the trusting relationship becomes increasingly specific. In the development of my conceptual framework, I enlarged the intension by adding more defining characteristics until four concrete subtypes of trust were identified. It follows that these four subtypes are, indeed, situational. At the lowest level of abstraction, the trusting relationships are fully defined, which means that there now exists a range of concrete information to base one's trust decisions on. I argue that this enables the rational aspect to be much more prominent. A rational trust decision requires knowledge about, and experiences with, the actor or institution in question. By construction of my conceptual framework, this only exists for trust at the lower levels of abstraction.

I depict this idea graphically in figure 2.4, showing the ladder of abstraction as the focal point first, for Sartori's methodological relationship between the intension and extension, and second, for the relationship between rationality and psychology in my conceptual framework for trust.

Figure 2.4: Left side: The ladder of abstraction as shown in figure 2.2. Right side: An extension, showing how the same ladder can be used to combine rational and psychological aspects of trust.



Combining the arguments made at each end of the ladder of abstraction, it follows that the psychological and rational aspects of trust are inversely related. While still maintaining their

shared presence within all forms of trust, I argue that their comparative strength can be directly linked to the hierarchical nature of my conceptualisation, as shown graphically with figure 2.4. Compared to the current literature, the general argument represents a different take on how these two aspects of trust interact.

Specifically, with the relationship between rationality and psychology developed here, I argue that their comparative strength can be mapped out in a *vertical* space, just like the concept of trust itself. By contrast, in previous scholarly debates, the relationship has only been mapped out in a *horizontal* space, focusing on their interplay among concrete subtypes of trust. Thus, with my argument, I suggest that the discussion should not be limited to the lowest level of abstraction. Trust is a hierarchical concept, and if all forms of trust contain both a rational and psychological aspect, this relationship also needs to be understood in the context of the hierarchical structure of the concept as a whole.

#### *Rationality and psychology at the lowest level of abstraction*

By emphasising the vertical nature of trust, I am not, however, dismissing the horizontal scholarly argument in its entirety. Crucially, I acknowledge that even at the lowest level of abstraction, the comparative strength of psychology and rationality can – and does – still differ quite significantly.

In the final stage of the development of my conceptual framework, I introduced the additional characteristic of distance, which allowed me to descend the ladder of abstraction to the lowest step. Concretely, I distinguished between trust in the short range, and trust at a long distance, which undeniably differ in their combination of rationality and psychology. As such, when trusting relationships are defined within a short range, they are particularistic and personalised (Offe, 2004). This naturally strengthens the comparative aspect of rationality. Referring back to figure 2.3, the two subtypes characterised by this attribute were in-group trust and trust in political institutions. In both of these cases, the conditions for making rational assessments of the trustworthiness of others are arguably at their most optimal, as concrete information and experiences about the actor (e.g. friends or family) or institution (e.g. the government or parliament) in question are widely accessible.

On the other hand, when trusting relationships are defined at a long distance, they are generalised and impersonalised (Offe, 2004). This naturally strengthens the comparative aspect of psychology. Reflecting the subtypes of out-group trust and trust in impartial institutions, as shown on figure 2.3, the level of concrete information or experiences required for a rational trust assessment is limited. When trust is defined with an impersonalised recipient in mind, be it strangers or neutral institutions in their entirety, (e.g. the justice system), it follows that the trust decision must be driven more strongly by one's psychological predisposition to trust. The comparative strength of psychology is thereby more prominent for trust at a long distance, while the opposite holds true for trust in the short range.

Central to my argument, then, is that although the concrete subtypes of trust display varying combinations of rationality and psychology, they are all placed at a level of abstraction where the rational aspect is comparatively stronger than the psychological aspect overall. For all four subtypes, the trusting relationship is fully defined. I know whether the form of trust is interpersonal or institutional, *and* I know whether the form of trust is occurring within close proximity or at a longer distance. There is fundamentally more information available at the lowest level of abstraction, and even for the subtypes where this is less tangible, it nonetheless defines the context of the trust decision. Thus, while the conditions for making rational assessments of trust can be more or less optimal among these four subtypes of trust, they are still strictly better than for trust at the highest level of abstraction. Given that trust at the highest level of abstraction necessarily covers all possible trusting relationships, it must have a stronger psychological aspect than any form of trust that is less abstract.

With the development of this vertical argument, I have thus made a systematic connection between my overarching conceptual framework, and the two central, yet diverging, aspects of trust that have arisen from the multidisciplinary literature. Representing a different take on the relationship between rationality and psychology for different forms of trust, my argument nuances current conceptual debates on the topic, particularly by expanding the discussion to trust at different abstraction levels.

Importantly, I assert that the added value goes beyond the conceptual contribution itself. The conceptual framework, including the interplay between the core aspects, lays the groundwork for building a much closer connection between the conceptualisation and measurement of this concept. I show this in the next chapter, as I develop a measurement model for trust that is directly rooted in this framework.

## 2.4 Concluding remarks

In summary, with this chapter, I have conducted a conceptual analysis of trust, which includes and combines aspects from multiple disciplines of the social sciences. Applying Sartori's (1970, 1984) guidelines for conceptual analysis, I have developed the concept of trust along the ladder abstraction, resulting in a systematic conceptual framework of trust in its entirety. As such, the framework was initially developed above any particular school of thought, acknowledging diverging and influential conceptualisations from the literature as a whole. As a result, I centrally argued that trust is neither fully rational nor fully psychological, but rather that both aspects will be present in all types of trust with varying comparative strength (Lewis & Weigert, 1985; Sztompka, 1999). By connecting their comparative strength to the hierarchical nature of the concept, I have provided a new and extended perspective on a conceptual debate that usually occurs at the lowest level of abstraction only.

As a multidisciplinary concept, I emphasised sociology as a bridging discipline, building on theories from political science and psychology in combination. Specifically, I argued that trust, in all accounts, arises due to an underlying assumption of 'social uncertainty' (Yamagishi & Yamagishi, 1994), and functions as a 'social mechanism' (Elster, 1993). Within this setting, trust can develop in different ways, focusing, to various extents, on either the trustfulness of oneself, or the trustworthiness of others.

The resulting framework defined a *positive expectation* and *risk* as the core characteristics of trust universally. Descending the ladder of abstraction in two steps, I then firstly added the characteristic of *direction*, and secondly the characteristic of *distance*, ultimately

developing four concrete subtypes: in-group and out-group trust, and trust in political and impartial institutions. Thus, in its entirety, the framework spans both interpersonal and institutional contexts with all subtypes developed systematically and in parallel.

Central for Sartori's approach is the hierarchical structure. Specifically, trust exists as a universal concept at the top, with increasingly concrete subtypes as the ladder of abstraction is descended. In the next chapter, I directly mirror this conceptual structure, when I develop a correspondingly hierarchical model of measurement. The conceptual framework developed here thereby acts as the robust foundation for my subsequent empirical analysis. Consequently, it is the crucial first step towards my overall purpose of bridging a gap between the conceptual, methodological, and empirical literature on trust.

## Chapter 3: The measurement of trust

In this chapter, I develop a model for the measurement of trust, which is directly rooted in the conceptualisation of the previous chapter. Specifically, the model mirrors the hierarchical structure of my conceptual framework, such that a higher-order, general dimension of trust is modelled simultaneously with lower-order, concrete subdimensions. As a result, I argue that the model provides the most conceptually appropriate measure of trust. Based on a systematic conceptualisation, the measurement model is the first to explicitly disaggregate individuals' inner propensity to trust from their trust decisions across more specific situations. Overall, I argue that the development of a measurement model with such a clear conceptual parallel is, more generally, a way to bridge a gap between the empirical and conceptual strands of the literature, historically viewed to be rather far apart (Nannestad, 2008).

Methodologically, the model is developed within the bifactor exploratory structural equation modelling (bifactor-ESEM) framework. Compared to more commonly used models of measurement, particularly the confirmatory factor analytic (CFA) model and the exploratory structural equation model (ESEM) without the added bifactor, the bifactor-ESEM framework combines two psychometric properties, which I argue are essential for measuring trust. First, it allows for a hierarchical structure, where a general factor is modelled simultaneously with several specific factors. Second, the items comprising each specific factor are assumed to be 'imperfect', such that they can also correlate with other factors in the model, in the form of cross-loadings (Morin, Arens, et al., 2016). The latter makes it possible to include specific factors that are conceptually related, which in my case reflect the subtypes of interpersonal and institutional trust respectively.

Combined, the properties therefore enable the development of a model that mirrors the conceptual framework of the previous chapter, and by extension draws a clear conceptual parallel to Sartori's (1984) ladder of abstraction. The general factor is placed at the highest level of abstraction and interpreted as a general dimension of trust. It is non-situational, and exists without any additional characteristics, that is, without specifying the direction or the distance of the trusting relationship. As a result, I argue that it represents a predominantly psychological aspect of trust, an inner propensity, which acts as the foundation for all subsequent trust decisions (Jones, 1996; Sztompka, 1999). By contrast, the specific factors are placed at the lowest level of abstraction, defined by fully specifying the trusting relationship. Thus, they measure the four concrete subtypes of the conceptual framework: in-group trust, out-group trust, trust in political institutions and trust in impartial institutions. I argue that the specific factors represent a stronger rational aspect of trust (Coleman, 1990; Hardin, 2002). At this level of abstraction, there exists a range of concrete information about the actor or institution in question. Compared to the general dimension, this enhances the conditions for making trust decisions that are more rational and tailored to a specific situation.

The bifactor-ESEM framework was initially proposed by psychologists Morin, Arens, et al. (2016, p. 1) as an improved method for assessing the 'construct-relevant psychometric multidimensionality' of complex, psychological constructs. Within the context of measurement models, a 'construct' is a theoretical concept (Brown, 2015). It is not directly observable, but is rather measured by grouping together indicators, e.g. survey items, which in combination represent its underlying, or latent, dimensions. These dimensions are referred to as factors. Overall, Morin, Arens, et al. (2016) developed the bifactor-ESEM framework in a stepwise manner. Firstly, by arguing for the benefits of cross-loadings, favouring the ESEM over the CFA model, and secondly, by arguing for the benefits of allowing a general factor to co-exist with specific factors, favouring the bifactor solution. As such, the bifactor-ESEM was introduced to 'overcome the shortcomings' of the more commonly used CFA and ESEM solutions (Dierendonck et al., 2021, p. 1), as neither of these alternatives take both of the essential properties of the bifactor-ESEM into account (Morin, Arens, et al., 2016). Since its introduction, the bifactor-ESEM framework has been applied to numerous concepts in psychology, including motivation (Howard et al., 2018;

Lohbeck et al., 2022), emotional intelligence (Pirsoul et al., 2021), need fulfilment (Tóth-Király et al., 2018), and early numeracy (Dierendonck et al., 2021). While trust is highly multidisciplinary, playing a central role not only in psychology, but also in sociology and political science, I argue that the psychologically-rooted bifactor-ESEM framework has strong potential to advance the measurement of the concept.

Further, by modelling the underlying dimensionality of trust in the bifactor-ESEM framework, I am broadly advocating for an enhanced focus on the conceptual implications of different measurement models. As recently highlighted in a measurement paper by Cimino et al. (2020, p. 282), choosing the ‘best’ model tends to be based mainly on quantitative model fit criteria and indices, while ‘little attention has been given to the conceptual and theoretical implications of CFA model variations’. I have found a similar tendency in the empirical literature on trust. In a scholarly review by Nannestad (2008), the author concludes that,

*‘...there is still a wide gap between much of the theoretical and conceptual work on trust and the bulk of empirical studies. Much of the recent empirical work on trust – be it based on surveys or experiments – does not seem to proceed from any clear account of what is meant by trust in the first place’ (Nannestad, 2008, p. 415).*

Although the statement originates from 2008, significant attempts to resolve this fundamental issue are still missing. Overall, it remains true that trust is most commonly measured either directly with one or a few survey questions, or with more conventional CFA models, restricting both the presence of cross-loadings and hierarchical factors. One explanation could be that measurement models with clearer parallels to the underlying concept have simply not been present in the social science literature. I therefore view the development of the bifactor-ESEM framework as an interesting and important step in bridging this gap, and in this chapter, I provide support for both its conceptual and methodological advantages as a measure of trust.

In the following sections, I introduce the data, which I place within the context of trust measures in the literature more generally. I then define and justify the scope conditions for



my study. Finally, I argue for the benefits of applying the bifactor-ESEM framework, as I present and interpret the empirical results of the new model of measurement.

### 3.1 The data, the literature, and prior measures of trust

Overall, the empirical analyses conducted in my project are based on data from a large-scale cross-national survey, jointly conducted by the European Values Study (EVS) and the World Values Survey (WVS) between 2017 and 2020 (EVS/WVS, 2022). The two independent research organisations signed a cooperation agreement in 2016, which facilitated the implementation of a joint values survey spanning more than 80 countries around the world (WVS & EVS, 2016). According to the agreement, they jointly approved the wording and order of survey items in the common core of the questionnaire, which the EVS was responsible for implementing in Europe, and the WVS was responsible for implementing in the rest of world. In addition to the common core, each organisation could include unique survey items within their own territories, such that the final overlap of items in the questionnaire was about 70% (EVS, 2022c). The EVS and the WVS were both established in the early 1980s and since then, they have conducted five and seven waves of surveys respectively (WVS, 2020b). With historically diverging questionnaires, the joint survey represents the first instance where the two research organisations implement the same common core of survey items in all countries (WVS & EVS, 2016). As such, it offers a unique opportunity for comparative research that has previously been reserved either for European countries with the EVS, or for a broader and predominantly non-European range of countries with the WVS<sup>6</sup>.

While the research organisations split the responsibility for implementing the survey, and thus formally followed their own sets of methodological guidelines (EVS, 2022c), the methodology was highly consistent across all countries. The target population was individuals aged 18 years or older, who were residents in the surveyed country within private

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<sup>6</sup> Given that the joint survey has only been conducted once, I note that the resulting measurement model is based on this one timepoint. With the release of future rounds of the survey, it will be interesting to explore if and how the measurement model will develop within changing political environments across time.

households, either at the beginning of the fieldwork (EVS) or for 6 months prior to the fieldwork (WVS) (EVS & WVS, 2022). The selection methods were representative single-stage or multi-stage sampling of the population. With the latter, countries had the option to firstly divide the population into subgroups, before randomly selecting individuals proportionally to the population of their subgroup (WVS, 2020a). The sample size was a minimum of 1200 survey respondents for countries with a population above 2 million, and 1000 for countries with a population below 2 million. For the WVS, it was further recommended to survey a minimum of 1500 respondents for countries with populations above 100 million (EVS & WVS, 2022). The main mode of data collection was face-to-face interviews. However, since issues of decreasing response rates have increasingly challenged large-scale surveys (Luijkx et al., 2021), countries were also given the opportunity to employ self-administered questionnaires, either online or by post (EVS & WVS, 2022). The procedure for the latter mode of data collection was slightly different within the two research organisations. Within the EVS, self-administered questionnaires were only implemented in parallel with face-to-face interviews, thereby allowing countries to adopt a so-called mixed-mode strategy (EVS, 2022a). Seven countries, out of the 36 countries surveyed by the EVS, adopted this strategy<sup>7</sup>, while the remaining countries conducted face-to-face interviews only (EVS & WVS, 2022).

In a study by Luijkx et al. (2021), the data quality of the mixed-mode strategy was examined in greater detail. Without the presence of a trained interviewer, who can offer motivation and help in case of perceived ambiguity, the authors hypothesised a higher share of item non-responses, and consequently lower data quality in self-administered questionnaires overall. In particular, they mentioned the possibility of non-response bias relating to core items, 'such as trust' (Luijkx et al., 2021, p. 331). However, their results did not show significant issues with non-item responses in the examined countries, thus deeming the overall data quality acceptable. Further, in preliminary checks conducted by the EVS themselves, they did not find large differences in measurement when comparing the different modes (EVS & WVS, 2022). While Luijkx et al., (2021) did call for further experimental research on the topic, I assess their positive conclusion, in combination with the checks done by the EVS, as

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<sup>7</sup> Specifically, the mixed-mode strategy was adopted by Switzerland, Iceland, Netherlands, Germany, Finland, Denmark and Latvia. It was up to each individual country to decide on their best strategy for data collection, aiming to enhance coverage and response rates (EVS & WVS, 2022).

adequate evidence for an acceptable level of data quality in the joint survey overall. The possibility of self-administered questionnaires was taken a step further by the WVS, where mixed-mode strategies were not a requirement. Rather, surveys conducted fully online or by post were possible through justification by the national survey team, as long as 95%+ population coverage was ensured (WVS, 2020a). This was the case for several big countries in the survey, including Canada, New Zealand and the United States (EVS & WVS, 2022).

## **Measuring institutional trust**

Both the EVS and the WVS have historically been used in a substantial number of empirical studies on trust. Their joint bibliography, available on the EVS website, counts around 100 publications on either interpersonal or institutional trust and spans the early 1990s all the way up to the present day (EVS, 2022b). For institutional trust, the two research organisations have included a comparable set of items, even before the development of the joint survey. The main caveat, though, is that the surveys use the word ‘confidence’ instead of ‘trust’, as they ask,

*“I am going to name a number of organizations<sup>8</sup>. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all?” (WVS, 2017)*

Within the empirical literature on institutional trust, survey items on ‘trust’ and ‘confidence’ are generally used interchangeably. In a recent project by Norris (2022), which employs the joint survey from the EVS and the WVS to study patterns of trust and scepticism cross-nationally, the author discusses the ‘long-standing practice’ of treating trust and confidence as ‘closely equivalent’ concepts (Norris, 2022, p. 66). As a result, Norris bases all subsequent empirical analyses of institutional trust on the set of survey items related to institutional confidence. With my study, I follow the same convention.

The list of organisations that respondents were asked to rate have generally differed slightly for the questionnaires of the EVS and WVS. However, the following six were included in the

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<sup>8</sup> Although the survey items from the WVS refers to ‘organizations’, this is used as a synonym for ‘institutions’ in the trust literature, and I follow this convention in my study.

joint survey (EVS & WVS, 2022). In previous research, these six organisations have further been used as indicators for the two subtypes of institutional trust developed in my conceptual framework, i.e. trust in political and in impartial institutions (OECD, 2017; Rothstein & Stolle, 2008). The respondent were asked to rate the following on a four-point scale<sup>9</sup>,

*“The parliament”*

*“The government”*

*“Political parties”*

*“The armed forces”*

*“The police”*

*“The justice system”.*

As such, I develop a measure of trust in political institutions based on survey responses to the first three items listed above, and a measure of trust in impartial institutions based on the remaining three items. My choice of items is further rooted in empirical analyses on the measurement of trust, initially done by Rothstein & Stolle (2008), and later confirmed in a project by the OECD (2017). In both instances, the analyses were based on the WVS, with Rothstein & Stolle using data from waves 1, 2, and 3 (1980-1997), and the OECD using data from wave 6 (2010-2014). Specifically, the two studies employed principal component analysis to establish an empirical distinction between trust in political and impartial institutions. Thus, they independently showed how the survey responses to questions on confidence in the parliament, government and political parties loaded on one factor, while responses to questions on confidence in the armed forces, the police and the justice system loaded on another factor.

As argued by Rothstein & Stolle (2008), the foundations for trust in the two kinds of institutions are fundamentally different, and thus should be kept conceptually and empirically distinct. Trust in political institutions (labelled ‘partisan institutions’ in their work), refers to the representational part of the political system and is rooted in partisanship. As a result, this type of trust can be considered volatile, and widely driven by whether or not people support the ideology of the incumbent authorities (Rothstein & Stolle, 2008, p. 9). Trust in

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<sup>9</sup> The survey further asked respondents to rate their confidence in non-governmental and supranational institutions, which is beyond the scope of this study.

impartial institutions (which they label ‘order institutions’), refers to the implementational part of the political system and is rooted in impartiality. Consequently, this type of trust can be considered more stable, and driven by a general assessment of whether these institutions act in a ‘fair, reasonably efficient and unbiased manner’ (Rothstein & Stolle, 2008, p. 12). The authors further argue for the importance of keeping the two types of institutional trust distinct, by emphasising that they relate to interpersonal trust in different ways. Specifically, the volatile nature of trust in political institutions arguably leads to a weaker relationship with the generalised and stable subtype of interpersonal trust, i.e. out-group trust. This subtype is instead more closely related to trust in impartial institutions, both reflecting general beliefs in the fairness and goodwill either of other people, or of the institutions designed to keep people in check and punish deviant behaviour (Rothstein & Stolle, 2008).

### **Measuring interpersonal trust**

As opposed to institutional trust, survey items relating to interpersonal trust have historically been quite different within the EVS and the WVS. Specifically, while the EVS has only included a single-item measure for the general subtype, i.e. out-group trust, the WVS is highlighted in the literature as the first comparative survey to include survey items related to *both* the particular subtype, in-group trust, *and* the general subtype (Newton & Zmerli, 2011). As a result, a larger share of publications on this topic have used data from the WVS (EVS, 2022b). An influential example is the empirical work by Newton & Zmerli (2011, 2017) who, over the course of several papers, used waves of the WVS to study the relationship between the two subtypes of interpersonal trust, and further explored their connection to institutional trust more generally. With the development of the joint survey, all survey items from the WVS on this topic became part of the core questionnaire and were thus implemented by the EVS and the WVS in parallel (EVS & WVS, 2022). As a result, by employing the joint survey in my project, I am able to empirically study *complete* patterns of interpersonal and institutional trust, across both European and non-European contexts. The section on interpersonal trust reads as follows,

*“I would like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, not very much or at all?” (WVS, 2017)*

The interviewer then lists the following groups, each of which the respondent rates on a four-point scale,

*“Your family”,*  
*“Your neighbourhood”,*  
*“People you know personally”,*  
*“People you meet for the first time”,*  
*“People of another religion”,*  
*“People of another nationality”.*

Using data from the 2005-2007 wave of the WVS, Newton & Zmerli (2011) conducted a factor analysis, establishing that survey responses regarding the trust levels in the six groups mentioned above form two underlying factors of interpersonal trust: The former three represent the particular subtype, in-group trust, and the latter three represent the general subtype, out-group trust. The authors employed the same empirical distinction in their study from 2017, where they updated and expanded their results with data from the following wave of the WVS, implemented between 2010 and 2014 (Newton & Zmerli, 2017). Further, the two factors were empirically confirmed in the aforementioned study on the measurement of trust conducted by the OECD, where it was also tested across different waves of the survey (OECD, 2017). While the WVS was historically the only cross-national survey to include a larger set of items related to interpersonal trust, it has been common practice for surveys of this magnitude to include an alternative, single-item measure for out-group trust. In particular, both the EVS, the WVS, and comparable surveys like the European Social Survey (ESS), and the General Social Survey (GSS) from the United States, have asked their respondents,

*“Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?” (ESS, 2018; EVS, 2018; GSS, 2021; WVS, 2017)*

However, the question has repeatedly been challenged for the ambiguity surrounding the phrase ‘most people’ (reviewed by Glanville & Shi, 2020). In studies based on the WVS and the EVS respectively, Delhey et al. (2011) and Reeskens (2013) separately conclude that the understanding of ‘most people’ differs by context. They find that generality of the phrase

depends on the level of economic modernization in a country. Specifically, survey respondents in wealthier countries have a wider range of people in mind when answering the question, making the results difficult to compare both across Europe and globally. Further, within the EVS and the WVS, the question is dichotomous, which, in itself, has been shown to challenge the validity of the measure, by ‘forcing’ respondents to choose between only two categories (Lundmark et al., 2016, p. 39). The latter taps into a general debate related to the measurement of trust through survey data, the ‘scale-length debate’, as coined by Bauer & Freitag (2018). Their paper provides an overview of the main debates surrounding this topic, notably also including the ‘item-number debate’, the ‘dimensions debate’, and the ‘equivalence debate’ (Bauer & Freitag, 2018, pp. 8–9).

### **Measuring trust through survey data**

With the measurement model that I develop in this chapter, I arguably enter all four debates. Firstly, with regards to the ‘scale-length debate’, all survey items used in my model are answered on four-point scales. I thereby follow recent evidence from the literature on the enhanced validity of longer answer scales, as compared to dichotomous scales, which also increase the detail of the measure (Lundmark et al., 2016).

Secondly, engaging with the ‘item-number debate’, each subtype of trust is measured by three survey items. With this approach, trust is modelled as a latent concept, such that each set of observed survey items work as indicators of a latent subtype, e.g. out-group trust. A latent variable model, such as the bifactor-ESEM, can then be used to combine the items into a single measure for that subtype (Finch & French, 2015). As such, the debate is concerned with the number of items needed to develop accurate measures of trust, which exactly ties into the question of whether or not trust is modelled as a latent concept (Bauer & Freitag, 2018). If trust is measured with a single survey item, it only captures directly observed and self-reported behaviour, which then depends heavily on how each respondent understands the specific question. Consequently, possible misinterpretations can introduce errors of measurement (Nannestad, 2008). Instead, the literature on latent variable modelling suggests that such errors can be reduced by acknowledging that the concept at hand is not directly observed, and should rather be modelled as the latent construct formed

by at least three survey items (Brown, 2015). Survey items reflecting the same latent construct will be consistent and closely related, such that, in combination, they will provide a more robust and accurate measure, compared to the single-item alternative (ibid). As described by Bauer & Freitag (2018, p. 8), 'a respondent's 'wrong' self-placement on one scale can be mitigated by 'right' placement on the other scales', thereby adjusting potential errors overall.

Thirdly, the 'dimensions debate' concerns scholarly disagreements on the number and specificity of empirical subtypes of trust (Bauer & Freitag, 2018). As the two dimensions of interpersonal trust are generally well-established in the literature (Freitag & Traunmüller, 2009; Newton & Zmerli, 2017; Uslaner, 2002), the debate remains within studies of institutional trust. Here, there exists a clear divide between scholars advocating for a one-dimensional measure on the one hand (Hooghe, 2011; Marien, 2017), and a multidimensional measure, distinguishing trust towards different kinds of institutions, on the other (Fisher et al., 2011; Rothstein & Stolle, 2008). In chapter 2, I developed two distinct subtypes of both interpersonal and institutional trust, which I confirm empirically with my measurement model in the current chapter. I thereby join the multidimensional strand of the 'dimensions debate', arguing that it can be justified by rooting the measure in a systematic conceptual framework.

The fourth and final debate surrounding survey-based measures of trust is the 'equivalence debate'. It raises a general concern about the comparability of survey items on trust across different contexts. More specifically, it has been argued that the meaning of the word, and the way it develops, depend on contextual variables such as regime type and social norms (Glanville & Shi, 2020; Schneider, 2017). I discuss this issue in the next section, where I define two scope conditions. The conditions are implemented to ensure that the survey respondents in my study, and by extension their responses to the survey items used, are comparable.

To conclude this section, I present table 3.1, which summarises the relationship between the survey items, the corresponding indicators in my study, and the way they are employed to represent the different subtypes of trust from my conceptual framework.



Table 3.1: Left side: The survey items from the joint survey of the EVS and the WVS (2017-2020). Right side: How I combine them to measure the corresponding subtypes of trust

Survey items	Indicators	Subtypes of trust
<i>How much do you trust:</i>		
Your family	These items comprise the indicators used to measure the two subtypes of <b>interpersonal trust</b>	In-group trust
People in your neighbourhood		
People you know personally		
People you meet for the first time		Out-group trust
People of another religion		
People of another nationality		
<i>How much confidence do you have in:</i>		
The government	These items comprise the indicators used to measure the two subtypes of <b>institutional trust</b>	Trust in political institutions
Political parties		
The parliament		
The armed forces		Trust in impartial institutions
The police		
The justice system		

### 3.2 The scope conditions: Individualistic societies and developed democracies

The joint survey of the EVS and the WVS was conducted in more than 80 countries, thereby covering a variety of cultural contexts and regime types. For a survey-based study of trust, it is essential to consider whether all individuals have the same foundation for responding to the survey items, since theoretical and empirical research on the topic suggest that this is not always the case (Bauer & Freitag, 2018; Schneider, 2017; Yamagishi & Yamagishi, 1994). In this section, I therefore introduce two scope conditions, which aim to ensure that the individuals in my study are comparable. As I am studying trust in its entirety, the first condition, *individualistic societies*, centres around interpersonal trust, while the second condition, *developed democracies*, centres around institutional trust. By taking this approach, I broadly advocate for an enhanced focus on the comparability of measures of trust, particularly in survey-based research. Given the availability and data quality of current cross-national surveys, it has gradually become easier to examine measures of trust in very different parts of the world within the same study. However, the validity of such studies are

increasingly challenged, as they rest on the assumption that all individuals attribute the same meaning to questions about this complex and multidimensional concept (Marien, 2017; Reeskens & Hooghe, 2007; Schneider, 2017).

### **Individualistic societies**

According to a well-renowned theory developed by Yamagishi & Yamagishi (1994), interpersonal trust develops differently dependent on which social norms are dominant in society. The authors distinguish between societies that are predominantly individualistic, and societies that are predominantly collectivistic. They argue that the two kinds of societies provide very different conditions for interpersonal trust, in particular out-group trust, since the need and the opportunities connected to this type of trust are much greater in an individualistic society. Originally comparing the development of trust in the United States and Japan, their theory has since been empirically confirmed in a wider range of countries. First, across 31 European countries in a study by Gheorghiu et al. (2009) based on data from the European Social Survey (ESS), and, second, across 39 countries around the world in a study by Glanville & Shi (2020). The latter was based on data from the WVS (2010-2014) and further showed that the link between the particular subtype, in-group trust, and the general subtype, out-group trust, depends heavily on the degree of collectivism in society (Glanville & Shi, 2020).

Overall, an individualistic society is characterised by social norms of independence, where individuals are autonomous beings, predominantly in pursuit of self-interests (Gheorghiu et al., 2009). Social networks are less dense, more open, and the social lives of individuals are predominantly free from activities of monitoring and sanctioning (Glanville & Shi, 2020). In short, society is built on a general sense of trust to the people around you. By contrast, a collectivist society is characterised by social norms of interdependence, where individuals are embedded in social relationships, and generally in pursuit of group interests ahead of their own (Gheorghiu et al., 2009). In a society where committed relations take centre stage, social uncertainty is greatly reduced: individuals have accumulated extensive information about the people in their social networks, creating an environment where there is hardly place, nor need, to make the risky decision of trusting strangers (Yamagishi & Yamagishi,

1994). In fact, while individualistic societies facilitate out-group trust, collectivist societies discourage it, precisely because of the contrasting role of social uncertainty. As concluded by Yamagishi & Yamagishi (1994, p. 160), 'trust requires social uncertainty, and assurance requires the lack of it'. In the context of defining a comparable group of people for my study, I interpret this conclusion as two fundamentally different understandings of the concept of interpersonal trust. Thus, to a large extent, I argue that the definition of *trust* in collectivist societies would translate to the related concept of *assurance* in individualistic ones. The two kinds of societies make individuals manage risk in fundamentally different ways, and as a result, out-group trust develops very differently, if at all.

The theory by Yamagishi & Yamagishi (1994), later labelled 'the emancipation theory of trust' (Yamagishi, 2011), viewed out-group trust as an 'emancipator' of closed-knit relations. If trust can develop outside of the collective, individuals can break away from the group-based security and instead navigate the opportunities of the outside world. The main difference is that such opportunities are much more prominent in individualistic societies. Given their fundamental separateness of the individual from the group, everyone has incentives to interact with each other as efficiently as possible, without regard for particular group memberships (Gheorghiu et al., 2009). Beyond the support of immediate family, people in individualistic societies generally rely on their fellow citizens, on strangers, in all aspects of their daily lives. Strangers take care of their health, offer them employment, educate them, etc. To fully participate and take advantage of society, it therefore requires the development of trust based on a general belief in the goodwill of others (Yamagishi & Yamagishi, 1994). As such, the necessary radius of trust is simply greater (Yamagishi, 2017). A collectivist society, on the other hand, 'produces security but destroys trust' (Yamagishi, 2011, p. 10), by explicitly favouring strong in-group ties to cooperation with the out-group. The concept of trust shifts to the background in society, to make space for an assurance-based environment. Individuals may very well still act honestly, but due to the collectivist social norms, it likely stems from their own benefit of, and need for, maintaining their social relations, rather than from their benevolent nature (Yamagishi & Yamagishi, 1994).

Finally, in the study by Glanville & Shi (2020), the authors build on Yamagishi & Yamagishi's (1994) ideas, as they argue that collectivist societies undermine the development of out-group trust specifically by constraining the link between this kind of trust and its particular counterpart, in-group trust. In collectivist societies, the two subtypes of interpersonal trust are arguably not conceptually related, since strangers are not bound by the same constraints, or benefiting from the same security, that uphold the social relationships inside the group (Glanville & Shi, 2020). Because the in-group and out-group are fundamentally different, it is unlikely that positive experiences with the in-group can spill over to trust in the more generalised settings of society overall. By contrast, this can indeed happen within the context of individualistic societies. Referencing the 'social learning model', which argues that out-group trust can develop through accumulative positive interactions with known others, (Glanville & Paxton, 2007), the authors find empirical evidence to support this in societies with more individualistic social norms (Glanville & Shi, 2020). As such, the particular and general subtypes of interpersonal trust are related concepts in this context, since an individualistic environment does not impose a stark contrast between known and unknown others (Glanville & Shi, 2020). Consequently, the meaning of trust becomes more inclusive, open, and rooted in beliefs of benevolence, regardless of whether it refers to close friends or fellow citizens in general. The connection between the two subtypes of interpersonal trust is important for the design of my measurement model. As mentioned initially, the structure of the bifactor-ESEM explicitly assumes that the subtypes of trust are conceptually related (Morin, Arens, et al., 2016). By limiting my scope to individualistic societies, I thereby strengthen this assumption theoretically, as I study a population that likely attaches the same meaning to the concept of interpersonal trust, and, as a central consequence, views its two subtypes as conceptually related.

Based on this argument, I concretely employ Hofstede's (1980) influential measure of individualism vs. collectivism to inform my decision of which countries should be included in my study. The measure is part of a six-dimensional model of national culture, and empirically maps out and compare cultural dimensions across countries (House et al., 2004). Assessing 'the degree of interdependence a society maintains among its members' (Hofstede Insights, 2022), it ranges from 0 to 100, with 0 representing pure collectivism, and 100 representing pure individualism. I define the current scope condition such that it should capture countries

with predominantly individualistic social norms. Given the continuous nature of the measure, I consequently introduce a cut-off value at 50, and only include countries scoring above this value in my study (summarised in table 3.2). Although the measure was originally developed with data from the 1970s, it continues to be widely used in the literature and linked to contemporary data (Glanville & Shi, 2020; van Hoorn, 2015). The key argument used in favour of its consistent validity is that changes to culture happen very slowly (Hofstede, 1980). Alternative measures notably include an index from the GLOBE study, based on data from the 1990s, which is technically used as a measure for collectivism (House et al., 2004). However, although the data is slightly more recent, studies have confirmed that the GLOBE index has a strong negative correlation with Hofstede's measure for individualism (Realo et al., 2008; van Hoorn, 2015). I interpret this correlation as further evidence for the continuing validity of Hofstede's measure.

### **Developed democracies**

Starting from the most general perspective, institutional trust has historically been viewed as a normatively charged concept (Schneider, 2017). Influentially described by Hetherington (1998) as a reflection of people's normative expectations to the government, it is unlikely that institutional trust is attributed the same meaning for individuals in different regime contexts (Schneider, 2017). Related, it remains understudied in the autocratic literature (Rivetti & Cavatorta, 2017), most commonly due to concerns of 'self-censorship' around politically sensitive topics in these settings (Newton & Zmerli, 2017; Tannenbergh, 2022). As such, by focusing on democracies, I aim to achieve the highest degree of reliable survey responses, particularly in the form of truthful answers to questions about institutional trust.

By initially applying the scope condition of individualism to the full list of countries included in the joint survey, 23 countries remain (see table 3.2 at the end of this section). The countries are located across Europe, in North America, and in Oceania, primarily representing established democratic regimes, albeit also including a set of transitioning regimes in Eastern Europe. With the second scope condition, I therefore follow the strand of empirical studies cautioning against comparing measures of institutional trust across different regime types. Specifically, studies by Schneider (2017) and Závecz (2017) have

shown that in post-communist societies, individuals do not distinguish between trust in political and impartial institutions, but rather understand institutional trust as a single concept. Examining the reliability and equivalence of survey items on institutional trust in 35 former Soviet and European countries, Schneider (2017) finds a strong correlation between trust in political institutions, and trust in both the justice system, the armed forces and the police in Eastern Europe, while this correlation is not found to be present on other parts of the continent. The author attributes the correlation to the more recent processes of democratisation occurring in these countries: With stronger central control and a higher likelihood of corruption, individuals do not perceive the 'impartial' institutions to be independent of political influence (Schneider, 2017). A similar argument is presented by Závecz (2017), who further highlights that, compared to developed democracies, individuals in post-communist societies have less experience with the newer, democratic institutions, which makes it harder to differentiate between them. With the second scope condition, I therefore exclude a group of transitioning countries in Eastern Europe, and limit my study to developed democracies only. By doing so, I ensure that included individuals generally view trust in political and impartial institutions as two distinct subtypes, further reflecting the structure of my conceptual framework. Similar to the discussion of interpersonal trust, the subtypes are still assumed to be conceptually related.

To aid the selection of countries classified as developed democracies, I employ Freedom House's democracy score, which evaluates the state of democracy in an area stretching from Central Europe to Central Asia (Freedom House, 2021a). Compared to other large-scale measures of democracy, such as Polity IV and Varieties of Democracy, Freedom House has developed a measure that specifically assesses the state of democracy for countries 'in transit' from autocratic regime forms. As such, the measure provides the highest level of detail to assess which, if any, of the Central Eastern European countries should be included in the scope. Calculated as an average of seven indicators, the measure concretely reflects 1) the democratic character of the national governmental system, 2) the electoral process, 3) the capacity and functioning of the civic sector, 4) the state of free press, 5) the capacity of local government bodies, 6) the judicial framework and independence, and 7) perceived and actual corruption (Freedom House, 2021b). The final score ranges from 1 to 7, and collectively indicates how closely a country embodies 'the best policies and practices

of liberal democracy' (Freedom House, 2021a). According to their methodology, countries scoring 6 or above can be classified as fully-fledged democracies (Freedom House, 2021b), and I therefore introduce 6 as the cut-off point for countries in my study. As a result, Estonia, with a score of exactly 6.0, stays within my scope as the only Central Eastern European country. Finally, I present the result of my scope conditions in table 3.2. By applying the two conditions consecutively, I end up with 17 countries in my study, all of which represent societies that are predominantly individualistic and can be classified as developed democracies.

Table 3.2: Left side: Applying the two scope conditions to the set of countries included in the joint survey of the EVS and the WVS (2017-2020). Right side: The resulting set of countries included in my study.

<b>Countries chosen by condition 1: Individualistic societies</b>		<b>⇒</b>	<b>Countries eliminated by condition 2: Developed democracies</b>		<b>⇨</b>	<b>Final set of countries in study</b>
<i>Country</i>	<i>Value</i>		<i>Country</i>	<i>Value</i>		
Australia	90		Czech Republic	5.54		<b>Australia</b>
Austria	55		Hungary	3.68		<b>Austria</b>
Canada	80		Latvia	5.79		<b>Canada</b>
Czech Republic	58		Lithuania	5.64		<b>Denmark</b>
Denmark	74		Poland	4.54		<b>Estonia</b>
Estonia	60		Slovakia	5.25		<b>Finland</b>
Finland	63					<b>France</b>
France	71					<b>Germany</b>
Germany	67					<b>Italy</b>
Hungary	80					<b>Netherlands</b>
Italy	76					<b>New Zealand</b>
Latvia	70					<b>Norway</b>
Lithuania	60					<b>Spain</b>
Netherlands	80					<b>Sweden</b>
New Zealand	79					<b>Switzerland</b>
Norway	69					<b>United Kingdom</b>
Poland	60					<b>United States</b>
Slovakia	52					
Spain	51					
Sweden	71					
Switzerland	68					
United Kingdom	89					
United States	91					

### 3.3 A bifactor-ESEM approach

Overall, the bifactor exploratory structural equation model (bifactor-ESEM) represents a new approach to modelling multidimensionality (Morin, Arens, et al., 2016). The model integrates two existing approaches, the bifactor model and the exploratory structural equation model (ESEM), into a single, analytical framework (Gu et al., 2020). Introduced by Morin et al. (2016), the authors made the overarching argument that the combinatory framework of the bifactor-ESEM provides a level of flexibility that might be necessary to adequately capture the latent structure of complex, multidimensional concepts (Morin, Arens, et al., 2016). In this section, I argue that this is the case for trust. Specifically, I show that the ESEM and the bifactor model each bring a property to the framework, which, compared to more conventional measurement frameworks, not only makes it empirically more robust, but also strengthens the theoretical connection between the measure and the underlying concept of trust.

#### **The exploratory structural equation model (ESEM)**

In its most general sense, a measurement model for any given concept performs two tasks. Based on a set of observable items, it firstly verifies the latent structure of the concept, that is, the underlying factors. This is done by grouping together the items representing each factor. Secondly, it produces factor loadings, thereby quantifying the relationship between each item and each factor in the model (Brown, 2015). When new measurement models develop in the literature, there is a tendency to use the confirmatory factor analytic (CFA) model as the jumping-off point (Asparouhov & Muthén, 2009; Morin, Arens, et al., 2016; Reise, 2012). Described as the ‘typical approach to the analysis of multidimensional instruments’, the CFA model has been the frontrunner for confirmatory approaches to measurement, thereby making it an influential and powerful tool in the social science literature (Morin, Arens, et al., 2016, p. 2). However, it relies on a highly restrictive assumption regarding the factor loadings. Within the CFA framework, it is assumed that the observable items only correlate with their target factor. Put differently, all *cross-loadings* between items and non-target loadings are assumed to be zero (Brown, 2015; Morin, Arens, et al., 2016). While this assumption brings parsimony to the model, its validity has



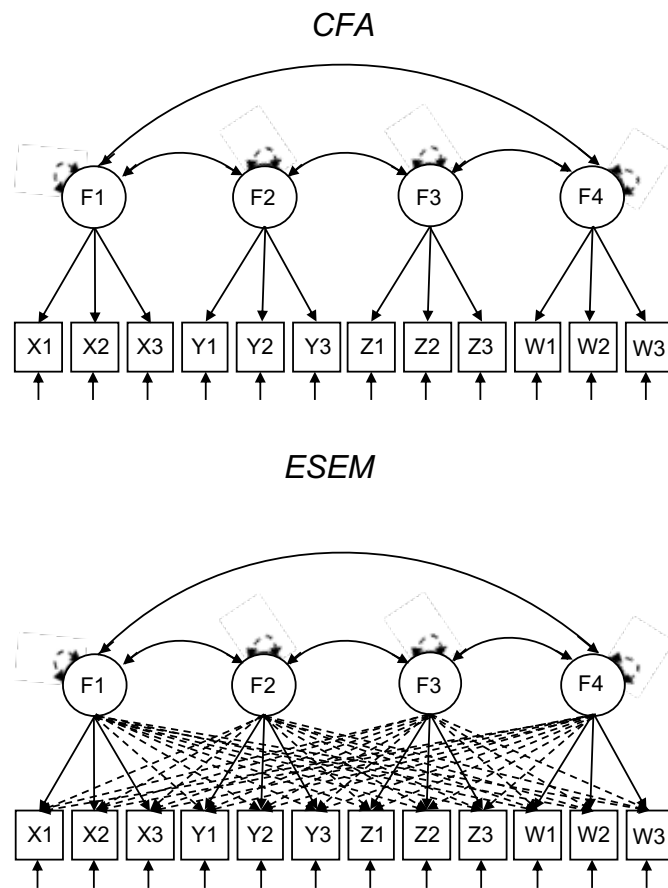
increasingly been questioned, and as a result, so has its ability to provide a satisfactory model fit (Asparouhov & Muthén, 2009; Fu et al., 2022; Morin, Arens, et al., 2016).

As an alternative, the exploratory structural equation model (ESEM) was introduced by Asparouhov & Muthén (2009). Specifically, with the ESEM, the cross-loadings are allowed to be different from zero. This reduces the chances of misspecifications, particularly when developing measures for concepts with conceptually related subtypes. Overall, subtypes of a concept will be represented by distinct factors in a measurement model. If the subtypes further are conceptually related, this should, by definition, be represented by non-zero cross-loadings (Morin, Arens, et al., 2016). From a technical perspective, Asparouhov & Muthén (2009) argued that by relaxing the restrictive assumption of the CFA model, the ESEM would result in more accurate (i.e. less inflated) factor correlations, which ultimately leads to better discriminant validity (Gu et al., 2020, for summary). As such, with the ESEM framework, a new and more flexible approach to modelling multidimensionality emerged. By concretely allowing non-zero cross-loadings to be included, the framework provided a more realistic measure for concepts in general, and for conceptually related subtypes in particular.

As initially outlined, the overall objective for my measurement model is to maintain a close tie between the empirical measure and the underlying concept, systematically developed in chapter 2. Here, I established four subtypes of trust, which are clearly conceptually related in pairs of two: in-group trust and out-group trust reflect the two subtypes of interpersonal trust, while trust in political institutions and trust in impartial institutions reflect the two subtypes of institutional trust. Consequently, I view this as a compelling conceptual argument for employing an ESEM, rather than a CFA model. Before discussing the second aspect of my measurement model, the bifactor model, I include a graphical representation in figure 3.1, which compares the structure of the CFA model and the ESEM. Specifically, the figure thereby illustrates the cross-loadings of the ESEM (shown as the unidirectional dotted arrows) that are not present in the CFA model.

Figure 3.1: Graphical representation of the CFA model and the ESEM:

- X1-X3, Y1-Y3, Z1-Z3, W1-W3: Observable items (the 12 survey items from the joint survey)
- F1-F4: Factors (the four subtypes of trust)
- Unidirectional full arrows linking factors and items: Target factor loadings
- Unidirectional dotted arrows linking factors and items: Cross-loadings
- Unidirectional full arrows attached to the items only: Item uniqueness
- Bidirectional full arrows linking factors: Factor correlations
- Bidirectional dotted arrows attached to the factors only: Factor variances



## The bifactor model

Quoting an influential paper by Reise (2012), the bifactor model was recently ‘rediscovered’ as an effective approach to modelling multidimensionality. Although initially introduced almost a century ago (Holzinger & Swineford, 1937), it remained only a peripheral measurement model for many years, primarily due to the dominant role of the CFA modelling framework (Reise, 2012). However, while the conventional CFA model is limited to the

inclusion of distinct, specific factors, the bifactor model includes a 'common core' (Morin, Arens, et al., 2016, p. 4). The common core is modelled as a general factor – a unified dimension – based on all observable items combined. As such, it reflects the common variance shared by the items overall, and, as argued by both Morin, Arens, et al. (2016) and Reise (2012), it can be substantively interpreted as a broad, or overarching, conceptual trait. Unique to the bifactor model, this general factor co-exists with multiple, specific factors, each based on smaller subsets of the observable items. The specific factors are modelled to reflect additional common variance for each subset of items, which is left unexplained by the general factor. They therefore represent conceptually narrower, yet distinct, domains, i.e. the conceptual subtypes (Reise, 2012). In combination, the structure of the bifactor model is hierarchical, with the general factor as a higher-order factor (Morin, Arens, et al., 2016).

At this point, I note that the 'classical solution' to modelling hierarchically-organised concepts has been through the use of hierarchical, or higher-order, CFA models (Morin, Arens, et al., 2016, p. 3). However, recent psychometric research has argued for the advantages of the bifactor model, deeming it an increasingly prominent and flexible alternative (Howard et al., 2018; Morin, Arens, et al., 2016; Reise, 2012). While both the hierarchical CFA model and the bifactor model include general and specific factors based on a set of observable items, the relations between the items and the general factor are only modelled indirectly with the hierarchical CFA model. Specifically, while each item relates to a specific factor, each specific factor then relates to the general, higher-order factor (Morin, Arens, et al., 2016). This structure makes the hierarchical CFA model more stringent, as it rests on the assumption that all specific factors reflect the same amount of common variance, once the general factor is accounted for (Howard et al., 2018). The bifactor model relaxes this assumption, usually referred to as the 'proportionality constraint' (Reise, 2012, p. 674). With direct relations between the items and both the general and specific factors, the model explicitly separates the variance explained by the general factor, from the residual variance explained by each specific factor of the model (ibid). As such, by employing the bifactor modelling framework to develop a hierarchical measure of trust, I am following a recent convention in the psychometric literature, broadly advocating for the higher flexibility of this framework, as compared to the hierarchical CFA.

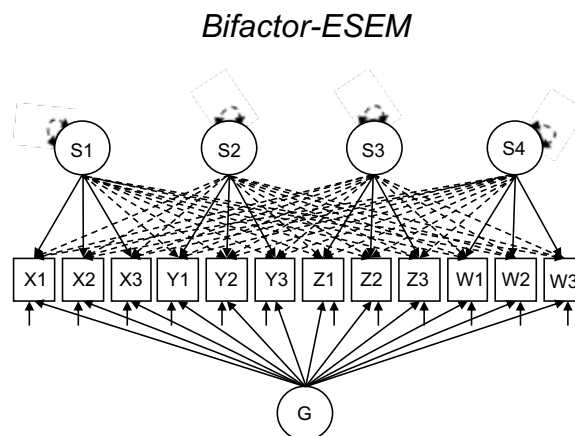
Compared to the CFA model and the ESEM of the previous section, a notable change to the bifactor framework has to do with the modelling of factor correlations. Specifically, in the former two models, the rotation of the factors in relation to the observable items is oblique, implying that the factors are allowed to correlate (Morin, Arens, et al., 2016). In the bifactor model, the rotation is instead orthogonal, which means that all correlations, both among the specific factors, and between the specific factors and the general factor, are set to be zero. The orthogonality is necessary to ensure the correct interpretability of the bifactor model, that is, to enable the explicit partitioning of the variance of the items explained by the general factor, and the variance explained by each of the specific factors (Morin, Arens, et al., 2016; Reise, 2012). The introduction of orthogonal factors does not prevent the presence of cross-loadings, and, as a result, the modelling of conceptually related subtypes remains possible (Morin, Arens, et al., 2016). I elaborate on this below, as I introduce the complete modelling framework for measuring trust.

### **The combined model: Bifactor-ESEM**

Finally, I combine the models above, as I introduce the bifactor-ESEM framework to develop a new measurement model for trust. Overall, the key property from the ESEM enables me to incorporate conceptually related subtypes, while the key property from the bifactor model enables me to account for the hierarchical nature of the concept. In the combined framework, these two perspectives are considered simultaneously (Morin, Arens, et al., 2016). In other words, the observable items, i.e. responses to the 12 survey items from the joint survey of the EVS and the WVS, are allowed to correlate with both the hierarchically ordered and conceptually related dimensions of trust. Prior to diving into the interpretations of this model, I present a graphical representation of its structure in figure 3.2. The figure illustrates the cross-loadings from the ESEM between the specific factors (S1-S4), now in combination with a general factor (G), directly based on the survey items (X1-W3). Compared to figure 3.1, factor correlations are no longer included, as the factors are now orthogonal.

Figure 3.2: Graphical representation of the bifactor-ESEM

- X1-X3, Y1-Y3, Z1-Z3, W1-W3: Observable items (the 12 survey items from the joint survey)
- S1-S4: Specific factors (the four subtypes of trust)
- G: General factor
- Unidirectional full arrows linking factors and items: Target factor loadings
- Unidirectional dotted arrows linking factors and items: Cross-loadings
- Unidirectional full arrows attached to the items only: Item uniqueness
- Bidirectional dotted arrows attached to the specific factors only: Factor variances



By incorporating the hierarchical property of the bifactor model, I closely connect the structure of the model to the structure of my conceptual framework for trust, rooted in Sartori's (1984) ladder of abstraction. As such, the general factor is interpreted as a measure for individuals' overall level of trust, based on all survey items in the model. It represents trust at the highest level of abstraction, prior to the inclusion of additional characteristics, i.e. prior to specifying the direction and the distance of the trusting relationship. I therefore label the general factor 'general trust', and I argue that it reflects a predominantly psychological aspect of the concept. General trust exists without any further specification of the trusting relationship, making it comparable to individuals' inner propensity to trust, that is, to their 'basic trustfulness' (Sztompka, 1997). In line with an influential conceptualisation developed by Sztompka (1997, 1999), general trust can be largely viewed as a core personality trait, a trusting impulse, developed innately or early in life through processes of socialisation (Freitag & Traunmüller 2009). Disaggregated from individuals' levels of trust within defined contexts or situations, general trust exists 'in the background', as a stable starting point for all trust decisions. The stability comes from the fact that the focus is on the trustfulness of

oneself, 'the truster', rather than on the intentions and behaviours of others (Sztompka, 1999; Uslaner, 2002).

By contrast, the specific factors represent trust at the lowest level of abstraction, fully specifying the trusting relationship. The model thus includes four specific factors, one for each subtype of the concept. Compared to the general factor, I argue that the specific factors reflect a more rational aspect of the concept, albeit to varying extents. By defining the context and the trust recipient, be it in-group trust, out-group trust, or trust in political or impartial institutions, individuals' levels of trust must necessarily be based on concrete knowledge and experiences to a greater extent. Assessing the trustworthiness of others, rather than the trustfulness of oneself, implies that the decision to trust will depend on the situation at hand and likely be updated much more often. This generally resonates with scholars who emphasise rational choice theory in their discussions of trust, most notably Coleman (1990) and Hardin (2002). As such, while the general factor is expected to be fairly stable for individuals, establishing whether they are fundamentally high or low trusting, the specific factors are expected to be more volatile, prone to change as new external information appears.

### 3.4 Empirical results

Having introduced the methodological framework, I present the detailed results of the measurement model for trust. The model was estimated in the software Mplus, following the practice of most latent variable studies in the social science literature (Ferguson et al., 2020; Muthén & Muthén, 1998-2017)<sup>10</sup>. Since responses to the survey items were given on four-point Likert scales, I applied a robust weighted least square estimator using diagonal weight matrices (WLSMV). In a paper by Morin, Boudrias, et al. (2016, p. 10), the authors established that WLSMV estimation generally outperforms 'traditional' maximum likelihood (ML) estimation and robust alternatives (MLR) in the presence of categorical Likert scales. Missing values of the survey items were handled with pairwise deletion to maintain as much data as possible in the model. According to a simulation study by Asparouhov & Muthén

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<sup>10</sup> The Mplus code can be found in appendix A.

(2010), pairwise deletion is the most efficient method for dealing the missing values in models that apply a weighted least square estimator. As a result, the model estimation is based on 35,696 observations. Further, I have used two survey weights in combination: a calibration weight, which adjusts socio-demographic characteristics in the sample, and a population size weight, to ensure a shared denominator across all countries (European Values Study, 2020).

I provide statistical support for the choice of the bifactor-ESEM framework in table 3.3. Specifically, I report the model fit information for the bifactor-ESEM, which I compare to that of the CFA model and the ESEM for reference. Overall, a desirable model fit is characterised by low values of the chi-square, the standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA). It is further characterised by high values of the goodness-of-fit indices, i.e. of the comparative fit index (CFI) and the Tucker-Lewis index (TLI). As such, table 3.3 suggests that the best model fit is achieved with the flexible, hierarchical framework of the bifactor-ESEM.

*Table 3.3: Model fit information for the bifactor-ESEM, compared to the CFA model and the ESEM*

<i>Model</i>	<i>Chi-square</i>	<i>SRMR</i>	<i>RMSEA</i>	<i>CFI</i>	<i>TLI</i>
<b>Bifactor-ESEM</b>	<b>274.356</b>	<b>0.011</b>	<b>0.021</b>	<b>0.998</b>	<b>0.990</b>
CFA	2484.860	0.044	0.038	0.978	0.970
ESEM	445.025	0.014	0.022	0.996	0.989

Finally, I present the factor loadings of the bifactor-ESEM solution in table 3.4. For each survey item, the table shows how they correlate with the general factor, i.e. with general trust, and with the four specific factors. Values closer to 1 indicate stronger correlations. Firstly, the results reveal a well-defined general factor, with strong and statistically significant factor loadings across all items. This is particularly notable, considering that the survey items in their entirety indicate trust in very different contexts. The consistent significance of the factor loadings for this factor therefore empirically confirms that each individual can meaningfully be assigned a level of general trust. Additionally, the four specific factors are also well-defined, with statistically significant factor loadings attached to all relevant survey items on their target factor (marked in bold). This is evidence that the specific factors, i.e.

the conceptual subtypes of trust, add meaningful information to the measurement model on their own, even when general trust is accounted for. Put differently, the significance of both the general and the specific factors indicate that trust is indeed a hierarchical, multidimensional concept. The table provides clear empirical evidence for the presence for an overarching level of general trust, which exists in addition to individuals' levels of trust in more concrete situations. Had the specific factors not been well-defined, a unidimensional measure, based on all survey items combined and merely reflecting general trust, would have been deemed more optimal.

Table 3.4 further shows that several items have significant factor loadings beyond their target factor, i.e. that meaningful cross-loadings are present in the model. This particularly holds for the conceptually related subtypes, such that most items targeted on the factor for one subtype of interpersonal trust also have fairly strong and significant cross-loadings for the other subtype. The same pattern broadly holds for the subtypes of institutional trust.

Table 3.4: Standardized factor loadings for the measurement model of trust, applying the bifactor-ESEM framework

Survey items	General factor	Specific factors			
	General trust	In-group trust	Out-group trust	Trust in political institutions	Trust in impartial institutions
Your family	<b>0.489*</b>	<b>0.323*</b>	-0.037	-0.102*	0.011
Your neighbourhood	<b>0.507*</b>	<b>0.602*</b>	0.199*	-0.028	-0.051*
Know personally	<b>0.497*</b>	<b>0.435*</b>	0.284*	-0.106*	-0.011
Meet for the first time	<b>0.444*</b>	0.307*	<b>0.474*</b>	0.057*	-0.098*
Another religion	<b>0.473*</b>	0.067*	<b>0.809*</b>	-0.047*	0.007
Another nationality	<b>0.485*</b>	0.039	<b>0.797*</b>	-0.075*	-0.070*
The government	<b>0.461*</b>	-0.013	-0.061*	<b>0.611*</b>	0.238*
Political parties	<b>0.495*</b>	-0.074*	0.008	<b>0.667*</b>	-0.009
The parliament	<b>0.590*</b>	-0.062*	-0.062*	<b>0.618*</b>	-0.009
The armed forces	<b>0.232*</b>	0.057*	0.057*	0.149*	<b>0.668*</b>
The police	<b>0.666*</b>	-0.081*	-0.217*	-0.019	<b>0.568*</b>
The justice system	<b>0.608*</b>	-0.110*	0.051*	0.210*	<b>0.215*</b>

Model estimated with orthogonal target rotation

\*statistically significant with  $p < 0.05$



### 3.5 Concluding remarks

In sum, I have established a new model for the measurement of trust, which I argue have important implications for the way we study and discuss this topic. The model empirically confirms that trust is a hierarchical, multidimensional concept. Further, it is the first measurement model to explicitly disaggregate individuals' inner propensity to trust from their trust decisions across more specific situations or contexts. This distinction is a direct result of developing the measure within the bifactor-ESEM framework, characterised by its hierarchical and flexible nature. With the interpretation, I have further connected the general and specific factors of the model to two contrasting conceptualisations of trust from the literature, rooted in psychology and rationality respectively.

Concretely, I have argued that the general factor reflects a predominantly psychological aspect of trust, while the specific factors reflect a rational aspect of the concept to greater extents. In the previous chapter, I connected the comparative strength of the psychological and rational aspects to the hierarchical structure of my conceptual framework. With the current chapter, I have developed this idea within an empirical framework, arguing for a similar connection to the hierarchical structure of my measurement model. The interpretation of my model is thereby directly rooted in my conceptual analysis of trust. As a whole, I have made the argument that the hierarchical and flexible nature of the bifactor-ESEM framework makes it the most conceptually appropriate model for the measurement of trust.

Broadly speaking, I am thereby advocating for a closer link between the measures of complex, multidimensional concepts, and their underlying conceptual definitions. The model represents a shift away from single survey items to more elaborate measures of trust. Concretely, by finding evidence for the statistical and conceptual relevance of the bifactor-ESEM framework for the concept of trust, my study speaks in favour of the methodological approach proposed by psychologists Morin, Arens, et al. (2016). Beyond the field of psychology, adopting a hierarchical and flexible methodological framework arguably has great potential to advance the measurement of key concepts in the social sciences overall.

## Chapter 4: A typology of citizens

With the measurement model of the previous chapter, I established trust as a hierarchical, multidimensional concept. Specifically, I developed a measure for general trust, which, as a predominantly psychological dimension of the concept, reflected citizens' inner propensity to trust overall. Further, I developed measures for four distinct subtypes, reflecting citizens' trust assessments within both interpersonal and institutional contexts. In the current chapter, I build on this result, as I develop a typology of citizens based on their patterns of trust. Directly anchored in the measurement model, the patterns are made up of a value of general trust, in addition to values of the four subtypes, that is, in-group and out-group trust, and trust in political and impartial institutions.

Though highly complementary, the main difference between the measurement model and the current typology is that I am switching from a variable-centred to a person-centred approach (Morin et al., 2017). As such, while the measurement model grouped together *variables* to form latent factors of trust, the typology will group together *people* with similar values across these factors, i.e. with similar patterns of trust. The person-centred approach is thus heterogeneous. Rather than studying trust as a unified variable, which collectively moves up or down, I study people, as I explore how different types of citizens trust in different ways. Compared to previous person-centred studies on trust, notably Hu & Yin (2022), Ruelens & Nicaise (2020) and Wu & Wilkes (2018), I emphasise the advantages of employing a robust measurement model as the starting point, rather than developing typologies directly based on survey items. With this intermediate step, particularly the development of a hierarchical measure, I am able to explore patterns that explicitly disaggregate citizens' general, or overall, level of trust, from their trust assessments within

specific contexts. Related, while the previous studies focused solely on institutional trust, the typology developed in this chapter is the first to include *both* interpersonal *and* institutional trust in the patterns.

Overall, with the close link between the previous measurement model and the current typology, I am employing a recent methodological approach put forward by psychologists Morin, Boudrias, et al. (2016). Over the course of several papers, Morin and colleagues concluded that ‘person-centred analyses need to be clearly anchored in the results of preliminary variable-centred analyses’, i.e. in the most appropriate measurement model (Morin et al., 2017, p. 395). Specifically, they argue that multidimensional concepts are likely to be best represented by a hierarchical measurement model, as I have confirmed is the case for trust. Failing to account for this will subsequently lead to obscured person-centred typologies, where differences in the patterns cannot be properly disaggregated (Morin, Boudrias, et al., 2016; Morin et al., 2017; Morin & Marsh, 2015). The authors coined their work ‘methodological-substantive synergies’, advocating for a scholarly approach that combines cutting-edge methodology with complex substantive issues (Marsh & Hau, 2007). While they mainly focused on topics within psychology, I show that the approach has strong potential to advance the study of trust.

Methodologically, the typology also represents a shift from a deductive to an inductive research approach. By construction, the measurement model was confirmatory, as I was testing the empirical dimensionality of trust based on the conceptual framework of chapter 2. The typology, on the other hand, is entirely exploratory. Using latent profile analysis (LPA), I estimate models successively with an increasing number of types. I then compare the resulting model fit criteria and goodness-of-fit indices, in order to inductively establish the model with the most optimal number of types. Based on the outcome, it is then up to the researcher to interpret and label the types appropriately (Collins & Lanza, 2010). Thus, while it is a fully data-driven method, the interpretation of the optimal typology should be theoretically justified, thereby enhancing its use and substantive value (Marsh et al., 2009).

For a typology of trust, I specifically introduce an overall distinction between stable and volatile patterns. I argue that the patterns can be linked to two distinct conceptual

understandings in the literature, as introduced in chapter 2 as part of my conceptual analysis. On the one hand, within psychological accounts of trust, the concept is defined as an inner propensity, resembling a core personality trait (Misztal, 1996; Uslaner, 2002). As such, citizens with a psychological understanding of trust should display stable patterns. On the other hand, trust has been defined as a rational calculation, which depends on the situation at hand, and can consequently be updated much more often (Hardin, 2002). Citizens with a rational understanding of the concept should thus display patterns characterised by higher degrees of volatility.

As I am directly using the factor scores of the measurement model as inputs in the typology, it naturally follows that the scope remains unchanged from the previous chapter. As such, the typology provides valuable insights into the way trust works and is understood by the people in individualistic, developed democracies. The importance of studying comparable individuals is arguably even greater in inductive research. As a data-driven typology, the outcome is entirely dependent on the inputs chosen by the researcher, that is, on the group of people that classifies as being within my scope. Put differently, it is highly unlikely that the same patterns of trust, and the optimal number of types, would appear if the model was based on a fundamentally different group of people. Thus, the goal of the typology is not to develop a universally generalisable result, but rather to study the heterogeneity of a defined population<sup>11</sup>.

I ultimately find evidence for an optimal typology with five types of citizens, who trust in five different ways. The interpretation is based on three main aspects of the patterns, particularly their differences in shape (i.e. the combination of the different trust levels in the pattern), elevation (i.e. the average trust level of the pattern), and scatter (i.e. the variability of the pattern) (Meyer & Morin, 2016). Discussing connections between relevant parts of the literature and the pattern of each type, I label them as follows: low trusters, mid-level trusters, institutional trusters, in-group trusters, and out-group trusters.

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<sup>11</sup> A central avenue for future research could then be to conduct similar studies in other parts of the world, and examine how and where the typology would differ.

Prior to diving into this interpretation, I elaborate on the overall benefits of a heterogeneous approach to trust research and outline relevant previous literature. I then describe the method, latent profile analysis, in greater detail, before arguing for the optimality of the five-type model. Following a detailed discussion of the interpretation and labelling of the types, the final section concludes.

#### 4.1 A heterogeneous approach to the study of trust

At present, the public narrative around trust is dominated by reports of a ‘crisis’, an ‘erosion’, ‘efforts to rebuild’, and downright ‘distrust’ (Edelman, 2022; OECD, 2022b; The Guardian, 2022; United Nations, 2021). Common for the reports is an overarching focus on trends of trust in the aggregate, which also holds true for the majority of trust research. When trust is studied as a collective variable, it is implicitly assumed that the population is homogeneous, such that all citizens trust in the same way. For news-related and scholarly accounts alike, the emphasis consequently lies on studying average levels of trust in society. However, as argued by Wu & Wilkes (2018), ‘what matters is not only *how much* people trust but also *how* people trust [...] The pattern of trust (the how question) defines the meaning of the level of trust (the how much question)’ (p. 111). Building on their work, and on other person-centred studies of trust (Hu & Yin, 2022; Norris et al., 2019; Ruelens & Nicaise, 2020), I thus motivate the typology of this chapter with the overall argument that in order to understand what happens to trust collectively, one must first understand *how citizens trust*.

Broadly speaking, the typology thereby breaks with a dominant, average-based approach to trust research, as I answer the ‘how question’ with a heterogeneous methodological approach. As such, I empirically challenge the assumption that all citizens trust in the same way, or relatedly, *understand* trust in the same way. Instead, I argue that observed changes in average levels of trust should be viewed as a ‘black box’, which needs to be unpacked by exploring the latent heterogeneity of trust patterns in the population. As a central implication, the typology developed here should caution against adopting universal solutions to lower levels of trust, or trust crises. When losses of trust occur overall, it should arguably prompt the question of which *type* of citizen is losing their trust. By acknowledging that citizens trust

in fundamentally different ways, it centrally matters whether a change in the trust levels is driven by citizens who usually display volatility in their trust decisions, or if it is rather driven by citizens characterised by more stable patterns of trust.

As such, I argue that identifying the type of citizen is essential to understanding the severity of a change, and to uncover the range of possible solutions that can restore trust to its desired levels. Concretely, I argue that changes in trust levels as a whole are less severe, if they are driven by citizens with volatile patterns of trust. Among these types, changes are to be expected, as they likely reflect rational trust assessments that are, by nature, updated more frequently. In comparison, significant changes in the trust levels of citizens with stable patterns might be more worrying, as the patterns could reflect trust assessments that are psychological by nature, and thereby expected to be more consistent over time.

More generally, by connecting the patterns of the typology to different conceptual understandings of trust, I argue that the heterogeneous approach, in itself, bridges a gap between the empirical and conceptual literature. Rather than defining the concept as either rational or psychological, the approach allows me to view these diverging scholarly definitions as complementary; they represent different types of citizens. This is a unique attribute of a person-centred study. As discussed by Meyer & Morin (2016, p. 1), a key benefit of this approach is that 'individuals are treated in a more holistic fashion by focusing on a system of variables taken in combination rather than in isolation'. Thus, by letting patterns of trust take centre stage, I am able to connect my empirical findings to the conceptual literature in a differentiated way. This stands in contrast to a variable-centred study, where one would have to make universal assumptions about the meaning of trust in the population. Instead, the holistic study of people and their trust combinations offers a more flexible perspective on this, specifically by allowing the meaning of the concept to depend on the type of citizen at hand.

### **Person-centred studies in the trust literature**

Though still far less common than the variable-centred approach, person-centred studies have generally grown more prominent in the social sciences in recent years (Ferguson et

al., 2020). As such, scholars are increasingly acknowledging the benefits of exploring heterogeneous public attitudes in the population, with typologies covering topics that range from democratic ideals (Oser & Hooghe, 2018) to motivations for college hook-ups (Thorpe & Kuperberg, 2021). On the topic of trust, however, person-centred studies are still relatively few, and they are limited to institutional trust specifically.

Wu & Wilkes (2018) were the first to introduce a typology of citizens based on their patterns of institutional trust. In their paper, they introduced and tested an a priori model with three distinct response patterns. The patterns reflected citizens' responses to 10 survey items, asking about their level of trust towards different institutions<sup>12</sup>. As such, in contrast to the current study, the authors took a confirmatory approach, as they divided citizens into one of three types, based strictly on the variability of their response patterns: 'cynics' and 'compliers' were characterised by no variability in their patterns, displaying either consistently low or high trust towards all institutions. 'Critical trusters' were defined to reflect all patterns with variability, with the argument that variability implies specific and critical assessments of each institution in question. While Wu & Wilkes (2018) did find empirical support for their theoretical model, their operationalisation has since been criticised for being 'too strict' (Hu & Yin, 2022, p. 80). Essentially, the binary distinction between whether or not patterns have variability greatly restricts the level of detail that the typology can provide.

In subsequent studies by Norris et al. (2019) and Hu & Yin (2022), the result by Wu & Wilkes (2018) was therefore expanded upon, as both papers presented four-fold typologies instead. Specifically, by adding a fourth type, the authors were able to include more deliberate, though somewhat diverging, definitions of the 'critical' type. For Norris et al. (2019), the critical type was divided into 'skeptical trusters' and 'skeptical mistrusters'. Thus, while still representing patterns with variability, the authors distinguished between those with predominantly high or low assessments of institutional trust overall. In addition to the 'skeptical' citizens, the typology by Norris et al. (2019) also included types labelled 'cynics' and 'credulous'. Characterised by very low variability in their patterns, these types corresponded to Wu & Wilkes' (2018) 'cynics' and 'compliers' respectively. While 'cynics' and 'compliers' were also identified in the typology by Hu & Yin (2022), their study

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<sup>12</sup> Based on data from the World Values Survey (2005-2014) and the General Social Survey (1972-2014).

challenged the validity of pattern variability as the only defining criteria of 'critical', or 'skeptical', citizens. As such, rather than studying patterns directly comprised of trust in different institutions, they based their types on different combinations of specific and diffuse support. Drawing clear parallels to Easton's (1965, 1975) theory of political support, and to Norris' (1999) influential study of critical citizenry, Hu & Yin (2022) argued that the 'critical' type should be defined as citizens with the unique combination of high diffuse support and low specific support. Put differently, they argued that critical citizens are supportive of the political system as a whole, but not necessarily satisfied with the performance of specific institutions (Hu & Yin, 2022).

In sum, all three typologies of institutional trust include types with consistently low and high patterns, which are generally interpreted in a negative manner. With labels like cynics, compliants and credulous, the stable patterns of trust arguably appear undesirable, as the opposition to the 'good' and thoughtful critical citizens. However, while the critical label is attached to citizens with volatile patterns in all three studies, disagreements about their nature and interpretation evidently remain.

With the typology developed in this chapter, I suggest a different approach to the interpretation of stable vs. volatile patterns. Specifically, I argue against making direct links between pattern variability and the individual characteristics of the corresponding citizens, be it their cynicism, credulousness or scepticism. To make accurate statements about the reasons or explanations for the patterns, one would need to explicitly introduce external variables into the model, and I take on this challenge in the next chapter. However, since the typology is based solely on citizens' assessments of different forms of trust, I advocate for a more general interpretation of the patterns. I thus emphasise the stable, psychological conceptualisation of trust on the one hand, and the more volatile, rational conceptualisation on the other. I argue that the latter must naturally translate into patterns of trust with different levels of variability. As such, I do not draw conclusions about the citizens beyond their conceptual understandings. The interpretations are thereby neither negatively nor positively loaded, but merely reflect two different ways of making trust decisions: psychological and stable, or rational and volatile.



By employing this approach, I am also addressing a recent theory on scepticism, developed by Norris (2022). Here, the author highlighted that to reliably identify sceptical citizens, survey responses are, regardless of their variability, not enough on their own. Instead, a sceptical assessment of trust must display both external and internal validity, which is captured by introducing explanatory variables into the model. Specifically, the author noted that scepticism is externally valid if an assessment of trust correlates with objective benchmarks of e.g. performance, while it is internally valid if an assessment of trust reflects a process of internal deliberation (Norris, 2022, p. 42). The latter is determined by indicators of higher information processing skills and reflective thinking, e.g. by level of education. In her study, Norris (2022) further suggested an alternative explanation for a stable pattern of high levels of trust, which does not include negative associations about citizens' credulousness or naivety. Instead, a consistently high response pattern could also simply be explained by nationality, if most agents in a citizen's country, e.g. Sweden or Denmark, are, in fact, trustworthy (ibid, p. 32). As such, Norris (2022) arguably also challenged the negatively loaded interpretations of stable patterns, and, similar to her argument on scepticism, the alternative explanation requires external information about the citizens of each type to be confirmed. She does not, however, develop a new empirical typology in her project, thereby keeping the argument purely theoretical.

I build on her argument in this chapter by taking on the empirical challenge. Presenting a typology that breaks with current interpretations of citizens' patterns of trust, I argue instead that the patterns can be tied to different conceptual understandings. Additionally, the typology spans trust in all contexts: interpersonal, institutional, and also the new measure of general trust developed in chapter 3. A key difference, when compared to the previous person-centred studies discussed, is thus my expansion of the patterns, which allows me to empirically study the concept of trust as a whole. I further argue that the inclusion of all kinds of trust strengthens the link to the conceptual literature, particularly the psychological account. If a stable pattern of trust is connected to a type of citizen with a psychological understanding of the concept, it must be true that their trust levels are consistent across both the interpersonal and institutional contexts. Naturally, it then also follows that their levels of interpersonal and institutional trust are on par with their level of general trust.

Finally, while the interpretation of my typology is informed by the literature, it stands in contrast to the previous studies by being entirely exploratory in nature. As such, I am not testing the existence of pre-defined types of citizens. Using latent profile analysis, I am instead driven by the data, as the method inductively searches for the most optimal number of types. Once they have been established, I subsequently analyse the shapes, levels, and variabilities of the resulting patterns. I elaborate on the technical aspects of the method in the next section.

## 4.2 The method: Latent profile analysis (LPA)

Overall, the basis for the methodological approaches used throughout this thesis is that trust is a latent concept. It is inferred indirectly from observed indicators (Finch & French, 2015). Both the previous bifactor-exploratory structural equation model (bifactor-ESEM), and the current latent profile analysis (LPA), can thus be described as latent variable modelling techniques, designed to uncover the latent variable in question. The main difference, then, is that the bifactor-ESEM uncovered relationships among variables, thereby creating factors of trust, whereas the LPA will uncover relationships among individuals, thereby creating types of citizens (Morin et al., 2017). From this distinction, it also follows that the bifactor-ESEM was concerned with *continuous* latent variables, i.e. the factor scores, while the LPA is concerned with a *discrete* latent variable, i.e. the different types of citizens. Table 4.1 summarises and compares the latent variable models employed in the previous and the current chapter.

Table 4.1: Comparison of the two latent variable models used in chapters 3 and 4 respectively

	<b>Bifactor-ESEM</b> (chapter 3)	<b>LPA</b> (chapter 4)
<i>Approach</i>	Variable-centred and confirmatory	Person-centred and exploratory
<i>Observed indicators</i>	Continuous: Survey items	Continuous: Factor scores
<i>Latent variables</i>	Continuous: Factor scores	Discrete: Types

Overall, each latent group uncovered with the method of LPA shares ‘a meaningful and interpretable pattern of responses on the measures of interest’ (Ferguson et al., 2020, p. 459). While these measures have most commonly referred to survey items, the typology developed in this chapter stands out by using factor scores from the previous measurement model instead. As such, the observed variables for LPA in table 4.1 are the latent variables already uncovered by the bifactor-ESEM. The two latent variable models are thus closely related and follow the methodological approach of Morin and colleagues discussed in earlier sections (Meyer & Morin, 2016; Morin, Boudrias, et al., 2016; Morin et al., 2017).

Characterised by discrete latent variables, LPA classifies as a specific kind of latent variable modelling technique called mixture modelling (Oberski, 2016). According to Oberski (2016, p. 275), ‘mixture modelling is the art of unscrambling eggs: it recovers hidden groups from observed data’. It is therefore particularly useful when exploring a phenomenon suspected to work differently for different people, as the hidden groups reflect the latent heterogeneity in the population (ibid). They are not directly observable in the data, but can be uncovered with the method of LPA. As such, it is comparable to a clustering technique, but rests on a different set of statistical assumptions. While a cluster analysis merely analyses the distance between individuals to identify relevant types, LPA incorporates a level of uncertainty when placing individuals into the types (Oberski, 2016). Specifically, each individual is assigned a probability of belonging to each type in the model. As a probabilistic framework, it is therefore more flexible, and this feature has made the method gain increasing scholarly popularity (Fosnacht et al., 2018).

### **Model specification**

Mixture models generally, and LPA specifically, can be described with a within-class model and a between-class model<sup>13</sup> (Sterba, 2013). First, assume that there are  $J$  observed variables  $y_1, \dots, y_J$  and  $K$  classes, or types, of the latent classification variable  $c$ . Then for person  $i$  in type  $k$ , the within-class model can be written as,

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<sup>13</sup> I adopt the terms ‘within-class’ and ‘between-class’ from the methodological literature. Here, ‘class’, ‘type’, and ‘profile’ are used as synonyms to describe each group of people characterised by a distinct pattern (Masyn, 2013; Sterba, 2013).

$$y_{ij} = \mu_j^{(k)} + \varepsilon_{ij} \quad (1)$$

$$\varepsilon_{ij} \sim N(0, \sigma_j^{2(k)}) \quad (2)$$

Where  $\mu_j^{(k)}$  is the mean and  $\sigma_j^{2(k)}$  is the variance for each observed variable  $y_j$  in type  $k$  (Masyn, 2013; Sterba, 2013). As such, the within-class model implies that each type in the typology is characterised by a distinct value of the mean and variance for each observed variable. In combination, these values comprise the shared pattern of the type. Further, as stated with equation 2, the observed variables are assumed to be normally distributed within the types.

The between-class model then describes the probability that person  $i$  will be a member of type  $k$ . This is defined with a multinomial logistic parameterization (Sterba, 2013):

$$p(c_i = k) = \exp(\omega^{(k)}) / \sum_{k=1}^K \exp(\omega^{(k)}) \quad (3)$$

Where  $\omega^{(k)}$  is the multinomial intercept and  $c_i = k$  if person  $i$  belongs to type  $k$  (Ferguson et al., 2020; Masyn, 2013). To ensure full identification of the model, the multinomial intercept for the final class  $K$  is set to 0 (Sterba, 2013).

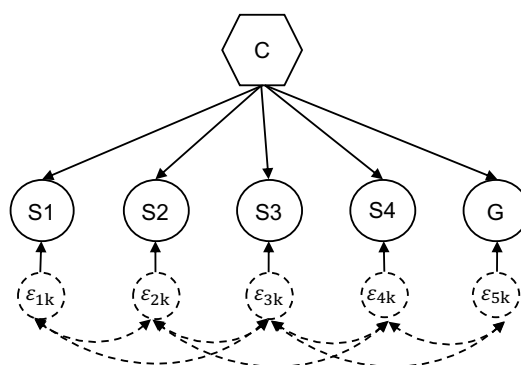
Following the estimation of the within-class and the between-class models, LPA then estimates a posterior probability for each person  $i$ , which is the probability of being assigned membership in a specific type, given their scores on the set of observed variables. This is calculated for each individual in each of the possible types, and therefore precisely accounts for the uncertainty of their classification: If an individual's posterior probability is close to 1 for a certain type, this indicates a high probability that they are a member of this type. As such, the more evenly the probabilities are distributed across the types for an individual, the harder it is to place them within one of the identified types. Highly distinctive posterior probabilities are therefore desirable, as they allow a clearer divide between the people in each type (Ferguson et al., 2020).

By identifying people with shared patterns, LPA further allows the detection of more complex, or differentiated, associations between the observed variables (Meyer & Morin, 2016). In contrast to the variable-centred approach, where associations between variables can only be studied on average, the holistic, person-centred approach of LPA suggests that the observed variables might be associated differently for different people. Specifically, LPA assumes that the latent classification variable  $c$  explains these different associations. This is captured by the ‘conditional independence assumption’ (Muthén, 2001, p. 3). The assumption centrally states that once the latent classification variable is accounted for, the observed variables should be independent of each other within each type. In short, the method assumes that the type explains the pattern.

I conclude this section with a graphical representation of the LPA model in figure 4.1. The figure is based on a generic LPA diagram introduced by Masyn (2013, p. 585), but has been adapted to represent the model developed in the current chapter. As such, the latent categorical variable  $c$  is directly linked to five observed variables, i.e. the four specific factors (S1-S4) and the general factor (G) from the measurement model of the previous chapter. Further, the figure includes type-specific residual terms ( $\varepsilon_k$ ) to indicate that the within-class variance of the observed variables may differ across the classes, or types, in addition to their mean values (Masyn, 2013).

Figure 4.1: Graphical representation of the LPA model:

- S1-S4 and G: The specific factors and the general factor of the measurement model, i.e. the observed variables of the LPA (denoted by  $y_{ij}$  in the equation 1 above)
- C: The discrete latent variable, i.e. the types of citizens (denoted by  $c_i$  in equation 3 above)
- Unidirectional full arrows: Direct (causal) relationships
- Bidirectional dotted arrows: Non-direct (correlational) relationships



### 4.3 Empirical results

In this section, I present the typology of citizens based on their patterns of trust. I start by presenting descriptive statistics for the observed variables in table 4.2, particularly their Pearson correlations, means and standard deviations. As previously discussed, the observed variables are factor scores from the measurement model of chapter 3, which means they each comprise responses to three survey items in combination. To account for measurement errors, the survey items that displayed higher factor loadings in the measurement model are deemed more reliable, and consequently given more weight in the relevant factor score (Morin, Boudrias, et al., 2016). The distributions of the variables are all approximately normal.

Table 4.2: Descriptive statistics for the observed variables: Pearson correlations, means, and standard deviations

Observed variables	1	2	3	4	5
<b>1. General trust</b>	-	**	**	**	**
<b>2. In-group trust</b>	0.192*	-	**	**	**
<b>3. Out-group trust</b>	0.259*	0.126*	-	**	**
<b>4. Trust in political institutions</b>	0.256*	-0.169*	-0.076*	-	**
<b>5. Trust in impartial institutions</b>	0.157*	-0.159*	-0.198*	-0.100*	-
<b>Mean</b>	0.238	0.127	0.017	0.113	-0.112
<b>Standard deviation</b>	0.830	0.649	0.802	0.756	0.666

\*statistically significant with  $p < 0.05$

When the factor scores were created, missing values of the survey items were handled with pairwise deletion<sup>14</sup>. As a result, they are already free from missing values. The latent profile analyses are thus based on 35,696 observations. As was the case with the measurement model specifically, and is best practice for latent variable models generally, the analyses are conducted in the software Mplus (Muthén & Muthén, 1998-2017)<sup>15</sup>.

<sup>14</sup> The choice of pairwise deletion was justified in chapter 3.

<sup>15</sup> The Mplus code used for the optimal model can be found in appendix B.

## Finding the optimal typology

To establish the most optimal typology, I exploratorily estimate LPA models with an increasing number of types. The models are estimated with a maximum likelihood estimator with robust standard errors, and to address the issue of local maxima, 2000 random sets of starting values are used in all estimations (Marsh et al., 2009). Both the means and the variances of the observed variables are freely estimated across all types. Several simulation studies have confirmed that this leads to the most efficient and accurate representation of the data (Mäkikangas et al., 2018; Peugh & Fan, 2013).

Since the typology is not based on specific hypotheses about the number or the nature of the types, the selection of the optimal model requires an assessment of the statistical model fit information, combined with a principle of parsimony, and a substantive evaluation of the interpretability of the types (Masyn, 2013). Table 4.3 compares the model fit information of LPA models estimated with 1 to 7 types. In addition to the maximised loglikelihood  $LL$  and the number of free parameters  $p$  estimated in each model, the table includes three information criteria and one measure of classification certainty. The information criteria are given by the Bayesian Information Criterion (BIC), the Sample-Adjusted BIC (SABIC), and the Akaike's Information Criterion (AIC). Common for all three is that they can be expressed as follows (Masyn, 2013):

$$-2LL + \text{penalty} \tag{4}$$

As such, they are a function of the maximised loglikelihood  $LL$  and a penalty component, which measures the complexity of the model and is based on the number of free parameters  $p$  and/or the sample size  $n$ . The criteria thereby recognize that although the model fit will generally be improved by adding parameters, it comes at the cost of parsimony (Masyn, 2013, p. 568). Put differently, the penalty component discourages overfitting of a model (Tein et al., 2013). Generally speaking, the information criteria will favour models with higher values of the loglikelihood and a relatively low number of parameters, and they are scaled such that a lower value overall represents a better model fit (Tein et al., 2013). Specifically, the BIC is then defined as (Schwarz, 1978):

$$-2LL + p \log(n) \tag{5}$$

The SABIC is a modified version of the BIC, which increases the penalty of the sample size. It is defined as (Sclove, 1987):

$$-2LL + p \log\left(\frac{n+2}{24}\right) \tag{6}$$

As such, both the BIC and the SABIC include an adjustment for sample size, and simulation studies have confirmed that they are the most accurate criteria to assess the fit of mixture models (Nylund et al., 2007; Tein et al., 2013). In comparison, the AIC is defined as (Akaike, 1987):

$$-2LL + 2p \tag{7}$$

Since the AIC does not include an adjustment for sample size as part of its penalty component, the accuracy of the criterion has been shown to decrease as the sample size increases (Nylund et al., 2007).

While a good model should have comparably low values of the information criteria, none of them are guaranteed to arrive at a single lowest value when comparing LPA models with an increasing number of types (Masyn, 2013). When this is the case, one should assess when the models start to show diminishing gains in the model fit (ibid). As shown in table 4.3, all three information criteria show great improvements from one to five types, but from here, the values begin to stagnate. As more free parameters are added to the models with six and seven types, the criteria continue to show some improvements in model fit, but the marginal gain is dropping. Graphically, such developments are usually assessed with ‘elbow plots’, which are included in figure 4.2. The figure shows an angle, or an ‘elbow’, for the values of all three information criteria after the model with five types. I therefore conclude that the values, although subsequently decreasing, meet the ‘elbow criteria’ with the five-type model (Masyn, 2013, p. 572). At this point, the model has arguably reached the most optimal trade-off between a high loglikelihood value and a relatively low number of free parameters. As



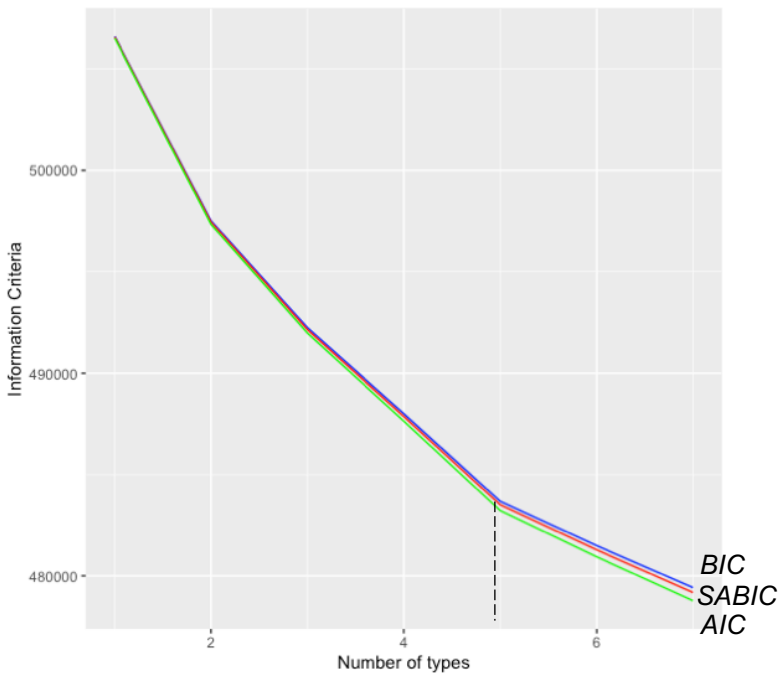
such, the five-type model (marked in bold in table 4.3) achieves the best relative level of parsimony overall.

Additionally, the final column of table 4.3 includes a measure of classification certainty, i.e. entropy (Celeux & Soromenho, 1996). Entropy systematically summarises the posterior probabilities across all types and individuals for each model. It can therefore be viewed as an index that describes the overall precision of classification, i.e. how well the model separates the data into the types (Ferguson et al., 2020; Masyn, 2013). Ranging from 0 to 1, a low entropy value indicates that the types might not be sufficiently well separated, and at the extreme, an entropy of 0 means that the posterior classification is ‘no better than random guessing’ (Masyn, 2013, p. 569). At the other end, an entropy of 1 means that the posterior classification is perfect, such that all individuals belong to one class only with 100% certainty (ibid). As such, a higher value of the entropy generally indicates a better model fit, as it represents a clearer divide between the types and the corresponding classification of the individuals (Tein et al., 2013). In table 4.3, the five-type model has the highest value of entropy. Compared to the other LPA models, it therefore has the highest posterior classification certainty. In combination with the assessment of the information criteria and the parsimony principle outlined above, the entropy further substantiates the five-type model as the most optimal solution from a statistical standpoint.

*Table 4.3: Model fit information from latent profile analyses with 1 to 7 types*

<i>No. of types</i>	<i>Loglikelihood (LL)</i>	<i>No. of free parameters (p)</i>	<i>BIC</i>	<i>SABIC</i>	<i>AIC</i>	<i>Entropy</i>
1	-253252	10	506609	506577	506524	NA
2	-248641	21	497503	497436	497324	0.733
3	-245954	32	492243	492142	491972	0.716
4	-243778	43	488007	487871	487643	0.816
<b>5</b>	<b>-241559</b>	<b>54</b>	<b>483684</b>	<b>483513</b>	<b>483226</b>	<b>0.824</b>
6	-240406	65	481493	481286	480941	0.727
7	-239311	76	479420	479179	478776	0.749

Figure 4.2: Elbow plot of the information criteria (AIC, BIC, SABIC)



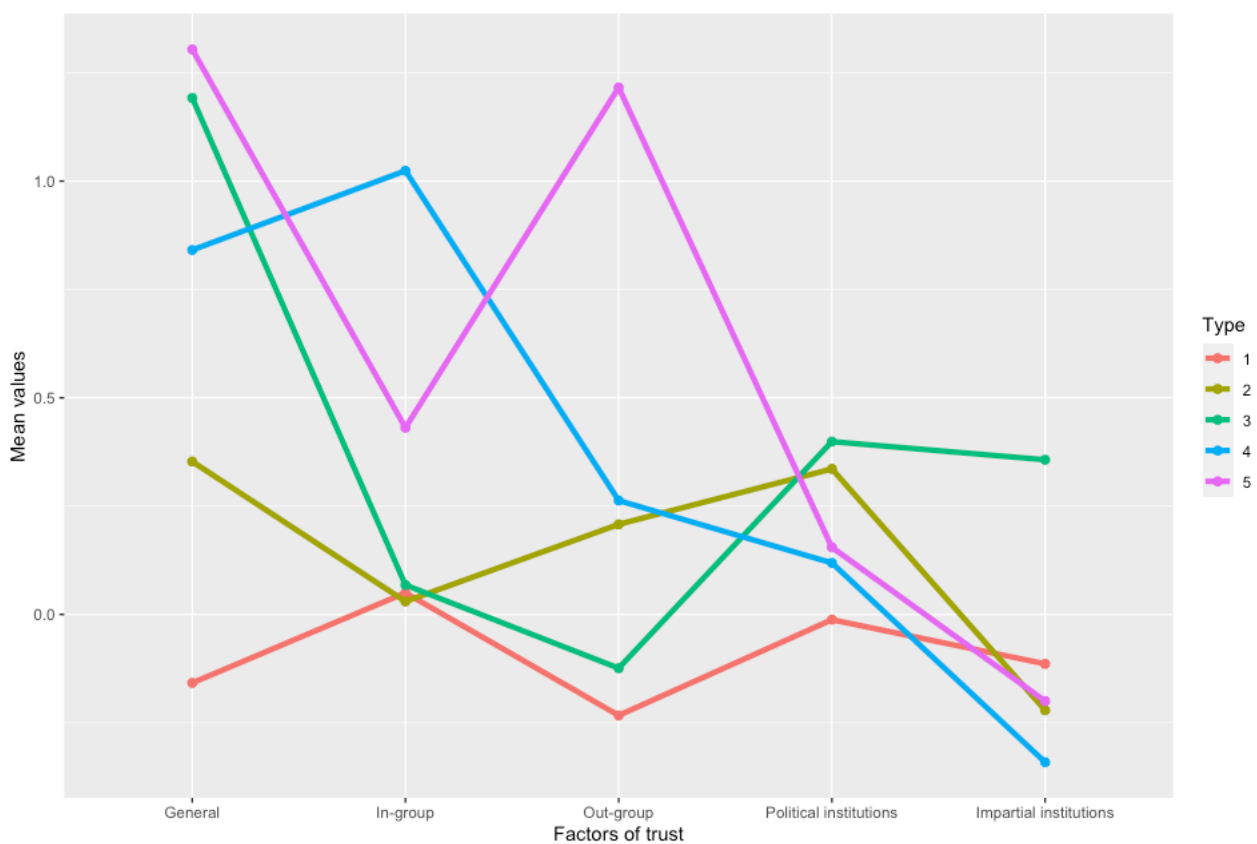
As a final step, and following best practice, I compare the patterns of the five-type solution to its adjacent solutions with four and six types (Morin & Marsh, 2015). This is to explore whether the five-type solution also appears to be the most meaningful typology from a substantive perspective. Given the low entropy value of the six-type solution, however, I eliminate this immediately, as I will use the final types as dependent variables in the next chapter. Generally speaking, an entropy below 0.8 is thought to introduce a problematic level of uncertainty, when assigning people to their most likely type (Ferguson et al., 2020; Nylund et al., 2007). Consequently, I would expect biased results when subsequently relating the typology to external variables, i.e. to characteristics of the individuals within each type. I therefore compare the solutions with four and five types, and I find that the five-type solution is substantively superior. In particular, it uncovers an additional type of citizen, representing 9% of the data. This fifth type has a clearly differentiated shape, which is characterised by high levels of trust in political and impartial institutions. In the four-type solution, no type shows a distinct pattern of institutional trust, and its biggest type is exactly 9% bigger than in the five-type solution. The fifth type directly appears from the most

dominant type in the four-type solution, thereby adding meaningful substantive information to the final typology<sup>16</sup>.

## Interpreting the typology

With the choice of the five-type model, I now dive into the interpretation, and labelling, of the types. As outlined earlier, each of the five types is characterised by a shared pattern of trust. The patterns consist of distinct mean values across the factors of trust established in the previous chapter: general trust, in-group trust, out-group trust, trust in political institutions and trust in impartial institutions. I start this section with a graphical representation of the typology in figure 4.3. The lines on the figure represent the five patterns of trust, thereby portraying the five types of citizens. For each factor of trust, displayed on the horizontal axis, the figure shows the corresponding mean value for each type.

Figure 4.3: The typology of citizens, characterised by five distinct patterns of trust.



<sup>16</sup> The illustration of the four-type solution can be found in appendix B, figure B.1.

As I interpret and label the typology, I follow a general approach proposed by Cronbach & Gleser (1953), and recently elaborated by Meyer & Morin (2016). Specifically, I focus on three main aspects of the patterns in figure 4.3, which, combined, offer a comprehensive overview of the differences (and similarities) among the five types. First, the patterns can vary by *shape*, that is, by their combination of high and low mean values across the factors of trust. Second, they can vary by *elevation*, reflecting their average trust level overall. The elevation is thereby calculated as the average of the mean values characterising each pattern. Third, the patterns can vary by *scatter*, that is, by their variability, or dispersion, of their mean values. As such, the scatter of a pattern is defined as the standard deviation of its corresponding values (Meyer & Morin, 2016).

Overall, variations in the shapes describe how the patterns differ qualitatively. Each shape comprises a different combination of mean values, which makes it distinct from the others. It is thus entirely up to the researcher to qualitatively assess the characteristics of each shape, and further to decide how distinct shapes can be used to label the corresponding types of citizens. By contrast, variations in the elevation and scatter describe how the patterns differ quantitatively. Both of these aspects can be presented as numeric values, reflecting the mean level and the dispersion of the patterns respectively (Meyer & Morin, 2016; Morin, Boudrias, et al., 2016). In table 4.4, I have included the values of the elevation and scatter for each type. The table also includes the corresponding proportion of the data represented by the type.

Table 4.4: Elevation, scatter and proportion of the data for each of the five types.

<b>Type<sup>17</sup></b>	<b>Elevation (mean)</b>	<b>Scatter (standard deviation)</b>	<b>Proportion of the data</b>
1: Low trusters	-0.09	0.11	58%
2: Mid-level trusters	0.14	0.24	19%
3: Institutional trusters	0.38	0.50	9%
4: In-group trusters	0.38	0.55	5%
5: Out-group trusters	0.58	0.66	9%

<sup>17</sup> I unpack the labelling and interpretation of each type on pp. 94-99.

While shape and elevation of the patterns are commonly used to interpret person-centred typologies in the social science literature (Morin, Boudrias, et al., 2016; Morin et al., 2017), explicitly calculating the scatter appears less often. However, the scatter adds a valuable perspective to a typology based on patterns of trust. Specifically, it offers a numerical distinction between stable and volatile patterns, which can be attached to two fundamentally different conceptual understandings overall. With the interpretation presented here, I thereby make the general argument that a stable pattern implies a type of citizen with a predominantly psychological understanding of trust, while a volatile pattern implies a type of citizen with a predominantly rational understanding of trust. By doing so, I broadly connect the person-centred approach of this chapter to two distinct theoretical accounts in the trust literature.

On the one hand, a theory from social psychology, coined ‘the psychological propensity model’ by Glanville & Paxton (2007), views trust as a core personality trait, thereby making it a highly stable concept (Sztompka, 1999; Uslaner, 2002). As a result, the theory generally expects that ‘all forms of trust are closely associated within the same individual’ (Newton & Zmerli, 2011, p. 173). Within the context of my study, this arguably implies that once a person’s general trust has been accounted for, that is, once it has been established whether a person is fundamentally high or low trusting, their trust level in more specific situations should hardly deviate. Consequently, it translates into a stable pattern of trust. On the other hand, with accounts of trust rooted in rational choice theory, the concept is viewed as a strategic calculation, thereby making it more volatile (Coleman, 1990; Hardin, 2002). Here, it is assumed that trust is mainly based on concrete knowledge and experiences, or, more generally, on the trustworthiness of others (Sztompka, 1999). As a result, as new information comes into play, people are more likely to update their trust assessments, translating into more volatile patterns of trust.

Having established the overall distinction between stable and volatile patterns of trust, which I attach to the psychological and rational strands of the literature respectively, I present a detailed interpretation of the five types of citizens below. As part of the interpretation, I assess and compare the distinct shapes of the patterns, in order to identify defining characteristics of each type, and further to justify the corresponding label.

### *Type 1: Low trusters*

The citizens of type 1 have the most stable pattern of the typology. With a scatter of 0.11, their values for all kinds of trust are roughly at the same level. Further, with an elevation of -0.09, they have the lowest average trust level in the typology. To reflect their combination of low and stable levels of trust, I label citizens of this type *low trusters*.

Centrally, I argue that the stable pattern could indicate that assessments of trust are driven less by the concrete situation at hand, and more by an innate, psychological propensity to trust. As a result, citizens of this type are likely to have a predominantly psychological understanding of the concept. In the previous chapter, I argued that in the underlying measurement model, an individual's propensity to trust is captured by their corresponding value of general trust. As such, for citizens in type 1, trust likely resembles a personality trait. By not displaying significant variability across the specific factors (in-group trust, out-group trust, trust in political institutions and trust in impartial institutions), they are signalling that their level of general trust is a key driver for all of their trust assessments.

In the psychological literature, personality is exactly defined as consistent patterns of attitudes and behaviour, developed early in life through socialisation processes, or even inherited (Norris, 2022). The stable pattern thereby implies that trust is 'sticky', persistent to significant changes, once an overall level has been established (Bergh & Öhrvall, 2018). Within the trust literature specifically, the psychological conceptualisation has mainly been attached to discussions of trust in the interpersonal realm, linking trust in the close social radius, initially from child to parent, to the generalised sense of trust shared among strangers in society (Glanville & Paxton, 2007; Stolle & Nishikawa, 2011). By identifying a stable pattern of trust in a typology spanning both interpersonal and institutional contexts, I have thus found empirical evidence for a psychological understanding of trust more generally. In fact, since type 1 represents 58% of the data, my study suggests that trust is broadly a psychological concept for the majority of citizens in my study.

I argue that this result had not been possible to uncover without the prior development of a bifactor measurement model, explicitly including a measure for general trust. With the

inclusion of the general factor, in addition to the specific factors, I am developing patterns of trust where citizens' overall level of trust, their 'trusting impulse' (Sztompka, 1999), is explicitly disaggregated from their assessments of trust in more specific situations. When a pattern shows little variability, as is the case for type 1, this suggests that the specific factors add little information to the pattern on their own (Morin et al., 2017). Consequently, the stable pattern highlights the importance of including the general factor, acting as an overarching backdrop for all subsequent assessments of trust.

While citizens of type 1 are the lowest trusting overall, I refrain from drawing direct conclusions about their characteristics based on this observation alone. Overall, I expect that their low levels of trust can, to a large extent, be explained by attaching external variables to the typology. I thereby take a different approach to the interpretation compared to previous person-centred studies on trust (Hu & Yin, 2022; Norris et al., 2019; Wu & Wilkes, 2018). Specifically, the studies immediately connected low and stable patterns of trust to cynicism. Considering the relative size of type 1, and the scope of my study, however, it seems highly unlikely that the elevation value of this type automatically signals a dominant tendency of cynicism. A more likely explanation, I argue, is that citizens of type 1 are characterised by socio-demographics and other external variables that are historically linked to lower levels of trust. I examine this in detail in chapter 5.

### *Type 2: Mid-level trusters*

Compared to type 1, citizens of type 2 show a higher average trust level overall, with an elevation of 0.14, and approximately double the variability, with a scatter of 0.24. As such, though still characterised by a degree of variability significantly lower than for types 3 to 5, I make a general distinction between the most stable pattern of type 1, the low trusters, and the more volatile patterns of the other types in the model. I thereby argue that types 2 to 5, to varying extents, display more rational understandings of the concept. Although their level of general trust still sets the tone for whether they are fundamentally high or low trusting, they are more likely to update their specific assessments of trust based on concrete experiences and knowledge about the actors or institutions in the trusting relationship. For citizens of type 2, the level of general trust is roughly situated in the middle of the typology:

not quite as low as for type 1, and not quite as high as for types 3 to 5. The same holds true for their average trust level overall, as indicated by an elevation that is higher than for type 1, but still below the remaining types. I therefore label citizens of type 2 *mid-level trusters*.

I further note that the higher elevation value, as compared to type 1, is mainly driven by higher levels across two specific factors: out-group trust and trust in political institutions. Connecting this back to my conceptual framework of chapter 2, specifically the attribute of distance, citizens in type 2 have comparably more interpersonal trust when the recipient is socially distant, and more institutional trust within a short range, that is, when the recipient is personalised<sup>18</sup>. Taken together, these two factors arguably comprise trust in the 'mid-range'. Citizens of type 2 have comparably lower levels of trust in people in their closest social proximity (e.g. friends and family), and of trust in institutions that are the furthest away from them (e.g. the justice system). Conceptually, they are thereby characterised by their higher levels of trust in situations where the trusting recipient is figuratively located in the mid-range: either socially distant or institutionally close.

### *Type 3: Institutional trusters*

As I move from type 2 to type 3, the scatter is once again doubled, indicating that the dispersion in the pattern of type 3 is 0.50. This is notably driven by a very high level of general trust, as well as the highest levels of trust in both political and impartial institutions, which also translates into a noticeably higher elevation of 0.38. Particularly for trust in impartial institutions, the level is significantly higher than for the other types. Thus, the shape of the pattern for citizens in type 3 implies that they are fundamentally high trusting, but also that they are uniquely characterised by comparably much higher levels of institutional trust. I therefore label them *institutional trusters*.

Given that this is the first typology to include trust within interpersonal and institutional contexts simultaneously, this type of citizen has not previously been discussed or identified in the literature. However, it draws an interesting picture of a non-neglectable group of

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<sup>18</sup> As defined in chapter 2, this refers to situations where one can acquire concrete information about the trust recipient in question. For institutional trust specifically, the personalised recipients include political parties, the government, and the parliament.



people, representing 9% of the data, which displays higher trust towards the political system than towards the people around them. The volatility of their pattern suggests a predominantly rational approach to their trust assessments, or, alternatively, that their high level of general trust does not immediately translate into high levels of trust in more specific contexts, particularly not within the social sphere.

Although not explicitly discussed in the literature, type 3 arguably raises an empirical counterpoint to a well-known account from social capital theory about the relationship between interpersonal and institutional trust (Putnam, 1993, 2000). In his early work, Putnam (1993) argued that the generalised subtype of interpersonal trust, i.e. out-group trust, 'makes democracy work', as it enables the cooperative behaviour necessary for efficient and well-functioning democratic institutions. From this theory, it follows that interpersonal and institutional trust should be closely related, such that a decline in interpersonal trust, by way of declining cooperation, also leads to an erosion of trust in institutions (Putnam, 2000). While the relationship has subsequently been claimed as 'theoretically underspecified' (Nannestad, 2008, p. 429), it remains a key aspect of most empirical research on interpersonal trust (Freitag & Bühlmann, 2009; Newton & Zmerli, 2011, 2017). As illustrated by the pattern of type 3, which will be further emphasised by the patterns of types 4 and 5, the positive relationship is far from evident when studying interpersonal and institutional trust with a person-centred approach. Instead, it appears that for a heterogeneous, democratic population, a significant amount of people display varying and opposite-pointing levels of trust across the interpersonal and institutional contexts.

#### *Type 4: In-group trusters*

Type 4 remains on exactly the same average level of trust as type 3, with an elevation of 0.38. The dispersion of the pattern is slightly higher with a scatter of 0.55. This also makes it the second most volatile pattern in the typology, only exceeded by that of type 5. Citizens in types 4 and 5 have similar levels of institutional trust, which are also on par with types 1 and 2. However, they are characterised by distinct patterns of interpersonal trust. Particularly, for the two specific factors, in-group and out-group trust, the patterns of types 4 and 5 appear as mirror images of each other. As such, what uniquely characterises

citizens of type 4 is their level of in-group trust, which is significantly higher than for any other type in the model. I therefore label them *in-group trusters*. Beyond the trust extended to their immediate social surroundings, citizens of this type generally display lower levels of trust across the specific factors. Notably, though, they also display a fairly high level of general trust. This implies that although the in-group trusters are fundamentally high trusting, this does not travel outside of close, personal relations to any significant extent.

As a result, I argue that type 4 represents a type of citizen that is quite atypical within the scope of my study. As outlined in chapter 3, in individualistic societies, it is generally the case that trust is facilitated beyond immediate familiarity, since the associated norms of independence provide everyone with the incentive to interact with the outside world. Consequently, citizens have less to gain from predominantly trusting the people they know; the opportunities associated with (also) trusting strangers are simply greater (Gheorghiu et al., 2009; Yamagishi & Yamagishi, 1994). With this argument in mind, it therefore makes sense that type 4 comprises the smallest type in the model, representing only 5% of the data.

#### *Type 5: Out-group trusters*

Finally, citizens of type 5 are characterised by the highest average level of trust, with an elevation of 0.58, and by the highest level of dispersion in their pattern, with a scatter of 0.66. Compared to citizens of type 4, they display the contrasting pattern for interpersonal trust, and with a proportion 9% of the data, they represent almost twice as many citizens. Further, citizens in this type are characterised not only by the highest level of general trust in the model, but also by a uniquely high level of out-group trust. Consequently, I label them *out-group trusters*. As a fundamentally highly trusting type, they generally trust their fellow citizens, regardless of personal relations.

In line with the argument by Yamagishi & Yamagishi (1994), this pattern resonates more clearly with individualistic societies, compared to the contrasting pattern of type 4. It therefore makes sense that type 5 also represents a significantly larger proportion of citizens in the model. Rooted in Yamagishi's (2011) emancipation theory of trust, introduced in the

previous chapter, the pattern for citizens in type 5 indicates that they are ‘emancipated’ from the security of closed-knit ties. With the highest level of out-group trust, they are embracing the opportunities of their individualistic societies overall, based on a general belief in the goodwill and trustworthy nature of others.

#### 4.4 Concluding remarks

With the typology developed here, I have identified five types of citizens who trust in five different ways. By taking a person-centred approach, I was able to uncover the latent heterogeneity in the population through distinct patterns of trust. Further, rather than finding common support for a specific theoretical understanding of the concept, the heterogeneity of my methodological approach has allowed me to suggest that different understandings of trust can be connected to different types of citizens.

My study has thereby challenged a dominant, average-based approach to trust research, where the concept tends to be studied as a collective variable under the assumption of a homogeneous population (see Wu & Wilkes, 2018; Ruelens & Nicaise, 2020 for overviews). I argue that my result has interesting implications for how trends of trust should be viewed in the aggregate. In particular, if trust levels are dropping in society as a whole, the typology can provide valuable information about the severity of the change, and about possible solutions to alleviate this. Rather than immediately deeming lower levels of trust as a ‘crisis’, and looking for universal solutions to said crisis, the typology makes it possible to identify *who* is losing trust, and in *what* or *whom* trust is diminishing.

Specifically, one should distinguish between whether changes in trust levels overall are driven by the low trusters, or if they are driven by citizens within one of the types with more volatile patterns. A loss of trust is arguably less severe in the latter case, where citizens are characterised by having more rational understandings of the concept. As such, their trust levels reflect, to a greater extent, a concrete assessment of a specific situation or experience, and will expectedly be updated more frequently. By contrast, the low trusters are expected to display consistent trusting behaviour, and a significant decrease in the trust

levels of this type should be met with greater concern. As an unexpected occurrence, it might signal a deeper societal issue, where citizens are becoming fundamentally less trusting.

Methodologically, the empirical distinction between stable and volatile patterns also acts as validation for the use of a bifactor model of measurement. The stable pattern of the low trusters has confirmed the existence and significance of a well-defined general factor, while the volatile patterns of the additional types confirmed that meaningful specificity remains. As such, for citizens in the final four types, their level of general trust is not enough to understand their trust patterns. Instead, they are more notably characterised by how they assess trust across the specific factors, as depicted by distinct differences in the pattern shapes.

In the next chapter, I deepen the understanding of what characterises citizens within each type, as I attach external variables to the typology. By doing so, I am able to go beyond the interpretation presented in this chapter, which focused on diverging conceptual understandings, and develop more comprehensive profiles of the different types of citizens.

## Chapter 5: Deepening the typology

With the typology developed in the previous chapter, I uncovered five types of citizens with distinct patterns of trust. Based solely on citizens' assessments of trust in different situations, I emphasised a conceptual interpretation of the typology, broadly distinguishing between citizens with a predominantly psychological or rational understanding of the concept. In this chapter, I deepen the typology by exploring how external variables are associated with the citizens of each type. Specifically, I examine four kinds of variables that have been prominently associated with either interpersonal or institutional trust in the literature: socio-demographic variables, i.e. age, gender, and education; psychological variables, i.e. life satisfaction and sense of control over one's life; identity-based variables, i.e. local and national attachment; and finally, political interest. In addition to the variables examined at the individual level, I explore how the five types of citizens are distributed across the 17 democratic societies within my scope.

Given the dominance of variable-centred methodological approaches in the trust literature, current scholarly accounts are limited to how external variables affect levels of trust in the aggregate. In fact, among the few existing person-centred studies of trust, introduced in the previous chapter, it was proposed as a 'logical extension' of the identified typologies to explore associations between the latent types and additional characteristics (Ruelens & Nicaise, 2020, p. 12). The analysis of this chapter is thus the first to examine variables associated with trust within a heterogeneous, person-centred framework. With the heterogeneity of my methodological approach, I am able to explore how the variables relate to the different types of citizens, rather than to average levels of trust. Further, while the literature generally distinguishes between variables associated with either interpersonal or

institutional trust, I uniquely study the two subtypes in combination. I thereby explore how variables previously examined within interpersonal and institutional contexts relate to complete patterns of trust.

Concretely, I employ Welch's analysis of variance (ANOVA) tests and chi-square tests of independence to analyse whether the values or proportions of the external variables differ across the five types (Welch, 1951; Whatley, 2022). I further discuss the magnitude of these differences by reporting the corresponding substantive effect sizes. Several interesting findings appear.

Firstly, the psychological variables have the strongest substantive relevance overall, indicated by having the highest effect sizes of the analysis. As such, the mean values of life satisfaction and sense of control over one's life differ significantly across the five types. Further, I find that citizens who feel less in control tend to display more stable trusting behaviour. This emphasises a psychological understanding of the concept: By feeling less in control, citizens arguably have less incentive to distinguish between different trust decisions, instead applying a similar and stable level of trust to all parts of society.

Secondly, as I compare both the average levels of trust for each type (i.e. the elevation values), and the degrees of volatility in their patterns (i.e. the scatter values), I find a general tendency that the effects of several of the individual variables 'wears off' at higher values. Specifically, while variables that are generally known to be positively associated with trust, such as identity and education, do appear to have lower mean values for types with lower levels of trust on average, this trend diminishes at higher levels. Thus, for the types with the highest values of elevation and scatter in the model, i.e. types 3, 4, and 5, the levels of the individual variables do not always follow a clear trajectory, but show a more nuanced picture of the characteristics of each type.

Given that the variables included in my analysis have not previously been examined in a person-centred study, it is important to note that my findings are neither directly confirming nor challenging the associations established in the literature. Rather, they should be viewed as complementary, offering an alternative perspective on how these variables relate to trust.

## 5.1 Variables associated with trust in the literature

In this section, I justify my choice of external variables by discussing their prominence in the literature. In particular, I discuss how the four kinds of variables – sociodemographic, psychological, identity-based, and political – have been studied in previous empirical research, emphasising their associations to either interpersonal or institutional trust. Having established their scholarly relevance, I can then examine how these variables act, when studied within a person-centred framework. Most generally, I will explore whether the mean values, or proportions, of these variables are significantly different across the five types<sup>19</sup>. Further, I will explore whether the associations proposed by existing literature will change as a result of my heterogeneous approach.

Given that my choice of variables and their expected associations with trust are informed by previous empirical studies, the research approach of this chapter is deductive. This stands in contrast to the approach of chapter 4, where I developed the typology entirely inductively. Further, I emphasise that the associations discussed here hold true for democratic societies specifically. The scope of my analysis thus remains the 17 countries identified as individualistic and fully democratic in chapter 3.

To date, the empirical literature has almost exclusively explored variables associated with *average* levels of trust in the population. Within the framework of my analysis, the clearest point of reference to the literature is therefore the associations between the levels of the external variables and the elevation values of each type, which refers to the average trust level of each pattern. As an example, type 1, the low trusters, are characterised by the lowest elevation value in the typology: they are the lowest trusting citizens overall. Based on the literature, they should thus be expected to also display lower levels of key variables associated with trust, such as education, life satisfaction, or feelings of identity. Thus, following a discussion of each kind of variable in my study, I summarise how these variables are expected to associate with the average levels of trust for the different types of citizens, that is, with the elevation values of the typology. The summaries can be found in tables 5.1-

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<sup>19</sup> Mean values refer to variables that are continuous, while proportions refer to variables that are categorical.

5.4. In addition to the elevation values, however, the types of citizens also differ in the shapes and scatter values of their patterns. Discussions of these additional parameters are extremely limited in the empirical literature, and their connections to the external variables will therefore primarily feature as part of the interpretations of my empirical results.

### **Sociodemographic variables**

As I aim to develop more comprehensive profiles of the different types of citizens, I start by attaching a set of sociodemographic variables. Specifically, I explore how the types of citizens differ in age, gender, level of education, and immigrant status. I elaborate on existing scholarly findings for these variables below.

#### *Level of education*

When discussing influential variables associated with trust, the level of education appears as a natural starting point. This holds true for both interpersonal and institutional contexts. Within the interpersonal context, Uslaner (2008, p. 108) noted that ‘virtually every study of generalized trust, in every setting, has found that education is a powerful predictor of trust’. Uslaner consistently emphasised the important effect of education throughout his prominent work on trust, summarising the mechanism as follows: Higher levels of education broaden our perspectives, enables contact with a wider variety of people, and makes us more tolerant, all of which ultimately leads to higher levels of interpersonal trust (Uslaner, 2002, 2008, 2018). The more open and tolerant worldview developed through education, Uslaner argued, made it an even better predictor than experience or income (Uslaner, 2002, p. 35). The positive association between interpersonal trust and education was also prominent within social capital theory, where individuals with higher levels of education, in addition to higher incomes and higher subjective life satisfaction, were broadly characterised as ‘winners’ of society (Putnam, 2000; later summarised by Zmerli & Newton, 2011). According to Putnam, (2000), this group of people was more likely to have been treated with honesty and respect throughout their lives, and, as a result, expected to display higher levels of interpersonal trust (ibid).



Within the institutional context, recent papers have firmly established a positive association between levels of education and levels of institutional trust (Hakhverdian & Mayne, 2012; Mayne & Hakhverdian, 2017; Ugur-Cinar et al., 2020). In their paper from 2012, Hakhverdian & Mayne made a central distinction between ‘accuracy-inducing’ and ‘norm-inducing’ effects of education (p. 741). On the one hand, institutional trust is, at least to some extent, based on a performance-based evaluation of political institutions. Education enhances citizens’ abilities to acquire and process the information needed to conduct such evaluations, making them more likely to accurately detect whether the institutions are displaying corrupt behaviour that should warrant lower trust. It is thereby accuracy-inducing. On the other hand, and similar to the argument by Uslaner (2008) for interpersonal trust, education has been shown to raise the support for liberal moral values such as equality and tolerance. It is thereby also norm-inducing, making highly educated citizens more likely to praise and reward institutions with well-functioning democratic values and principles (Hakhverdian & Mayne, 2012; confirmed in Mayne & Hakhverdian, 2017). In a paper by Ugur-Cinar et al. (2020), which builds on the results of Hakhverdian & Mayne (2012), the authors describe this positive mechanism in greater detail. Highly educated citizens are not only thought to better comprehend, but also to ‘better appreciate the complexities of the democratic processes’ (Ugur-Cinar et al., 2020, p. 780). Further, they have consistently been shown to express higher political interest and are more likely to actively engage in politics, which ultimately lead them to develop higher levels of institutional trust (ibid, p. 780, see also Mayne & Hakhverdian, 2017).

### *Age and gender*

Overall, age and gender tend to be included as control variables in studies of both interpersonal and institutional trust. The results are generally mixed, showing either small or no effects for both variables (Newton & Zmerli, 2011; Freitag & Ackerman, 2016).

For interpersonal trust, age appears to be the most consistent, appearing with a small, positive effect in large-scale studies by Freitag & Traunmüller (2009), Newton (1999), Newton & Zmerli (2011), and Whiteley (1999). As such, scholarly evidence generally suggests that older citizens are more trusting towards the people around them. Among the

studies mentioned, only one found a significant association between gender and interpersonal trust (Whiteley, 1999). According to Whiteley's (1999) findings, men appeared slightly more trusting than women. As a possible mechanism, the author discussed a hypothesis proposed by Randall (1987), highlighting differences in the male and female experiences during early socialisation. Ultimately, these experiences could lead to differences in male and female willingness to extend interpersonal trust (Whiteley, 1999, p. 37).

For institutional trust, the effect of age and gender appear to be more mixed overall. Freitag & Ackerman (2016) found no significant effects for the two variables. Dalton (2005) interestingly argued for a quadratic effect for age, switching from a negative to a positive association. Most recently, a study by the OECD (2022a) notably did find evidence that older and male citizens tend to be more trusting of institutions. The authors suggested that the gender gap could be explained by structural gender inequality or an underrepresentation of women in politics (OECD, 2022a, section 3.2).

### *Immigrant status*

Overall, it is well-established that there are significant differences in the levels of trust for immigrants and natives (de Vroome et al., 2013). Notably, the effects appear to work in opposite directions for interpersonal and institutional trust.

Within the interpersonal context, the literature has found that immigrants are less trusting than natives (Dinesen, 2012; Ziller, 2017; Ziller & Heizmann, 2020). This so-called 'trust deficit of immigrants' (Dinesen, 2012, p. 505) is generally explained by immigrants tending to have lower socio-economic status, being less well-integrated into social networks, and having higher risks of discrimination (Ziller & Heizmann, 2020, p. 1). In addition to the factors of the destination country, lower levels of interpersonal trust among immigrants have also been linked to influences from the country of origin. Specifically, if immigrants arrive from low-trust cultures, it appears their trust levels will, at least to a certain extent, continue to reflect the trust levels of their home country (Dinesen, 2012).

In contrast to the results for interpersonal trust, immigrants tend to be more trusting than natives within the institutional context (McLaren, 2017; Röder & Mühlau, 2012; Voicu & Tufiş, 2017). In the literature, this difference has generally been explained by a difference in expectations, which, in the case of immigrants, is shaped dually by the situations in their destination country *and* in their country of origin (Röder & Mühlau, 2012, p. 779). In sum, immigrants anchor their current institutional assessments in the past experiences of their home country, and a comparably better situation in their destination country will result in higher institutional trust (Röder & Mühlau, 2012).

I summarise the sociodemographic associations discussed in the literature in table 5.1. In the table, I keep interpersonal and institutional trust separate. This is done to emphasise that not all variables have been studied within both contexts, and if they have, they are not necessarily associated with the two forms of trust in the same way.

Table 5.1: Summary of the associations for the socio-demographic variables

Name of variable	Association with interpersonal trust	Association with Institutional trust	Literature
<i>Education</i>	Positive	Positive	Hakhverdian & Mayne (2012); Mayne & Hakhverdian (2017); Putnam (2000); Ugur-Cinar et al. (2020); Uslaner (2002, 2008, 2018); Zmerli & Newton (2011)
<i>Age</i>	Positive	Mixed/Positive	Freitag & Traunmüller (2009); Newton (1999); Newton & Zmerli (2011); Whiteley (1999); Freitag & Ackerman (2016); Dalton (2005); OECD (2022a)
<i>Gender: Female</i>	Negative	Mixed/Negative	Randall (1987); Whiteley (1999); OECD (2022a)
<i>Immigrant status: Immigrant</i>	Negative	Positive	Dinesen (2012); McLaren (2017); Röder & Mühlau (2012); Voicu & Tufiş (2017); Ziller (2017); Ziller & Heizmann (2020)

## Psychological variables

Overall, if trust is viewed as a primarily psychological concept, then it should be closely related to other psychological indicators<sup>20</sup>, such as feelings of life satisfaction and a sense

<sup>20</sup> In the literature, psychological indicators generally refer to attributes of the individual.

of control over one's life (Norris, 2022, p. 32; Freitag & Traunmüller, 2009). I therefore include these two variables in my analysis. Their relative importance will speak to the strength of the psychological aspect of trust in the typology. In the literature, the variables have only been discussed in the context of interpersonal trust, and I briefly outline their scholarly prominence below.

### *Life satisfaction*

As a core part of Whiteley's (1999) influential empirical work on interpersonal trust and social capital, the author established that 'individuals who are generally happy and satisfied with their lives are more likely to trust other people than individuals who are unhappy or dissatisfied' (p. 30). Life satisfaction has consistently been linked to interpersonal trust as a central part of psychological studies in the literature (Inglehart, 1990; Norris, 2022 for summary; Uslaner, 2002). Described as 'a personality trait' (Whiteley, 1999, p. 30), and a 'broad syndrome of attitudes' (Inglehart, 1990, p. 43), feelings of life satisfaction represent an optimistic worldview, and consequently a higher likelihood of trusting others in general (Uslaner, 2002). Concretely, individuals who view the world in an optimistic way will approach all social interactions more openly, including encounters with strangers (Freitag & Traunmüller, 2009, p. 788). The positive association between life satisfaction and trust thus points to the psychological nature of trust (Norris, 2022).

### *Sense of control*

In their paper on the foundations of interpersonal trust, Freitag & Traunmüller (2009, p. 792) defined a sense of control as 'a psychological predisposition referring to one's immediate life situation' and found evidence that individuals who felt more in control of their lives were also more likely to express higher levels of trust to the people within their social circles. Similar to the argument for life satisfaction, the authors concluded that the positive association indicated a psychological foundation for developing trust. This general argument was further substantiated by Qiang et al. (2021), who emphasised the risky aspect of trust, asserting that a sense of control makes individuals able to afford upholding an optimistic worldview. This likely makes them more trusting overall (Qiang et al., 2021, p. 2). A sense

of control also played a central role in the influential work of Uslaner (2002, p. 33), who specifically argued that individuals with a higher sense of control were also more likely to trust their fellow citizens. I summarise the psychological associations discussed in the literature in table 5.2.

Table 5.2: Summary of the associations for the psychological variables

Name of variable	Association with interpersonal trust	Association with Institutional trust	Literature
<i>Life satisfaction</i>	Positive	-	Freitag & Traunmüller (2009); Inglehart (1990); Norris (2022); Uslaner (2002); Whiteley (1999)
<i>Sense of control</i>	Positive	-	Freitag & Traunmüller (2009); Qiang et al. (2021); Uslaner (2002)

### Identity-based variables

In contrast to the psychological perspective introduced above, the identity-based variables represent a group-based perspective, rooted in the literature of social psychology (Gustavsson & Stendahl, 2020; Platow et al., 2012; Whiteley, 1999). Mainly discussed within the interpersonal context, social psychologist Marilynn Brewer proposed that group membership ‘serves as a rule for defining the boundaries of low-risk interpersonal trust that bypasses the need for personal knowledge and the costs of negotiating reciprocity’ (1981, p. 356). The claim thus indicates that individuals are more likely to trust people with whom they share a sense of identity. The latter strengthens cohesion, generates social acceptance and familiarity, and ultimately reduces the risk of trusting others (Gustavsson & Stendahl, 2020; Lenard & Miller, 2018). In this study, I examine the association between trust and group membership at two levels, as I include indicators of both local and national attachment. The indicators capture the extent to which individuals feel emotionally close to their local community and to their fellow nationals respectively. Combined, they represent the overall argument of social identity, expected to be positively associated to trust.

#### *National attachment*

Within the literature on interpersonal trust and group membership, the effect of national identity, or national attachment, has by far received the most attention (Gustavsson &

Stendahl, 2020; Lenard & Miller, 2018; Reeskens & Wright, 2013). Specifically, recent studies have found positive evidence for national identity as ‘a crucial source of trust in large-scale democracies’ (Gustavsson & Stendahl, 2020, p. 449). The power of national identity broadly rests on an argument of perceived similarity that enables trust to travel beyond one’s immediate social circle (Lenard & Miller, 2018). If individuals view their co-nationals as similar to themselves, it likely primes positive expectations about their behaviour, which ultimately makes the decision to trust them feel less risky (Gustavsson & Stendahl, 2020). This argument holds even for strangers, making national identity a powerful tool for developing and maintaining interpersonal trust in society overall (ibid).

While the empirical relationship between national identity and trust has mainly been explored within the interpersonal realm, a few studies have confirmed that a similar mechanism is at play for institutional trust (Berg & Hjerm, 2010; Gustavsson & Stendahl, 2020). The studies are rooted in the theoretical writings of Easton (1965, 1975). In his work on systems support, Easton (1965) argued for the importance of a shared sense of community, or identity, among the members of a political system. Concretely, he emphasised that ‘unless such identity emerges, the political system itself may never take shape or if it does, it may not survive’ (ibid, p. 176). Berg & Hjerm (2010) and Gustavsson & Stendahl (2020) both confirmed a positive association between national identity and institutional trust in democratic societies.

### *Local attachment*

In comparison to national identity, the related concept of local identity, or local attachment, is studied purely in relation to interpersonal trust (Lenard & Miller, 2018). Concretely, it is measured as closeness to one’s town or city, thus indicating one’s attachment to the local community. While the general mechanism of perceived similarity still holds, local identity is arguably associated primarily to in-group trust, as it represents a more tightly knitted and more exclusive kind of group membership (Foddy et al., 2009). As described in detail in my conceptual chapter, in-group trust was similarly characterised by being more exclusive in nature, reflecting concrete and positive social interactions with the people in one’s immediate circle.

I summarise the identity-based associations discussed in the literature in table 5.3. Given the more limited discussions of local attachment, I emphasise its connection to in-group trust specifically.

Table 5.3: Summary of the associations for the identity-based variables

Name of variable	Association with interpersonal trust	Association with Institutional trust	Literature
<i>National attachment</i>	Positive	Positive	Berg & Hjerm (2010); Easton (1965, 1975); Gustavsson & Stendahl (2020); Lenard & Miller (2018); Reeskens & Wright (2013)
<i>Local attachment</i>	Positive (in-group trust)	-	Foddy et al. (2009); Lenard & Miller (2018)

## Political interest

Generally speaking, the literature on trust distinguishes between social variables, which are associated with interpersonal trust, and political variables, which are associated with institutional trust (see Newton & Zmerli, 2011, p. 175 for excellent summary). In my study, I specifically include a variable of political interest, commonly found to be positively associated with institutional trust (Catterberg & Moreno, 2006; Newton & Zmerli, 2011). Another popular political variable in the literature on trust has been the left-right scale, however I exclude this due to a large number of missing observations in the data set<sup>21</sup>.

The positive association between political interest and institutional trust was a central finding in the empirical work of Catterberg & Moreno (2006), who studied the individual bases of institutional trust overall. According to the authors, ‘those who express an interest in politics tend to be those who actually like politics, tend to be more partisan, and be more politically engaged’ (p. 42). Thus, Catterberg & Moreno (2006) argued that individuals are generally more likely to be in favour of the areas that interested them, such that those who are more politically interested also display higher levels of institutional trust. The positive association

<sup>21</sup> The data set remains the same as in previous chapter: The joint survey by the EVS and the WVS (2017-2020), introduced in detail in chapter 3.

was later confirmed in a large-scale study of trust in democracies by Newton & Zmerli (2011)<sup>22</sup>. Finally, I summarise the association to political interest in table 5.4.

Table 5.4: Summary of the association for the political variable.

Name of variable	Association with interpersonal trust	Association with Institutional trust	Literature
<i>Political interest</i>	-	Positive	Catterberg & Moreno (2006); Newton & Zmerli (2011)

## Country differences

In addition to the individual variables introduced so far, I conduct a subsequent analysis to uncover potential country differences among the types. More specifically, I explore how the five types are distributed within each country. Similar to the literature discussed for the individual variables, studies on the country differences of trust within a person-centred framework are highly limited. However, scholars have addressed country differences in levels of trust overall, studying and comparing the average levels of both interpersonal and institutional trust across the world (Dalton, 2017; Delhey & Newton, 2005; Holmberg & Rothstein, 2020; Norris, 2011; Torcal, 2017).

Focusing on citizens within my scope of 17 individualistic, developed democracies, the literature provides a suggestive ranking of their overall levels of trust. At the core, citizens within Northern European countries – Denmark, Sweden, Norway, Finland – are consistently emphasised to be exceptionally highly trusting compared to the rest of the world (Delhey & Newton, 2005; Holmberg & Rothstein, 2020; Torcal, 2017). For interpersonal trust specifically, the Netherlands and also Canada are further highlighted as persistently high trusting nations, albeit not quite to the same extent as Northern Europe (Delhey & Newton, 2005). In the mid-range, one generally finds the countries of Western Europe, as well as the United States, New Zealand and Australia. Finally, countries of Southern and Eastern Europe tend to rank the lowest (ibid; Torcal 2017).

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<sup>22</sup> While the studies by Catterberg & Moreno (2006) and Newton & Zmerli (2011) found significant evidence for a positive association between political interest and institutional trust, I acknowledge that they may be somewhat outdated, given the current political environment across Europe and in the world. It is unclear how this association has developed more recently, in light of the rise in populism.



Several explanations have been proposed to explain the cross-country differences of trust. Firstly, related to the mechanisms introduced for national identity, countries with higher ethnic homogeneity are more likely to display higher levels of trust (Delhey & Newton, 2005). Higher ethnic homogeneity reflects higher perceived similarity, which has an established positive effect on the levels of trust in society (Lenard & Miller, 2018). Secondly, explanations related to the quality of institutions (Holmberg & Rothstein, 2020). Good governance, low levels of corruption, and high income equality shape the collective experience of society and arguably breed a more trusting environment overall (Delhey & Newton, 2005; Uslaner, 2002, 2018). Thirdly, regarding levels of institutional trust in particular, Norris (2011) highlighted a more rational explanation of institutional performance, whereby trust is, at least to some extent, the result of concrete, economic evaluations of the institutions at hand (also discussed by Torcal, 2017).

Interestingly, while the general ranking of high-to-low trusting countries appear to hold for interpersonal and institutional trust alike, Switzerland emerges as a notable exception within the institutional context (OECD, 2023). According to country-level data collected by the OECD on the levels of trust in government, Switzerland clearly takes the lead, exceeding even the Nordic countries by quite a substantial margin. Discussed as a ‘special case’, Switzerland stands out because, on the one hand it is culturally diverse, suggesting lower levels of trust due to lower levels of perceived similarity, but on the other, it is characterised by a unique political system of direct democracy (Bauer et al., 2018). As such, the high levels of trust in Switzerland are arguably empirical evidence of the power of direct democracy. Even in a culturally diverse society, a direct democracy, as described by Bauer et al., (2018),

*‘...facilitates the creation of a common demos because referendums and the ensuing affirmations of politicians (“the Swiss people has decided”) increase the feeling of belonging to a unified Swiss nation’ (p. 136).*

The Swiss case thus suggests that the type of political system can have important effects on the levels of institutional trust, notably through the channel of creating a strong sense of national identity (Bauer et al., 2018; see also Freitag & Ackermann, 2016).

## 5.2 Data and operationalisations

As I am further exploring the typology developed in the previous chapter, the data set remains the same. In addition to the measures of trust developed and employed in chapters 3 and 4 respectively, I now include a wider set of variables from the joint survey conducted by the European Values Study (EVS) and the World Values Survey (WVS) between 2017 and 2020 (EVS/WVS, 2022). Using an identification variable to uniquely identify the respondents, I am able to match the citizens within each type to their corresponding values of the external variables. Each variable is operationalised with a survey item. Table 5.5 summarises the operationalisations, and further includes additional information deemed relevant to my empirical analysis.

Table 5.5: Operationalisations of the individual variables

<b>Name of variable</b>	<b>Survey item<sup>23</sup></b>	<b>Additional information</b>
<i>Level of education</i>	'What is the highest level of education that you have attained?'	Harmonized using the ISCED 2011 classification scheme (EVS & WVS, 2022). Ranging from 0-8
<i>Age</i>	Age of respondent	-
<i>Gender</i>	Sex of respondent	Recoded, 1 – Female, 0 – Male
<i>Immigrant status<sup>24</sup></i>	EVS: 'Were you born in [COUNTRY]? WVS: 'Were you born in this country or are you an immigrant to this country?'	Recoded, 1 – Yes, 0 – No
<i>Life satisfaction</i>	'All things considered, how satisfied are you with your life as a whole these days?'	Ranging from 1-10
<i>Sense of control</i>	'Some people feel they have completely free choice over their lives, and other people feel that what they do has no real effect on what happens to them. Please use the scale to indicate how much freedom and control you feel you have over the way your life turns out'	Ranging from 1-10
<i>Local attachment</i>	'People have different views about themselves and how they relate to the world. Using this card, would you tell me how close you feel to... your town or city?'	Recoded from 4 to 2 categories (high/low)

<sup>23</sup> All survey items are outlined in the joint variable report (EVS & WVS, 2022)

<sup>24</sup> The wording of this item is slightly different depending on whether the survey was carried out by the EVS or WVS. As my scope includes countries from areas covered by both organisations, I include both versions of the survey item here.

<i>National attachment</i>	'People have different views about themselves and how they relate to the world. Using this card, would you tell me how close you feel to... [COUNTRY]?'	Recoded from 4 to 2 categories (high/low)
<i>Political interest</i>	'How interested would you say you are in politics?'	Recoded from 4 to 2 categories (high/low)

With the recoding of the latter three variables (local attachment, national attachment, and political interest), all categorical variables of my study are dichotomous<sup>25</sup>. For these variables, I explore differences among the types using the chi-square test of independence, which I introduce in greater detail in the next section. I argue that the dichotomy of the variables will ease the interpretations significantly, while still allowing me to make interesting conclusions about the characteristics of each type of citizen in my model. As a final comment on the data, I note that the magnitude of missing observations were relatively low for the chosen variables. I therefore used listwise deletion to deal with these observations, reducing the data set by 3.4% overall.

### 5.3 The methods

Overall, there are different ways of connecting external variables to a latent profile model, each with its own set of advantages and challenges (Mäkikangas et al., 2018; Nylund-Gibson & Masyn, 2016; Vermunt, 2010). Where the different approaches have been compared in the literature, the discussions generally centre around *when* and *how* to include the variables, usually referred to as covariates, in the development of a latent profile model.

In a paper by Nylund-Gibson & Masyn (2016), the authors conducted a simulation study to examine whether covariates should be included from the beginning, i.e. already in the search for the optimal number of types, or if they should be included after the final model had been established. Their results spoke to the latter. As such, according to their simulations, covariates should be included only in a subsequent step, such that the optimal number of types would be established independently. If included too early, the covariates

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<sup>25</sup> In addition to age, I assume *level of education* (9-point scale), *life satisfaction* (10-point scale) and *sense of control* (10-point scale) to be continuous variables. As such, the categorical variables of my study are *gender*, *immigrant status*, *local attachment*, *national attachment*, *political interest*, and subsequently the country differences.

could alter the model development, ultimately leading to an incorrect number of types in the seemingly optimal model (Nylund-Gibson & Masyn, 2016, p. 795). Their analysis thus answered the question of *when* to include covariates, and their recommendation is now common practice in person-centred studies (see Mäkikangas et al., 2018 for summary). The paper by Nylund-Gibson & Masyn (2016) further provided robust empirical support for earlier research on the topic, which had advocated for a similar methodological approach (Asparouhov & Muthén, 2014; Vermunt, 2010). As a result, I follow this recommendation in the current chapter, exploring links to covariates, i.e. to external variables, only after the development of my five-type model in chapter 4.

As for *how* to include covariates in latent profile models, the literature generally appears less consistent, especially across the social science disciplines. Concretely, different studies tend to employ different approaches of varying complexity. The simplest approach can be summarised with the following three steps: 1) Develop the latent profile model, 2) Assign individuals to their most likely type, i.e. the type with the highest posterior probability, and 3) Explore the associations between the individuals within each type and a set of relevant covariates (Vermunt, 2010, p. 450). Given that the posterior probabilities are an explicit part of the estimated model, this approach does not require additional programming or estimation beyond the latent profile model itself. It is thus widely accessible, and clearly divides the population into mutually exclusive types that can be further examined.

However, as described in chapter 4, latent profile analysis is a probabilistic modelling technique, where each individual is assigned a posterior probability of being a member of every type in the model (Oberski, 2016). Their most likely type will then be the one with the highest posterior probability, but the model still accounts for the uncertainty of this classification by estimating complementary probabilities of belonging to the other types. As such, examining individuals based solely on their most likely type inevitably introduces a classification error: The uncertainty of their classification is disregarded (Bolck et al., 2004). In an oft-cited study by Bolck et al. (2004), the authors concretely concluded that disregarding the uncertainty comes with a risk of underestimating the strength of the associations.

More specifically, Bolck et al. (2004) found that the severity of the issue depends on the amount of classification error introduced by the method. If the latent profile model is able to separate individuals clearly into the different types, i.e. if the individual posterior probability is much higher for one type compared to the rest, the resulting classification error will be low. The entropy, which is explicitly estimated as part of the latent profile model, was introduced in chapter 4 as a quantitative measure of the classification certainty (Celeux & Soromenho, 1996). Thus, the higher the entropy of the model, the less amount of classification error will be introduced when working with individuals in their most likely types.

In the case of my current study, the entropy of the latent profile model is 0.824. Within the literature, best practice is that a value above 0.8 indicates high classification certainty (Ferguson et al., 2020; Nylund et al., 2007). As such, while some precision in the analysis will always be lost when disregarding the classification uncertainty of a latent profile model, the issue is less problematic for models with entropy values above 0.8, as is the case here.

Both Vermunt (2010) and Bolck et al. (2004) discuss alternative methods of adding covariates to a latent profile model. In different ways, the methods deal with the classification error of the simple approach, although it arguably comes at the cost of more demanding estimation procedures and more complex interpretations. Furthermore, the simple approach remains common practice in the literature, where several recent studies, particularly in the field of psychology, use hypothesis testing to explore the associations between covariates and individuals allocated to their most likely type (Chen et al., 2019; Huang et al., 2022; Smith, 2022; Tullett-Prado et al., 2023).

The enhanced interpretability, in combination with the high entropy value and the common trend in the literature, ultimately constitute my argument for adopting this approach in my study. The following sections elaborate on the specific statistical tests used to assess how the set of external variables are associated with the different types of citizens.

## Welch's ANOVA

Most generally, an analysis of variance (ANOVA) test compares the means of a continuous variable for two or more groups (Urdan, 2022b). The ANOVA test centrally assumes that the variance of the continuous variable is equal in each of the groups being compared (ibid, p. 119). While the test is highly popular in the social sciences, particularly within the field of psychology, recent scholarly critique calls for an enhanced focus on whether this assumption of homoskedasticity actually holds (Delacre et al., 2019). In their paper, Delacre et al. (2019) note that with empirical data in general, the assumption is very likely to be violated, producing biased results for the ANOVA test. Specifically, a violation can alter both the type I error rate and the statistical power of the test (ibid, p. 1). Based on a number of simulations, the authors confirm that Welch's ANOVA (Welch, 1951), a common alternative to the standard ANOVA test, is robust to unequal variances, making it the recommended approach (Delacre et al., 2019).

In my analysis, I therefore use Welch's ANOVA to compare the mean values across types for the four continuous variables: level of education, age, life satisfaction, and sense of control<sup>26</sup>. More specifically, Welch's ANOVA will test whether the means of each variable are significantly different across the five types of citizens in my model. Each test will provide an F-value, i.e. a statistical measure comparing the amount of variation in the means between the types to the amount of variation within each type (Urdan, 2022b). An F-value at least as large as its corresponding critical value indicates that the mean differences between the types are statistically significant (ibid).

Concretely, a statistically significant F-value only signals that the average mean difference between the types is meaningful. In order to identify *which* types are significantly different from each other in particular, it is necessary to conduct pairwise post-hoc tests (Urdan, 2022b). The post-hoc tests will compare the means of each type to every other type in the model, while controlling for the number of comparisons made overall (ibid). The latter is done to account for the fact that as more tests are being conducted, the chance of finding a

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<sup>26</sup> None of the four variables has equal variances across the types, further substantiating my choice of Welch's ANOVA.

significant effect automatically increases (Sapp, 2017). As a result, a stricter level of significance is needed to achieve a meaningful effect. In practice, this implies that the alpha level is divided by the number of post-hoc tests conducted (ibid; Abdi, 2010). As is the case for the ANOVA test, several different kinds of post-hoc tests exist, all resting on different assumptions. In my study, I specifically apply the Games-Howell post-hoc test, as it allows the types to be of unequal sizes, and further allows for unequal variances (Field, 2013), both of which hold true for my model.

### **Chi-square test of independence**

While Welch's ANOVA can be used to explore differences across types for continuous variables, the chi-square test of independence explores differences across types for categorical variables (Whatley, 2022). I therefore use the two tests in parallel. For the categorical variables in my study, i.e. gender, immigrant status, local and national attachment, and political interest, I am comparing frequencies, rather than means, across the types. Specifically, the test produces a chi-square value, which considers the observed frequencies of a variable against the frequencies that would have occurred if the variable had been distributed randomly (Whatley, 2022). Comparable to the F-value for continuous variables, a chi-square value that is at least as large as its corresponding critical value indicates that distributional differences in the variable in question are statistically significant across the types (ibid).

Just as with Welch's ANOVA, a chi-square test only states that the variable is statistically significant somewhere in the model. It does not pinpoint which of the types actually have meaningful differences in their distribution of the variable. Luckily, there exists an equivalent pairwise post-hoc test for the chi-square test that can be used to detect these differences. Developed by Cox & Key (1993), post-hoc tests for categorical variables appear less prominently in the methodological literature in general, but the tests have recently been made an accessible part of statistical software (Mangiafico, 2023). As a result, I am able to conduct the post-hoc tests in my study, where they appear as a direct parallel to the Games-Howell tests for the continuous variables.

## Effect sizes

Finally, the substantive effect of each variable examined in my model is reported with the effect size. As an important complement to statistical significance, reported with Welch's ANOVA and the chi-square test, the effect size measures the magnitude of the difference in a variable across the types (Iacobucci et al., 2023; Sullivan & Feinn, 2012). Although less commonly reported than statistical significance in general, the effect size is gaining increasing scholarly attention, particular as large sample sizes, or 'big data', become more accessible (Iacobucci et al., 2023, p. 46). With larger sample sizes come more statistical power, which ultimately increases the likelihood of detecting statistical significance overall (ibid; Sullivan & Feinn, 2012). Focusing solely on the hypothesis test itself, i.e. the  $p$ -value, can therefore be misleading, as it might identify very small and possibly trivial significant effects due to the mere size of the sample being examined (Sullivan & Feinn, 2012). The effect size takes this possibility into account, and provides a measure for the observed effect that is irrespective of the sample size (Urdan, 2022a). As a result, methodological studies strongly advocate for the use of the two measures in combination, reporting, first, the level of statistical significance to establish that there is an effect at all, and, second, the effect size to establish the magnitude, or practical relevance, of that effect (Ellis, 2010; Iacobucci et al., 2023; Sullivan & Feinn, 2012).

The concrete measure of the effect size depends on the type of variables included in the analysis. As such, for continuous variables, the Welch's ANOVA is complemented by Omega-squared ( $\omega^2$ ), which has been described as an unbiased measure of the effect size when comparing mean differences across more than two groups (Ellis, 2010). Similarly, for categorical variables, the chi-square test of independence is complemented by Cramer's V (ibid). Overall, best practice for what constitutes a small, medium or large effect size follows the influential work of Cohen (1988), and later Field (2013). For Cramer's V, the interpretation depends on the degrees of freedom of the crosstabulation in question<sup>27</sup>. In the current study, comparing one two-category variable at a time across five types, I work with four degrees of freedom, which, according to Cohen's (1988) thresholds, results in values

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<sup>27</sup> Concretely, the Cramer's V is multiplied by the square root of the degrees of freedom, which transforms it into Cohen's omega, and makes it directly interpretable as a small, medium, or large effect based on Cohens' thresholds (Cohen, 1988, pp. 224–227)



of Cramer's V that are small when below 0.15, medium when below 0.25, and large when 0.25 or above. Comparably, for Omega-squared, Cohen's (1988) thresholds, later discussed and applied by Field (2013, p. 474), suggest that values are small when below 0.06, medium when below 0.14, and large when 0.14 or above. I follow these thresholds as I interpret the effect sizes as part of the empirical results.

## 5.4 Empirical results

In this section, I present the results of my empirical analysis. The results are split into two parts. Firstly, as depicted in tables 5.6 and 5.7, I focus on the associations between the types and individual-level variables: the sociodemographic, psychological, identity-based, and political variables. Secondly, as depicted in table 5.8, I focus on how the types are distributed within each country.

### **Individual-level variables**

Overall, I find all individual-level variables to be statistically significant. Thus, there are significant differences in the means, or proportions, of each variable across the five types of citizens. As I am working with a large data set (34,486 individuals), I centrally interpret this general finding in combination with the effect sizes to ensure practical relevance of the results. The lowest effect sizes are found for gender and immigrant status. Medium effect sizes are found for level of education, age, local and national attachment, and political interest. Interestingly, the highest effect sizes of my analysis, i.e. the variables with the strongest practical relevance for the distinction of the types, are the psychological variables: citizens' life satisfaction and the sense of control over their lives. Exceeding even the scholarly prominent variable of educational attainment, these effect sizes arguably speak to the importance of psychological explanations when studying the development of trust. Table 5.6 displays the results for the socio-demographic variables, while table 5.7 includes the results for the psychological, identity-based, and political variables. For each variable included, the tables show the result of the type of test conducted (Welch's ANOVA or chi-

square), the corresponding effect size, and a pairwise comparison of the types based on the post-hoc tests of that variable<sup>28</sup>.

Altogether, I employ the results to deepen the typology by identifying *who* the types of citizens are. Using the associations from the literature as a starting point, I present the relevant characteristics of each type in turn, discussing how the results of my person-centred approach connect to, and complement, previous scholarly findings.

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<sup>28</sup> Graphical representations of the differences in the variables across the five types can be found in appendix C, figures C.1 and C.2

Table 5.6: Results for the socio-demographic variables.

For the **continuous** variables, level of education and age, the table shows the mean values and standard deviations (SD) for the five types, the results of Welch's ANOVA test (the F-value and the level of statistical significance), the value and interpretation of the corresponding effect size,  $\omega^2$ , and the pairwise comparisons ranking the levels of the variables across the types.

For the **categorical** variables, gender and immigrant status, the table shows the proportions of each category within the five types, the results of the chi-square test (the chi-square value and the level of statistical significance), the value and interpretation of the corresponding effect size, Cramer's V, and the pairwise comparisons ranking the proportions of the variables across the types.

		Type 1:	Type 2:	Type 3:	Type 4:	Type 5:	Test	Effect size	Pairwise comparisons
		<i>Low trusters</i>	<i>Mid-level trusters</i>	<i>Institutional trusters</i>	<i>In-group trusters</i>	<i>Out-group trusters</i>			
	<i>Full sample</i> <sup>29</sup>	55.7%	21.0%	9.0%	4.5%	9.8%			
<b>Level of education</b>									
<i>Mean (SD)</i>	4.19 (1.90)	3.91 (1.85)	4.59 (1.86)	4.38 (1.94)	4.36 (1.96)	4.62 (1.95)	$F_{\text{Welch}}(4, 6638.8) = 243.71, p < .001$	$\omega^2 = 0.13$ ; medium	1 < 3,4 < 2,5
<b>Age</b>									
<i>Mean (SD)</i>	50.4 (17.7)	49.2 (17.7)	50.0 (17.1)	51.3 (18.0)	56.1 (16.1)	55.0 (17.5)	$F_{\text{Welch}}(4, 6749.1) = 131.87, p < .001$	$\omega^2 = 0.07$ ; medium	1 < 2 < 3 < 4,5
<b>Gender</b>									
<i>Female</i>	52.5%	50.9%	54.1%	52.2%	56.9%	56.2%	$\chi^2(4) = 57.02, p < .001$	Cramer's V = 0.041; small	1 < 2,4,5 3 < 4,5
<i>Male</i>	47.5%	49.1%	45.9%	47.8%	43.1%	43.8%			
<b>Immigrant status</b>									
<i>Native</i>	87.7%	87.6%	86.6%	87.8%	93.3%	87.5%	$\chi^2(4) = 51.83, p < .001$	Cramer's V = 0.039; small	1,2,3,5 < 4
<i>Immigrant</i>	12.3%	12.4%	13.4%	12.2%	6.7%	12.5%			

<sup>29</sup> The proportion of citizens represented in each type are slightly different to the ones shown in chapter 4. In chapter 4, the proportions were accounting for the classification uncertainty of the model, which is disregarded in the current chapter (see p. 116-117). As such, the overall proportions shown here represent the distribution of citizens when allocated to their most likely type.

Table 5.7: Results for the psychological, identity-based, political variables

For general explanations of the information displayed for both the continuous variables (life satisfaction and sense of control) and the categorical variables (local attachment, national attachment, and political interest), I refer to the notes included above table 5.6.

		Type 1:	Type 2:	Type 3:	Type 4:	Type 5:	Test	Effect size	Pairwise comparisons
		<i>Low trusters</i>	<i>Mid-level trusters</i>	<i>Institutional trusters</i>	<i>In-group trusters</i>	<i>Out-group trusters</i>			
	<i>Full sample</i>	55.7%	21.0%	9.0%	4.5%	9.8%			
<b>Life satisfaction</b>									
<i>Mean (SD)</i>	7.63 (1.80)	7.30 (1.92)	7.76 (1.52)	8.22 (1.54)	8.30 (1.38)	8.39 (1.54)	$F_{\text{Welch}}(4, 7033.5) = 537.07, p < .001$	$\omega^2 = 0.23$ ; large	1 < 2 < 3 < 5 1 < 2 < 4
<b>Sense of control</b>									
<i>Mean (SD)</i>	7.42 (1.83)	7.15 (1.97)	7.55 (1.54)	7.94 (1.54)	7.79 (1.54)	7.98 (1.66)	$F_{\text{Welch}}(4, 6966) = 300.73, p < .001$	$\omega^2 = 0.15$ ; large	1 < 2 < 4 < 3,5
<b>Local attachment</b>									
<i>High</i>	83.6%	80.0%	85.5%	90.9%	91.5%	89.3%	$\chi^2(4) = 471.55, p < .001$	Cramer's V = 0.117; medium	1 < 2 < 3,4,5
<i>Low</i>	16.4%	20.0%	14.5%	9.1%	8.5%	10.7%			
<b>National attachment</b>									
<i>High</i>	88.9%	84.8%	92.2%	96.0%	95.9%	95.9%	$\chi^2(4) = 817.10, p < .001$	Cramer's V = 0.154; medium	1 < 2 < 3,4,5
<i>Low</i>	11.1%	15.2%	7.8%	4.0%	4.1%	4.1%			
<b>Political interest</b>									
<i>High</i>	61.0%	55.2%	66.5%	67.8%	68.0%	73.0%	$\chi^2(4) = 655.41, p < .001$	Cramer's V = 0.138; medium	1 < 2,3,4 < 5
<i>Low</i>	38.9%	44.8%	33.5%	32.2%	32.0%	27.0%			

### *Type 1: Low trusters*

The citizens of type 1, the low trusters, have the lowest average level of trust and also the most stable pattern of the typology<sup>30</sup>. Their corresponding values of the external variables generally resonate with a type of citizen that displays low and stable trusting behaviour.

Specifically, the low trusters are characterised by having the lowest mean level of education and the lowest mean age. They feel, on average, less in control and satisfied with their lives, and less emotionally attached to their city and country. Finally, they are also less politically interested than the other types. Based on the pairwise comparisons of tables 5.6 and 5.7, the results for type 1 thereby largely follow previous scholarly findings: Displaying a lower average level of trust, they are also associated with lower values of the majority of the variables in the study.

However, their characteristics also deviate from the literature in several ways. The low trusters have a higher proportion of men, which contradicts earlier research suggesting that women are lower trusting on average. Further, their ratio of immigrants to natives does not significantly differ from that of the higher trusting types. The effect sizes of both gender and immigrant status are in fact the smallest of the analysis, indicating only minor relevance of these variables for the distinction of the different types.

In addition to associations between the external variables and the average level of trust for type 1, the unique stability of their trust pattern provides an interesting complementary perspective on these results. In the previous chapter, I argued that the stable pattern represented a predominantly psychological understanding of the concept. Thus, citizens of this type are mainly driven by their own predisposition when deciding who or what to trust, rather than letting such decisions depend on, and vary with, the situation at hand. In light of this psychological perspective, it arguably makes sense that citizens who feel a lower sense of control over their lives also display more stable trusting behaviour. By feeling less in control, there is less incentive to assess the trustworthiness of each situation or context

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<sup>30</sup> In chapter 4, this was quantified by an elevation of -0.09 and a scatter of 0.11.

separately, instead making citizens more inclined to apply a similar, and seemingly also a lower, level of trust to society as a whole.

### *Type 2: Mid-level trusters*

The citizens of type 2, the mid-level trusters, rank second lowest on both their average level of trust and on the volatility of their pattern<sup>31</sup>. They thereby represent a type of citizen that is generally more trusting than type 1, and display slightly more volatile trusting behaviour, but remain below types 3, 4, and 5 on both parameters. Thus, according to previous literature, they should generally also rank second lowest on the values of the external variables.

The empirical results, particularly the pairwise comparisons of tables 5.6 and 5.7, show that this is partially the case. The citizens of type 2 are older than type 1, and their mean levels of life satisfaction, sense of control, and national and local attachment are also significantly higher than type 1, but lower than the remaining three types. Further, and similar to the characteristics for type 1, the mid-level trusters deviate from the literature by having a relatively high proportion of men.

While the citizens of type 2 are more politically interested than those of type 1, their main level is on par with that of types 3 and 4, even though the latter two are characterised by displaying higher levels of trust on average. Thus, the typology does not appear to follow a clear trajectory from lowest to highest political interest based on a corresponding increase in the average levels of trust.

Notably, the mid-level trusters are characterised by having one of the highest mean levels of education, on par with citizens of type 5. Thus, they have significantly higher levels of education than not just the generally lower trusting citizens of type 1, but also than the higher trusting citizens of types 3 and 4. I argue that this result for education clearly shows the added value of the person-centred approach of my study. When acknowledging the heterogeneity of the population, it becomes evident that the influence of well-established variables, such as the level of education, is not as clear-cut as variable-centred research on

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<sup>31</sup> In chapter 4, this was quantified by an elevation of 0.14 and a scatter of 0.24.

the topic tends to suggest. In fact, for a substantial group of citizens, i.e. the 21% classified as mid-level trusters, it appears that higher education is associated with more moderate levels of trust.

A possible explanation could be that the mid-level trusters are, in fact, the most sceptical citizens of the typology. As such, for citizens of this type, higher education primarily makes them more critical towards society and the political system, which manifests through lower, or moderate, levels of trust. The negative association between education and trust has received scholarly attention for institutional trust specifically, playing a central role in the work of Norris (1999; 2022). Concretely, Norris stressed the importance of scepticism in a well-functioning democracy, as this is a crucial tool for ensuring the accountability and transparency of power holders (ibid)<sup>32</sup>. Interestingly, with the identification of the highly educated mid-level trusters, moderate levels of trust are found not only for institutional trust, but more generally for their trust pattern as a whole. This finding could thereby imply that sceptical citizens are not necessarily limited to the institutional context, but appear as a moderately trusting type in general.

### *Type 3: Institutional trusters*

Type 3, the institutional trusters, are characterised by the same average level of trust as that of type 4, the in-group trusters. Both types further have a very similar degree of volatility in their patterns, although the pattern for type 3 is slightly less volatile<sup>33</sup>. According to the literature, the mean levels of the external variables should therefore be very similar for types 3 and 4. This only holds true in two cases: the mean levels of education and life satisfaction are on par for the two types, further representing medium levels in the typology overall. From here, the differences start to appear. The institutional trusters are significantly younger than the in-group trusters of type 4, and further represent a higher proportion of men.

Interestingly, their level of political interest is on par with both the mid-level trusters and the in-group trusters. In the previous chapter, the institutional trusters were labelled as such due

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<sup>32</sup> The theory of scepticism was also introduced in chapter 2, p. 30; and further discussed in chapter 4, p. 81.

<sup>33</sup> In chapter 4, this was quantified by an elevation of 0.38 and a scatter of 0.50.

to their comparably higher levels of trust in institutions. Based on the positive association between political interest and institutional trust established in earlier literature, one might have expected citizens of this type to display greater political interest. However, according to the typology, the institutional trusters are not significantly more politically interested than other types. This result could point to a more recent change in the way political interest and institutional trust are associated. Overall, the positive association was established in a study by Catterberg & Moreno in 2006, and the political environment has changed drastically in subsequent years, particularly due the rise of populism (Ruzza & Sanchez Salgado, 2021; Eichengreen, 2017). In light of recent political developments, it thus appears that the link between political interest and institutional trust is surrounded by an increasing level of complexity, when compared to earlier scholarly findings.

Types 3 and 4 unite with type 5, the out-group trusters, for the identity-based variables. The three types have equivalent mean levels of both local and national attachment. More generally, the effect of emotional attachment thereby appears to wear off as the types of citizens become more trusting on average. At the lower end of the spectrum, however, the result did show that citizens who were generally lower trusting, as type 1 and type 2 were also significantly less emotionally attached to their city and country.

#### *Type 4: In-group trusters*

The in-group trusters have the same level of average trust as the institutional trusters, but are characterised by a slightly more volatile pattern of trust<sup>34</sup>. They further have a uniquely high level of in-group trust. In the previous chapter, I emphasised the shape of the trust pattern for this type as a 'mirror image' of that for type 5, as the latter is characterised by a uniquely high level of out-group trust. Citizens of type 4 and type 5, both reflecting high levels of interpersonal trust in different ways, share the highest mean age and the highest proportion of women in the typology.

Based on the literature, an expected implication of having the highest in-group trust would arguably be to display the highest mean level of local attachment. However, the results

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<sup>34</sup> In chapter 4, this was quantified by an elevation of 0.38 and a scatter of 0.55.



suggest that the in-group trusters are not more emotionally attached to their local surroundings than both types 3 and 5. Where they do stand out, though, is by being the only type with a significantly higher proportion of native citizens. All other types are statistically equivalent for this variable, with a proportion that is very close to the average of the full sample (87.7%). For in-group trusters, however, the proportion of natives exceeds the average by 5.6 percentage points (93.3%). Connecting this result back to previous research on the association between immigrant status and trust overall, a possible explanation could be that citizens born in their country of residence are more well-integrated into social networks, thereby displaying comparably higher levels of in-group trust (Dinesen, 2012).

#### *Type 5: Out-group trusters*

Finally, type 5, the out-group trusters, have the highest average level of trust and also the most volatile pattern of the typology<sup>35</sup>. However, they are not unambiguously associated with the highest mean values of the external variables as might be expected from the literature.

The out-group trusters are highly educated and display high feelings of control over their lives, but so do the mid-level trusters of type 3. Additionally, they feel very satisfied with their lives, they are older on average, and represent a high proportion of women, but so do the in-group trusters of type 4. Further, their levels of local and national attachment are on par with both type 3 and type 4. The only variable that stands out as significantly higher for type 5 alone, compared to all other types, is their level of political interest.

As a whole, the results for type 5 support and expand the general argument made for the identity-based variables earlier: At higher levels of average trust and higher degrees of volatility, the trends in the individuals variables are not as clear-cut. Expected associations between the external variables and the average trust levels across the types appear to diminish at higher levels. Thus, for the highest trusting types, the results of this chapter show a more nuanced picture of how they relate to well-established variables from the literature.

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<sup>35</sup> In chapter 4, this was quantified by an elevation of 0.58 and a scatter of 0.66.

## Country differences

As the final step of my analysis, I examine how the five types of citizens are distributed within each of the 17 countries included in my scope. The results are shown in table 5.8. For each country, the table shows the distribution of the five types, such that each row sums up to 100%. The distributions should be viewed in relation to the size of the types in the full sample, shown in the top row. Thus, given that type 1 represents the majority of citizens overall, it is to be expected that the majority of citizens within each country similarly belong to this type. To aid the interpretation, table 5.8 further indicates which countries are characterised by notably higher proportions of a given type. These are highlighted in red. More specifically, the red cells indicate countries that are at or above 0.5 standard deviations of the mean proportion for that type.

The result reveals several interesting trends in the groupings of countries. Starting in reverse order of the types, the Nordic countries, i.e. Denmark, Sweden, Norway, Finland, together with the Netherlands stand out by having comparably higher proportions of citizens who belong to types 5 and 4. This resonates with an overall finding from the literature, where citizens of Northern Europe and the Netherlands are frequently grouped together and emphasised to display higher levels of trust in general. This result is particularly well-established in the literature on interpersonal trust (Delhey & Newton, 2005). As such, it makes sense that types 4 and 5, characterised by their uniquely high levels of interpersonal trust, as well as by patterns with higher elevation values overall, are also more strongly represented among the highly trusting citizens of Northern Europe and the Netherlands.

The countries with higher proportions of citizens in type 3, the institutional trusters, are Finland, Norway, Denmark and New Zealand. As such, three Nordic countries are once again represented, this time among the citizens who display higher levels of trust in institutions. Surprisingly, they are grouped together with New Zealand. In the literature, New Zealand generally appears as a country with trust levels in the mid-range, typically compared to trust environments of Western, rather than Northern, Europe. Furthermore, it is notable that New Zealand represents the region of Oceania alone for this type, as Australia does not stand out with an equally high proportion of citizens.

A country that is arguably even more noticeable by its “absence” among the institutional trusters is Switzerland. While the distribution of Swiss citizens in type 3 is still above average (with 10.8%), they remain below the cut-off. As previously discussed, Switzerland has been described as a special case in the trust literature, exceeding even the high trusting countries of Northern Europe on their level of institutional trust (Bauer et al., 2018). Thus, while Swiss citizens appear to be stellar candidates for the institutional trusters of type 3, the results suggest otherwise.

Interestingly, Switzerland instead appears as the country with the highest proportion of citizens in type 2. Here, Switzerland is the only country from Western Europe, grouped together with Canada, New Zealand and Australia, as well Sweden and Norway. Together, these six countries are thus characterised by having a relatively higher number of mid-level trusters among their citizens. Referring back to the elevation and scatter values of the pattern for this type, the mid-level trusters are characterised by being lower trusting in general, and displaying more stable trusting behaviour than the citizens of types 3, 4, and 5. For Canada in particular, this is somewhat surprising, as the country has generally been characterised as displaying high levels of trust in the literature (Dalton, 2017; Delhey & Newton, 2005).

Finally, I reach type 1, the low trusters. As the biggest type in the typology, type 1 is very prominently featured in a group of countries spanning the United States, as well as Southern, Western, and Eastern Europe: Spain, Italy, France, Germany, Austria and Estonia. This grouping resonates with clusters proposed by the literature, which ranks the US and Western Europe at medium trust levels, while Southern and Eastern Europe are usually described as lower trusting regions in general (Delhey & Newton, 2005; Holmberg & Rothstein, 2020; Torcal, 2017). For this group of countries, the results suggest that a high proportion of citizens display very stable trusting behaviour, generally characterised by lower levels of trust overall. As discussed in chapter 4, a high proportion of low trusters within a country indicates that, for a large number of citizens, trust is predominantly a psychological concept. As such, trust likely resembles a personality trait, a personal predisposition, which does not vary significantly across interpersonal and institutional contexts.

In contrast to the statistical tests shown in tables 5.6 and 5.7, table 5.8 is entirely descriptive. However, I have also conducted chi-square tests, post-hoc tests, and effect sizes for each country to establish whether their distributions across the types are statistically significant. The full results can be found in appendix C, table C.1. Overall, the tests showed statistical significance at the 99% level for 16 out of the 17 countries in my scope. Interestingly, the United Kingdom had by far the smallest effect size (Cramer's  $V = 0.018$ ), and the chi-square test did not show statistical significance. As such, as the only country in the scope, the distribution of the types in the United Kingdom did not meaningfully deviate from that of the full sample. Put differently, the analysis finds no association between being British and belonging to a certain type in the model. This result was already prevalent with table 5.8, where the United Kingdom was the only country that was not highlighted as having comparably higher proportions of one or more of the types.

**Table 5.8: The proportion of types within each country**

Note: The red cells indicate the countries with notably high proportions of a given type. Specifically, with a proportion that is 0.5 standard deviations above the mean proportion of the sample.

	<b>Type 1:</b>	<b>Type 2:</b>	<b>Type 3:</b>	<b>Type 4:</b>	<b>Type 5:</b>
	<i>Low trusters</i>	<i>Mid-level trusters</i>	<i>Institutional trusters</i>	<i>In-group trusters</i>	<i>Out-group trusters</i>
<i>Full sample</i>	55.7%	21.0%	9.0%	4.5%	9.8%
<b>Country</b>					
<i>Australia</i>	54.3%	26.8%	11.3%	1.9%	5.8%
<i>New Zealand</i>	45.5%	25.4%	18.0%	3.9%	7.1%
<i>Canada</i>	55.7%	26.9%	6.2%	1.3%	9.9%
<i>United States</i>	72.6%	17.4%	3.9%	1.8%	4.3%
<i>Italy</i>	77.6%	13.9%	4.1%	1.3%	3.1%
<i>Spain</i>	73.5%	11.3%	6.1%	3.0%	6.2%
<i>France</i>	68.7%	17.3%	5.8%	2.6%	5.5%
<i>Switzerland</i>	49.5%	30.6%	9.3%	3.2%	7.4%
<i>Germany</i>	64.0%	21.5%	8.6%	2.2%	3.7%
<i>Austria</i>	67.1%	13.5%	10.8%	4.3%	4.3%
<i>Estonia</i>	66.2%	19.4%	7.2%	2.6%	4.7%
<i>Denmark</i>	32.4%	18.3%	15.1%	11.3%	22.9%
<i>Sweden</i>	32.8%	23.6%	10.2%	7.3%	26.1%
<i>Norway</i>	33.0%	25.0%	17.0%	8.4%	16.6%
<i>Finland</i>	40.0%	16.3%	20.4%	6.4%	16.8%
<i>Netherlands</i>	45.6%	18.1%	4.5%	13.7%	18.2%
<i>United Kingdom</i>	56.6%	22.2%	9.5%	3.2%	8.6%

## 5.5 Concluding remarks

With this chapter, I have developed a deeper understanding of the five types of citizens in my typology. Covering a broad range of scholarly theories, I have explored how a set of well-established variables are associated with trust within a heterogeneous, person-centred methodological framework. The results have brought light to new and different ways of understanding these associations, showing the extent to which the variables characterise citizens who display different types of trusting behaviour.

I argue that the empirical analysis conducted here is an important extension of current person-centred research on trust. Previous studies, though limited in general, do not attach external variables to their typological frameworks. They have, however, acknowledged this as a central next step towards understanding who the types of citizens are, or related, what makes them trust in different ways. Over the course of this chapter, I have thus developed a more complete picture of the five types, uncovering their characteristics with a set of socio-demographic, psychological, identity-based, and political variables.

As a general implication of my methodological approach, the analysis allowed me to study not just how variables characterise citizens who are more or less trusting overall, but also how they characterise citizens with more or less volatility in their patterns of trust. With the development of the typology in the previous chapter, I broadly connected a stable pattern to a psychological understanding of trust, while I argued for a more prevalent rational understanding among the types displaying higher volatility. Building on this overall distinction, my analysis uncovered interesting associations that further spoke to the different understandings of trust among the different types of citizens.

Specifically, the type of citizen with the most stable pattern of trust (type 1) were also characterised by feeling, on average, the least in control over their lives. This substantiates the psychological nature of this type. Citizens who feel less in control have less incentive to differentiate between their trust decisions, making them more likely to be driven by their general, or predisposed, level of trust instead. In combination, the psychological variables (sense of control and life satisfaction) further appeared with the strongest effect sizes of the

analysis, indicating that they had the strongest practical relevance for distinguishing the five types of citizens.

As a common indicator of more rational behaviour, the associations between the types and their levels of education deviated from the general effects of education proposed by the trust literature. While it is well-established that education is positively associated with all forms of trust in democratic societies, my analysis uncovered a more varied picture. Concretely, while the type with the lowest trusting citizens were also characterised by having the lowest mean level of education, this positive association did not persist unambiguously among the higher trusting types. In fact, the highest mean level of education was split between two types who differed significantly in both their average level of trust and the degree of volatility in their pattern. As such, for a substantial number of citizens in my typology, higher levels of education was associated with more moderate trusting behaviour.

In combination with the previous chapter, I have further advocated for a typology that combines citizens' levels of trust across both interpersonal and institutional contexts. Common for the trust literature is a rather clear distinction between interpersonal and institutional trust, both in terms of the concepts themselves, and in terms of what they are associated with. A common theme for this thesis has been to study trust in its entirety, first as a concept, then as a measure, and finally, as a typology. With the results presented here, I have thereby completed this journey, uniquely exploring types of citizens with distinct patterns of both interpersonal and institutional trust. In fact, given the results of the measurement model in chapter 3, the patterns further include the level of general trust for each type of citizen. Conceptually, methodologically, and empirically, I advocate for the study of trust as one overarching concept.

In sum, chapters 4 and 5 represent a comprehensive, heterogeneous study of trust. By firstly exploring the patterns on their own, and secondly how they relate to external variables, I have presented a complete typology of *how* citizens trust, and further outlined *who* the citizens are.

## Chapter 6: Conclusion

Trust is at the heart of democratic societies. As a fundamentally important concept, it ensures smooth and successful engagements with the people around us and the institutions that govern us. I have argued that all kinds of trust share the same common core. By starting from a universal, or overarching, definition, I have developed a hierarchical framework for trust which I have mirrored conceptually and empirically.

The hierarchical approach centrally implies that I have studied trust in its entirety throughout this thesis, that is, within both interpersonal and institutional contexts. This stands in contrast to the majority of current trust research, usually characterised by a rather clear distinction between studies of either interpersonal or institutional trust. As an alternative, my thesis started from the unifying idea that all kinds of trust can be derived systematically from the same core concept. The resulting framework played a crucial role in achieving my main goal of bridging the gap between the conceptual and empirical literature.

The gap broadly centres around a lack of common consensus on the actual meaning of trust. In the conceptual literature, this has resulted in diverging conceptualisations, which generally differ by discipline. Concretely, I have contrasted a psychological conceptualisation, where trust is defined as a personality trait, against a rational conceptualisation, where trust is defined as a strategic calculation. I have emphasised their mutual presence within sociological theories, arguing for sociology as a bridging discipline in the development of a unifying conceptualisation of trust. In the empirical literature, the lack of common consensus has resulted in a tendency where quantifiable measures do not spring from a clear conceptual account. As such, it has been a central motivation for my



thesis that the complexity of the conceptual literature is generally not reflected within empirical research. Instead, empirical studies tend to quantify trust with one or a few survey items, without explicitly addressing the meaning of the underlying concept. Thus, while the topic of trust has gained increasing scholarly prominence in recent times, the lack of a unifying framework, which clearly defines the nature and dimensionality of the concept, has been the root of a continued distance between the work of conceptual and empirical scholars.

With my thesis, I have bridged this gap by answering three main research questions. I argue that my answers ultimately represent three contributions to the trust literature, which, in combination, comprise a new and unifying framework for the study of trust. With the framework, I advocate for an enhanced focus on conceptualisation within quantitative research, not only for trust, but also for the study of complex, multidimensional concepts in general. A stronger connection between conceptual and empirical work increases the comparability of research overall, moving scholarly accounts closer to a common understanding of what is truly meant by the concept in the first place.

## 6.1 Answering the research questions

I summarise the answers to my research questions below. For each question, I emphasise the novelty of my conceptual, methodological, or empirical findings, discussing their scholarly value and implications for the study of trust as a whole.

### **What is trust?**

Trust is a hierarchical, multidimensional concept. Universally, it can be defined as a *positive expectation* that involves *risk*. While these two core attributes define trust at its most abstract, increasingly concrete dimensions can be defined by specifying the additional characteristics of, firstly, the *direction*, and secondly, the *distance* of the trusting relationship. Thus, by specifying whether the direction of trust is vertical or horizontal, the general subtypes of interpersonal and institutional trust will appear. Interpersonal trust is

characterised by being fundamentally vertical, because it refers to trust in other people, in our fellow citizens. Institutional trust is characterised by being fundamentally horizontal, because it refers to trust in power holders, in the institutions that govern us.

Further, by subsequently specifying whether the two parties of the trusting relationship are figuratively close or far apart, two additional subtypes within both the interpersonal and institutional realm appear. As a whole, the final characteristic of distance thereby defines four concrete subtypes: in-group trust in known others (close interpersonal trust), out-group trust in unknown others (distant interpersonal trust), trust in political institutions (close institutional trust), and trust in impartial institutions (distant institutional trust).

Overall, I developed my conceptualisation of trust by employing Sartori's (1984) conceptual guidelines. As a highly influential conceptual scholar in the social sciences, Sartori was an early advocate of thoroughly engaging with conceptualisation prior to undertaking empirical research. Sartori's approach centres around the ladder of abstraction, where a concept is defined at three abstraction levels. Consequently, it enabled the systematic development of a hierarchical conceptual structure, central to my conceptualisation of trust. The resulting framework acknowledged and combined conceptual understandings from psychology, political science, and sociology. It thereby represented a move towards multidisciplinary consensus on the conceptual definition of trust.

Building on the sociological idea that all forms of trust contain a rational and a psychological aspect, I uniquely connected the hierarchical conceptual structure to the comparative strength of these two aspects. Thus, I argued that at the highest level of abstraction, the psychological aspect is at its strongest and the rational aspect is at its weakest. When trust is defined in the most abstract terms, it is non-situational; information about the specific nature of the trusting relationship is not yet specified. Given that the psychological aspect is less dependent on the situation or context at hand, it must be most prominent within the abstract form of trust. Consequently, at lower levels of abstraction, I argued that the comparative strength of the two aspects would be inverted. Trust becomes more concrete when further information about the direction and the distance of the trusting relationship is revealed, increasing the conditions for making trust decisions that are more rationally driven.

By arguing for an inverse relationship between rationality and psychology within trust at different abstraction levels, I presented a new perspective on the complementarity of these fundamentally important aspects in the conceptualisation of trust. In current conceptual debates, particularly within the field of sociology, the focus has been on the interplay between the rational and psychological aspects at the lowest level of abstraction only, that is, among the different concrete subtypes of trust. With my argument, I expanded on this notion, showing how the comparative strength of the two aspects could be linked systematically to trust as a whole, at all levels of abstraction.

### **How should trust be measured?**

From both a statistical and a conceptual perspective, trust is most optimally measured within the bifactor-exploratory structural equation modelling (bifactor-ESEM) framework of measurement. The framework, recently addressed in the work of psychologists Morin, Arens et al. (2016), uniquely acknowledged the hierarchical and multidimensional structure of trust. It thereby mirrored the conceptual framework empirically, thus acting as a crucial tool in bringing the conceptual and empirical literature closer together.

The new measurement model further represented a shift away from simpler operationalisations in the empirical literature, where the tendency has been to measure trust with one or a few survey questions. Here, I employed 12 survey items from the joint survey conducted by the European Values Study and the World Values Survey between 2017 and 2020 (EVS/WVS, 2021). The items measured respondents' level of trust in a wide variety of situations, and was divided into groups of three to represent the concrete subtypes of trust. However, given my initial argument on how all forms of trust spring from the same universal concept, it followed that the 12 items should also be combined to capture this common core. The bifactor-ESEM framework allowed me to do just that. Thus, it enabled the measurement of trust as a hierarchical concept, where a higher-order, general dimension could exist simultaneously with multiple, more specific dimensions. The general dimension captured the common variance shared by all 12 survey items, thereby representing the common core of trust, while the specific dimensions captured the residual variance shared by each subset of items, i.e. the variance that was unique to each concrete subtype of trust.

Based on the hierarchical property of the measurement framework, I centrally argued that the resulting model was the first to explicitly disaggregate individuals' overall level of trust (the general dimension), from their levels of trust within more concrete situations (the specific dimensions). As the structure of the model was directly rooted in my conceptual framework, I further argued that the general dimension, which I labelled general trust, was predominantly psychological. As an overarching measure based on all 12 survey items combined, the general dimension can be viewed as a measure of individuals' inner propensity to trust. Placed at the top of the hierarchy, this psychological interpretation links back to my conceptual argument on the comparative strength of psychology and rationality in trust. By a similar reasoning, I argued that the specific dimensions reflected more rational aspects of trust, containing a greater amount of information about the concrete situation at hand.

The developed measures laid the groundwork for all empirical analyses conducted in my thesis. As such, the data set and scope remained the same in all subsequent chapters. Concretely, this implied that my study of trust centred around 17 democratic societies in Europe, North America and Oceania. I justified my choice of countries with two scope conditions, which aimed to ensure that all studied survey respondents had the same foundation for understanding and answering questions about trust. Firstly, the countries were characterised by having predominantly individualistic social norms, emphasised as an important factor in the development of interpersonal trust. Secondly, by being developed democracies, as the literature has cautioned against comparing measures of institutional trust across different regime types.

As a whole, the measurement model represents a methodological contribution to the trust literature. The model brings empirical research in democratic societies closer to the underlying, complex concept, by allowing for a hierarchical and multidimensional empirical structure. Further, it is the first model to include a quantifiable measure of individuals' level of general trust, that is, a measure for whether individuals are fundamentally high or low trusting.

## How do citizens trust?

Within the democratic societies of my study, there exist five types of citizens who trust in five different ways. Each type is characterised by a distinct pattern of trust, directly anchored in the new measurement model, and, by extension, in the conceptual framework.

Concretely, the patterns were made up of the measure for general trust, and of the four measures for the concrete subtypes (in-group and out-group trust, and trust in political and impartial institutions). Most generally, I distinguished between types of citizens with stable and volatile patterns, which I linked back to the psychological and rational conceptual aspects respectively. As such, I argued that by acknowledging the heterogeneity of my studied population, I was able to identify a sizeable group of citizens with a predominantly psychological understanding of trust, reflected by a stable pattern, and four smaller groups of citizens with more rational understandings, reflected by more volatile patterns of trust.

Overall, the resulting typology provided a complementary perspective on the meaning of trust, examined from the viewpoint of citizens. When answering this third and final research question, I concretely took a person-centred empirical approach, grouping together citizens who trusted in similar ways. This broadly complemented the variable-centred approach of my measurement model, where I grouped together survey items to measure the underlying dimensions of trust. The typology thereby took my study of trust from a question of *how much* trust citizens have, to a question of *how* trust manifests for different types of citizens.

The typology was the first to examine complete patterns of trust, that is, patterns comprising trust within both interpersonal and institutional contexts. Concretely, previous studies applying a person-centred approach have been limited to types of citizens with different patterns of institutional trust only. Further, the studies have based their typologies on survey responses directly, rather than rooting the patterns in a measurement model with strong conceptual ties. According to recent work by psychologists Morin and colleagues, anchoring the typologies of multidimensional concepts in a robust measurement model enhances the differences among the types. This holds both in terms of the levels and shapes of their corresponding patterns (Morin, Boudrias, et al., 2016; Morin et al., 2017).

I developed the typology using latent profile analysis, which is a probabilistic mixture modelling technique that uncovers latent types in a heterogeneous population. The method is exploratory, such that the most optimal typology is established by comparing the model fit information of typologies containing an increasing number of types. In my case, after establishing an optimal typology with five types, I labelled and interpreted them based on their quantitative differences in their level of trust overall, the degree of volatility in their patterns, and their qualitative differences in the shape of their patterns.

The *low trusters* were the biggest type, representing 58% of the citizens. I argued that the characteristic stability of their pattern could be linked to a predominantly psychological understanding of trust. Concretely, if trust assessments did not vary significantly across the different forms of trust in the pattern, this arguably implied that citizens were largely driven by their general trust level, that is, their inner propensity to trust. By contrast, the remaining four types, *mid-level trusters*, *institutional trusters*, *in-group trusters*, and *out-group trusters*, were all characterised by patterns that displayed higher degrees of volatility. To various extents, I therefore argued that these four types showed more rational trusting behaviour, as their specific trust levels depended more strongly on the concrete situation at hand. Their corresponding labels were then mainly chosen to signal characteristic differences in the shape of their patterns, be it a uniquely high level of institutional trust, interpersonal trust, or simply a pattern located in the mid-level of the typology.

Once the typology was established, I attached external variables to each type using Welch's ANOVA and chi-square tests. I thereby determined whether a range of variables known to be associated with trust in the literature also differed significantly across the five types. Overall, the external variables, which included socio-demographic, psychological, identity-based and political variables, as well as country indicators, had previously been explored within variable-centred research only. This final analysis was thereby the first to examine their relation to trust within a person-centred, heterogeneous framework. Overall, this analysis uncovered not just *how* different types of citizens trust, but also *who* these citizens were.

Overall, the typology developed in chapter 4, and deepened in chapter 5, represents an empirical contribution to the trust literature, where I break with a dominant, average-based approach to trust research. Thus, the main focus in the literature has been the study of average levels of trust in the population, and how the average levels relate to different external variables of interest. With my typology, I empirically showed that citizens, in fact, trust in different ways.

From a policy perspective, I have argued that the typology of citizens has the potential to enhance our understanding of trust crises in democratic societies overall. In challenging times, most recently due to the COVID-19 crisis and increasing political polarisation, declining trust levels represent a key policy issue. As a result, strategies to reverse the trend and rebuild trust in democracies remain central to leaders and policy makers. My typology crucially enables such strategies to be differentiated, tailored to the specific type of citizen that is losing their trust. Further, it can inform the severity of the trust decline. If a type of citizen characterised by stable trusting behaviour suddenly shows a change in their overall trust level, this could arguably indicate a serious, or fundamental, societal problem. By contrast, if the decline is driven by types of citizens who tend to update their trust decisions often, the problem is more likely to be temporary and thereby less severe.

## 6.2 Final remarks

Overall, a central theme of my thesis has been the idea of complementarity. I started off by developing an argument for how the rational and psychological aspects could exist simultaneously within all forms of trust: they do so with inversely related comparative strength across different levels of abstraction. I mirrored this argument empirically with a hierarchical measurement model, which allowed the quantification of a predominantly psychological dimension that co-existed with more rational, concrete dimensions of trust. Finally, with the typology, I argued that the complementarity of these two central aspects could also be linked to different types of citizens with fundamentally different understandings of trust. In combination, the three contributions of my thesis have thereby taken a unifying approach to the study of trust, where the overall idea has been to acknowledge and combine

diverging conceptual understandings from the literature. I have developed a framework which allowed the rational and psychological aspects to complement each other consistently, playing a key role in both my conceptual, methodological, and empirical work.

With this thesis, I argue that I have bridged a gap between the conceptual and empirical literature on trust. I have achieved this goal by conducting quantitative research that has been closely linked to the underlying meaning of the concept. In general terms, I view my final outcome as a combination of a top-down approach, where I developed an encompassing, unifying measurement model based on a thorough conceptual analysis, and a bottom-up approach, where I switched the perspective to the viewpoint of citizens.

Throughout all three contributions, I have centrally explored how this complex concept is understood both within the literature and among citizens in democratic societies. By acknowledging both sides, I argue that I have moved multifaceted and multidisciplinary conceptualisations closer to empirical research on this fundamentally important, and increasingly popular, topic.

### 6.3 Limitations and avenues for future research

A central limitation to the empirical part of my thesis is the generalisability of the results beyond the 17 democratic societies. In fact, my empirical chapters rest on the assumption that trust is likely understood quite differently in different parts of the world, and expanding the range of countries would thus challenge the fundamental comparability of individuals<sup>36</sup>. An apparent avenue for future research is therefore to explore whether and how the empirical results will differ for countries characterised by different social norms and different regime types. Thus, I view my study of trust as a basic framework, which advocates for a closer link between empirical research and the underlying concept, and which can be applied to different contexts, likely with results that will, at least to a certain degree, reflect the corresponding contextual differences. I am therefore also advocating for an enhanced scholarly focus on the comparability of individuals, when trust is studied cross-nationally.

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<sup>36</sup> This was emphasised with the definition of my scope conditions in chapter 3, section 3.2.



Another limitation is the fact that my study is conducted at just one point in time. This can largely be attributed to data availability, as the joint survey of the European Values Study (EVS) and the World Values Survey (WVS) has only been conducted once. The survey was the first to include detailed survey items on both interpersonal and institutional trust, across European countries, surveyed by the EVS, *and* across a broader group of countries worldwide, surveyed by the WVS. As such, it was the only survey to allow a complete study of trust within a wider set of democratic countries, that is, within all countries fulfilling my scope conditions (individualistic, developed democracies). For the typology in particular, the interpretation of the types would be strengthened if the latent profile analysis could be replicated at multiple time points. Concretely, I argued that a stable pattern of trust likely reflected a type of citizen with a predominantly psychological understanding of the concept, as the stability indicates that citizens are driven less by the situation at hand, and more by their own trustfulness when making trust decisions. By definition, if the stable pattern indicates an understanding of trust that is comparatively more psychological than rational, this stability should persist over time. In the future, when new rounds of the joint survey by the EVS and the WVS are implemented, a study of how the typology develops over time, and thereby also within varying political environments, would be a natural extension of the current empirical result.

Related, the typology could be deepened further by adding not just external variables at the individual level, but also at the political level. Thus, for the citizens reporting lower levels of institutional trust, it would be interesting to get a better of understanding of the political environment within that same timeframe. In particular, whether shocks or other political factors could explain why some citizens were displaying lower levels of trust towards the political system at that point in time. The addition of such variables could strengthen the interpretation of the types of citizens with more volatile patterns of trust, as it would explicitly address whether they were responding rationally to recent political events, e.g. a drop in political or economic performance overall.

At a more fundamental level, an important avenue for future research is to further explore how the typology can inform and aid policy objectives to rebuild trust in society. By acknowledging the heterogeneity of the population, I have centrally found evidence that

different types of citizens display different trusting behaviour. As previously argued, this calls for targeted solutions to losses of trust, as different types of citizens will likely not respond to policy measures in the same way. Additionally, I have argued that the distinction between stable and volatile types of trusters can be used to inform the severity of such losses, indicating whether declining trust levels signal a fundamental, or a more temporary, societal challenge.

Just as the typology can be used to understand changes in trust levels *within* a given society, it can arguably also be used to understand changes *across* the countries included in my study. Specifically, in chapter 5, I identified a set of countries that were characterised by a comparably high proportion of citizens within type 1, i.e. the low trusters<sup>37</sup>. Given that the low trusters displayed the most stable trusting behaviour of the typology, losses of trust in these countries arguably represent the most severe challenge, or crisis, from a cross-country perspective. By comparison, if trust levels decline in countries where a higher proportion of citizens display more volatile trusting behaviour (type 2-5), changes are to be expected, and trust will likely restore itself quicker and with fewer policy measures. With the release of additional rounds of the joint EVS-WVS survey, it would therefore be interesting to track and compare how trust develops for the different countries of my study. In particular, to assess whether potential declines primarily occur in countries with higher proportions of stable trusters, as this will likely toughen and prolong successful strategies for rebuilding trust.

### **A new measure of trust**

Finally, I emphasise a potentially wide and interesting avenue for future research that springs directly from the development of the new measurement model. Most generally, I have argued that the model provides a more accurate empirical representation of trust, compared to current empirical measures. The implications of this argument could be further substantiated by replicating central empirical studies on both interpersonal and institutional trust from the literature, this time applying the measures developed in my model. By comparing the results obtained with the new and original measures, it would be possible to

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<sup>37</sup> The identified countries were the United States, Spain, Italy, France, Germany, Austria and Estonia.

discuss and emphasise the added value of this new measurement model in more concrete terms.

Further, by building a model that mirrored the hierarchical conceptual structure of trust, I specifically presented a new, higher-order measure for individuals' overall trust level, that is, their level of *general trust*. Given that the empirical literature is generally divided into studies of either interpersonal or institutional trust, the measure for general trust allows empirical trust research through a broader, unifying lens. Notably, it enables researchers to explore whether individuals' level of general trust are associated with the same external variables as their levels of trust within the interpersonal or institutional contexts specifically. Additionally, whether detected changes in trust levels over time are limited to a certain context, or whether they, in fact, occur as a more general trend. As such, I uniquely argue that the new measure of general trust has the potential to enhance our empirical understanding of trust as an overarching concept, central to all parts of well-functioning democratic societies.

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## Appendix A: Appendix for chapter 3

### **Mplus code**

```
TITLE: B-ESEM DD5;
DATA: FILE IS final6org.dat;
VARIABLE: NAMES ARE
fam nghbr prsnlly
first relig nation
army police justice
parl gov polpar
cntry educ age sex
lifesat polint lrscale
city country brnincntry age2 control
gweight pweight uniqid
cntry_AT cntry_AU cntry_CA
cntry_CH cntry_DE cntry_DK
cntry_EE cntry_ES cntry_FI
cntry_FR cntry_GB
cntry_IT
cntry_NL cntry_NO cntry_NZ
cntry_SE cntry_US
income fweight;

USEVARIABLES = fam nghbr prsnlly
first relig nation
parl gov polpar
army police justice;

CATEGORICAL = fam nghbr prsnlly
first relig nation
parl gov polpar
army police justice;

AUXILIARY = cntry educ age sex
lifesat polint lrscale
city country brnincntry age2 control
cntry_AT cntry_AU cntry_CA
cntry_CH cntry_DE cntry_DK
cntry_EE cntry_ES cntry_FI
cntry_FR cntry_GB
cntry_IT
cntry_NL cntry_NO cntry_NZ
cntry_SE cntry_US
income;
```

```
MISSING = .;  
IDVARIABLE = uniqid;  
WEIGHT = fweight;
```

```
ANALYSIS:  
ESTIMATOR = WLSMV;  
ROTATION = TARGET(orthogonal);  
PARAMETERIZATION = THETA;
```

```
MODEL:  
global by fam nghbr prsnlly  
first relig nation  
parl gov polpar  
army police justice (*1);
```

```
know by fam nghbr prsnlly  
first~0 relig~0 nation~0  
parl~0 gov~0 polpar~0  
army~0 police~0 justice~0 (*1);
```

```
stranger by fam~0 nghbr~0 prsnlly~0  
first relig nation  
parl~0 gov~0 polpar~0  
army~0 police~0 justice~0 (*1);
```

```
pol by fam~0 nghbr~0 prsnlly~0  
first~0 relig~0 nation~0  
parl gov polpar  
army~0 police~0 justice~0 (*1);
```

```
ord by fam~0 nghbr~0 prsnlly~0  
first~0 relig~0 nation~0  
parl~0 gov~0 polpar~0  
army police justice (*1);
```

```
OUTPUT: TECH4 stdyx modindices;
```

```
SAVEDATA: FILE IS finalscores6org.dat;  
FORMAT IS FREE;  
SAVE = FSCORES;
```

## Appendix B: Appendix for chapter 4

### Mplus code

```
TITLE: LPA 5classes org;
DATA: FILE IS finalscores6org.dat;
VARIABLE: NAMES ARE
FAM NGHBR PRSNLLY
FIRST RELIG NATION
PARL GOV POLPAR
ARMY POLICE JUSTICE
CNTRY EDUC AGE
SEX LIFESAT POLINT
LRSCALE CITY COUNTRY
BRNINCNT AGE2
CONTROL
cntry_AT cntry_AU cntry_CA
cntry_CH cntry_DE cntry_DK
cntry_EE cntry_ES cntry_FI
cntry_FR cntry_GB
cntry_IT
cntry_NL cntry_NO cntry_NZ
cntry_SE cntry_US
INCOME GLOBAL GLOBAL_SE
KNOW KNOW_SE STRANGER
STRANGER_SE POL POL_SE
ORD ORD_SE FWEIGHT
UNIQID;

USEVARIABLES = GLOBAL KNOW STRANGER
POL ORD;

AUXILIARY = CNTRY EDUC AGE
SEX LIFESAT POLINT
LRSCALE CITY COUNTRY
BRNINCNT AGE2
CONTROL
cntry_AT cntry_AU cntry_CA
cntry_CH cntry_DE cntry_DK
cntry_EE cntry_ES cntry_FI
cntry_FR cntry_GB
cntry_IT
cntry_NL cntry_NO cntry_NZ
cntry_SE cntry_US
INCOME;
```

```
MISSING = *;  
IDVARIABLE = UNIQID;  
CLASSES = c(5);
```

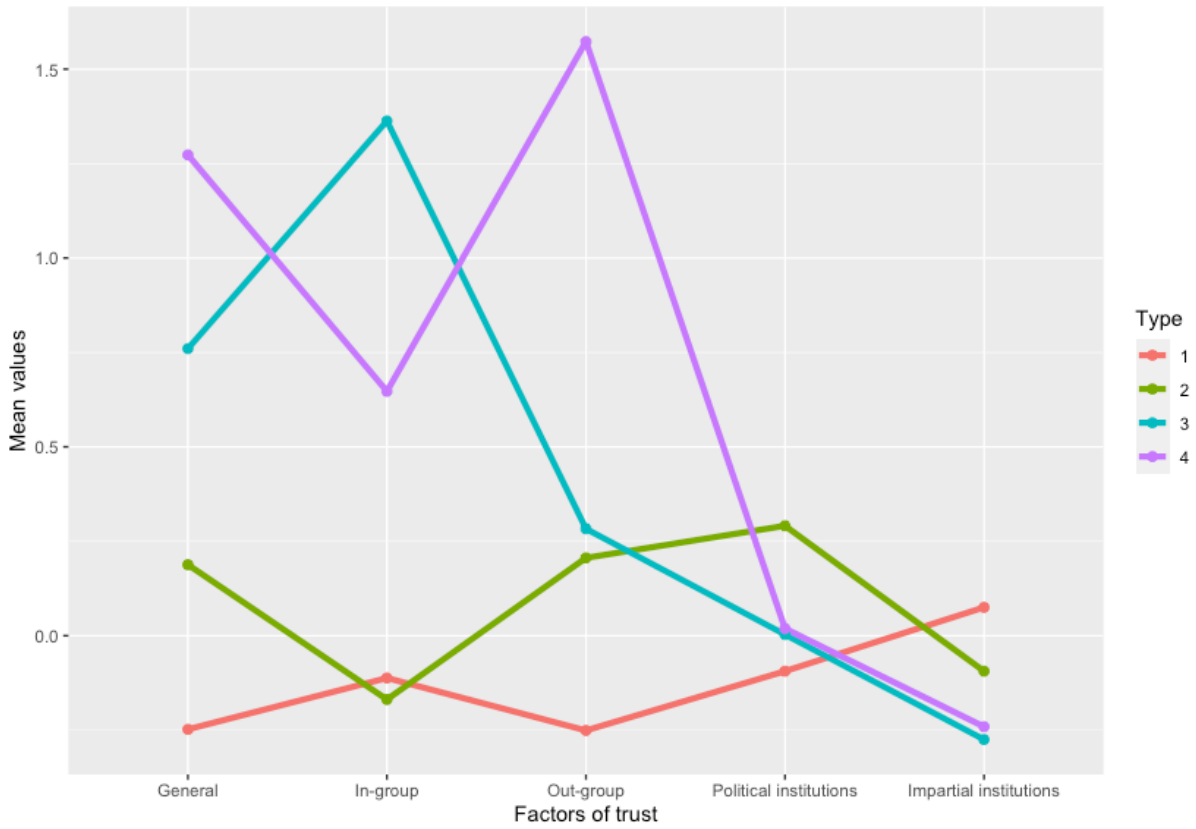
```
ANALYSIS:  
TYPE = MIXTURE;  
ESTIMATOR = MLR;  
PROCESSORS = 4(STARTS);  
STARTS = 2000 250;  
STITERATIONS = 100;
```

```
MODEL:  
%C#1%  
GLOBAL KNOW STRANGER POL ORD;  
[GLOBAL KNOW STRANGER POL ORD];  
%C#2%  
GLOBAL KNOW STRANGER POL ORD;  
[GLOBAL KNOW STRANGER POL ORD];  
%C#3%  
GLOBAL KNOW STRANGER POL ORD;  
[GLOBAL KNOW STRANGER POL ORD];  
%C#4%  
GLOBAL KNOW STRANGER POL ORD;  
[GLOBAL KNOW STRANGER POL ORD];  
%C#5%  
GLOBAL KNOW STRANGER POL ORD;  
[GLOBAL KNOW STRANGER POL ORD];
```

```
SAVEDATA:  
FILE IS LPA5org.dat;  
SAVE = CPROBABILITIES;
```

Figure B.1: Illustration of the four-type latent profile solution for comparison

- Type 1: Low trusters (67% of the data)
- Type 2: Mid-level trusters (21% of the data)
- Type 3: In-group trusters (5% of the data)
- Type 4: Out-group trusters (7% of the data)



# Appendix C: Appendix for chapter 5

Figure C.1: Graphical representation of the results for the socio-demographic variables

For the continuous variables, education and age, the figure shows the differences in means and standard deviations across the five types. For the categorical variables, gender and immigrant status, the figure shows the differences in proportions across the five types.

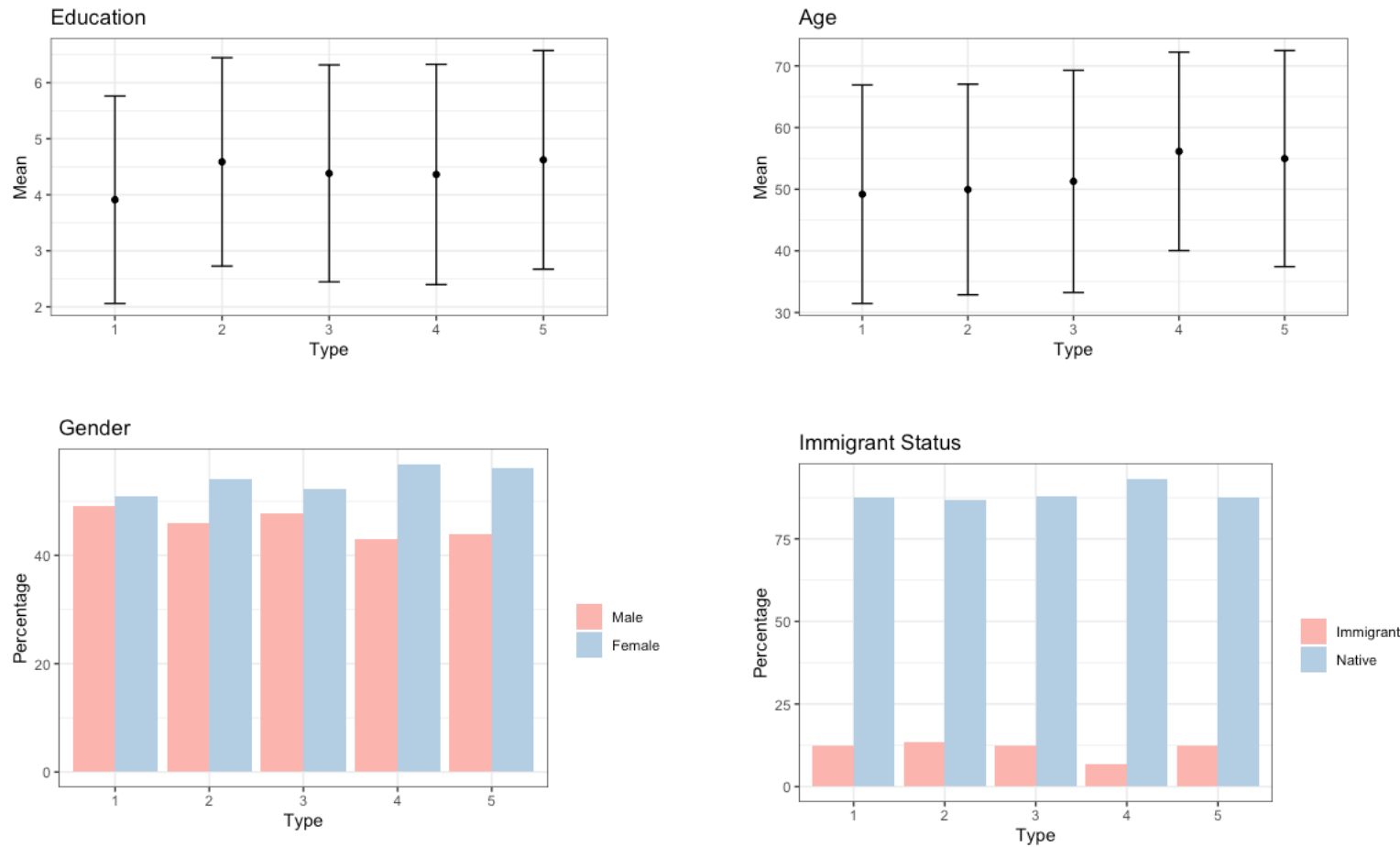




Figure C.2: Graphical representation of the results for the psychological, identity-based, political variables

For the continuous variables, life satisfaction and sense of control, the figure shows the differences in means and standard deviations across the five types. For the categorical variables, local and national attachment and political interest, the figure shows the differences in proportions.

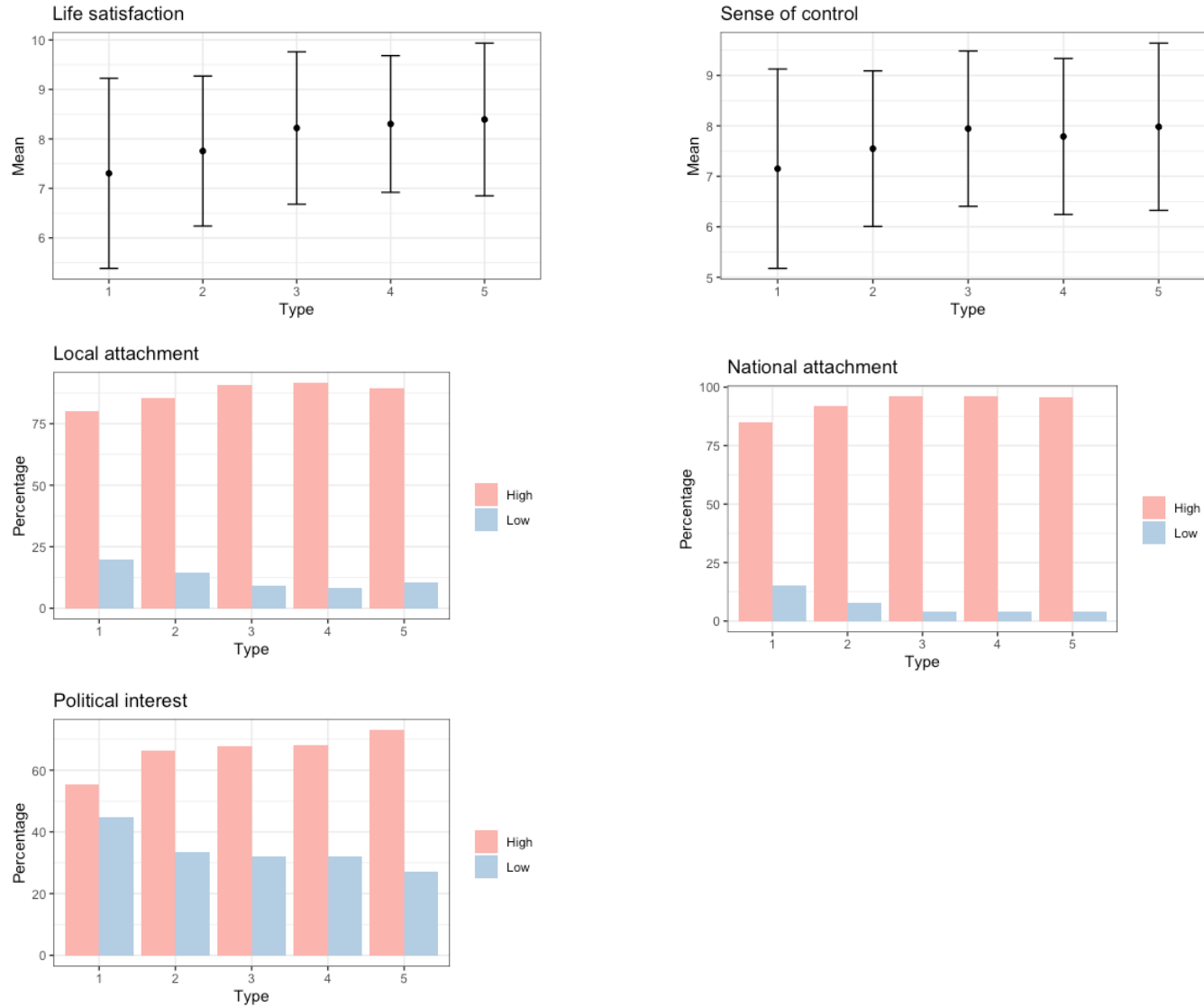


Table C.1: Chi-square tests, effect sizes, and pairwise comparisons for each country across the five types of citizens

		Type 1:	Type 2:	Type 3:	Type 4:	Type 5:	Test	Effect size	Pairwise comparisons
		<i>Low trusters</i>	<i>Mid-level trusters</i>	<i>Institutional trusters</i>	<i>In-group trusters</i>	<i>Out-group trusters</i>			
	<i>Full sample</i>	55.7%	21.0%	9.0%	4.5%	9.8%			
Country									
<i>Australia</i>	4.8%	4.7%	6.2%	6.0%	2.0%	2.9%	$\chi^2(4) = 93.52,$ $p < .001$	Cramer's V = 0.052;	4,5 < 1 < 2,3
<i>New Zealand</i>	2.6%	2.1%	3.1%	5.2%	2.7%	1.9%	$\chi^2(4) = 115.67,$ $p < .001$	Cramer's V = 0.058;	1,5 < 2,3 4 < 3
<i>Canada</i>	11.6%	11.6%	14.8%	8.0%	3.4%	11.7%	$\chi^2(4) = 214.50,$ $p < .001$	Cramer's V = 0.079;	4 < 3 < 1,5 < 2
<i>United States</i>	7.2%	9.4%	6.0%	3.1%	2.9%	3.2%	$\chi^2(4) = 358.56,$ $p < .001$	Cramer's V = 0.102;	3,4,5 < 2 < 1
<i>Italy</i>	6.4%	8.9%	4.2%	2.9%	1.8%	2.0%	$\chi^2(4) = 488.18,$ $p < .001$	Cramer's V = 0.119;	3,4,5 < 2 < 1
<i>Spain</i>	3.4%	4.5%	1.9%	2.3%	2.3%	2.2%	$\chi^2(4) = 160.51,$ $p < .001$	Cramer's V = 0.068;	2,3,4,5 < 1
<i>France</i>	5.3%	6.6%	4.4%	3.4%	3.1%	3.0%	$\chi^2(4) = 145.73,$ $p < .001$	Cramer's V = 0.065;	2,3,4,5 < 1 5 < 2
<i>Switzerland</i>	8.9%	7.9%	13.0%	9.1%	6.4%	6.7%	$\chi^2(4) = 203.88,$ $p < .001$	Cramer's V = 0.077;	4,5 < 3 < 2 1 < 2
<i>Germany</i>	10.4%	11.9%	10.6%	9.8%	5.2%	3.9%	$\chi^2(4) = 249.28,$ $p < .001$	Cramer's V = 0.085;	4,5 < 2,3 < 1
<i>Austria</i>	4.7%	5.6%	3.0%	5.6%	4.5%	2.1%	$\chi^2(4) = 143.06,$ $p < .001$	Cramer's V = 0.064;	5 < 2 < 1,3,4
<i>Estonia</i>	3.6%	4.2%	3.3%	2.8%	2.1%	1.7%	$\chi^2(4) = 75.48,$ $p < .001$	Cramer's V = 0.048;	5 < 2,3 < 1 4 < 1

Table C.1 continued

		<b>Type 1:</b>	<b>Type 2:</b>	<b>Type 3:</b>	<b>Type 4:</b>	<b>Type 5:</b>	<b>Test</b>	<b>Effect size</b>	<b>Pairwise comparisons</b>
		<i>Low trusters</i>	<i>Mid-level trusters</i>	<i>Institutional trusters</i>	<i>In-group trusters</i>	<i>Out-group trusters</i>			
	<i>Full sample</i>	55.7%	21.0%	9.0%	4.5%	9.8%			
<b>Country</b>									
<i>Denmark</i>	9.4%	5.5%	8.2%	15.7%	23.7%	21.9%	$\chi^2(4) = 1504.5,$ $p < .001$	Cramer's V = 0.209	1 < 2 < 3 < 4,5
<i>Sweden</i>	3.4%	2.0%	3.8%	3.8%	5.5%	9.0%	$\chi^2(4) = 465.69,$ $p < .001$	Cramer's V = 0.116	1 < 2 < 3 < 4 < 5
<i>Norway</i>	3.2%	1.9%	3.8%	6.0%	6.0%	5.4%	$\chi^2(4) = 284.28,$ $p < .001$	Cramer's V = 0.091	1 < 2 < 3,4,5
<i>Finland</i>	3.3%	2.4%	2.6%	7.4%	4.7%	5.6%	$\chi^2(4) = 299.05,$ $p < .001$	Cramer's V = 0.093	1,2 < 4,5 < 3
<i>Netherlands</i>	6.7%	5.5%	5.8%	3.3%	20.5%	12.5%	$\chi^2(4) = 758.17,$ $p < .001$	Cramer's V = 0.148	3 < 1,2 < 5 < 4
<i>United Kingdom</i>	5.1%	5.2%	5.4%	5.3%	3.6%	4.5%	$\chi^2(4) = 11.41,$ $p = .022$	Cramer's V = 0.018	NA