

*The Mediating Role of Intergroup Contact on the Relationship
Between Personal Values and the Attitude Towards
Immigrants*

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1. Introduction

1.1 From influx to attitudes

In 2021, 632.315 people put in a EU-asylum application. This is 33.8% more than in 2020 (European Parliament, 2022). The war in Ukraine has led to an even bigger increase of applications in 2022, and predictions indicate that the number of asylum seekers will continue to increase due to the consequences of the climate crisis (European Parliament, 2022 ; International Organization of Migration, 2021). Next to asylum seekers, there has been an increasing inflow of other types of immigrants (i.e. work- or family related), and this too is not expected to decrease any time soon (Benton & Paluzzi, 2018).

Despite that immigrants make societies increasingly more diverse, citizens do not always agree that their environment is a good place to come to for minorities (OECD, 2020), among which immigrants. Namely, whereas part of EU-citizens have a more positive attitude towards immigrants, seeing benefits in terms of economic advantages and cultural enrichment (Schmidt, 2021), an increasing part of EU-citizens have a more negative attitude towards immigrants and are reluctant to accept the new, unfamiliar cultures and beliefs (Davidov et al., 2014 ; Becker et al., 2022). This phenomenon is also evident in organizations, as increased ethnic diversity at the workplace has been related to decreased happiness at work (Haile, 2013), for example due to the fact that employees see threat in immigrants (De Coninck et al., 2021) as they would take away one's job (Lancee & Pardos-Prado, 2013).

1.2 Consequences of the attitude towards immigrants

More negative attitudes towards immigrants lead to negative consequences for both immigrants and organizations. On the one hand, immigrants experience discrimination and exclusion, and on the other hand, employees overall experience social tension and conflict (Dovidio et al., 2003 ; Esses et al., 2008). An example of the behaviors related is workplace bullying of immigrants as a result of cultural distance, leading to more workplace tension that

negatively affects performance and employee wellbeing (Rosander & Blomberg, 2021). More positive attitudes, however, have been argued to lead to increased social cohesion (Verkuyten & Martinovic, 2012), organizational performance and cultural exchange at the workplace (Valenzuela et al., 2022).

While many organizations implement measures like antibias or diversity training to mitigate the consequences of a more negative attitude towards immigrants or empower the effects of a more positive attitude, research finds limited effect of these interventions actually being effective (Dovidio et al., 2016) and indicate more theoretical grounding is needed for more effective instruments to be developed (Paluck et al., 2021). Then first, however, insight is needed in what is already known about factors explaining the attitude towards immigrants.

1.3 Explaining the attitude towards immigrants

So far, wide-ranging research has been conducted to surface the factors that explain the attitude towards immigrants. After elucidating these factors, theories will be discussed that further explain how each factor contributes to the attitude towards immigrants.

To start with, people from higher levels of education have been found to relate to a more positive attitude towards immigrants than people from lower education levels (Ederveen et al., 2005; Schmidt, 2021), while people of higher age have been related to a more negative attitude compared to people with a lower age (Schmidt, 2021). Moreover, people who are more economically prosperous or employed have been related to a more positive attitude than people who are less economically prosperous or unemployed (Heizmann & Huth, 2021 ; Lancee & Pardos-Prado, 2013). Lastly, having a more left-oriented political orientation relates to more positive attitudes towards immigrants, while having a more right-oriented political orientation relates to more negative attitudes towards immigrants (Decker et al., 2022 ; Piurko et al., 2011).

The influence of higher age on a more negative attitude towards immigrants can be explained through the amount one is exposed to intergroup contact, as younger age groups are

more exposed to intergroup contact than older age groups, leading to a more positive attitude towards immigrants (Schmidt, 2021). Intergroup contact, following the contact theory, can reduce intergroup prejudice (Allport, 1954 ; Pettigrew, 1998), and more intergroup contact has been related to a more positive attitude towards immigrants (Graf et al., 2014; McLaren, 2003 ; Pettigrew & Tropp, 2006).

The influence of the other demographic factors – level of education, economic prosperity and (un)employment – can be explained through perceived intergroup threat, following the ethnic competition theory (Ederveen et al., 2005). This theory assumes that increased competition over resources leads to increased levels of perceived intergroup threat (Blalock, 1967). When resources are scarce, people with less economic prosperity show more concerns regarding immigration as they apply to these same resources. Leading from this, they experience having to share the same resources with more people, leading to a feeling of threat that results in a more negative attitude towards immigrants (Lancee & Pardos-Prado, 2013). This regards people from lower education levels (Schmidt, 2021) and people that are unemployed instead of employed (Lancee & Pardos-Prado, 2013).

The final theory discussed is the theory of basic personal values by Schwartz (2012a), which drives the influence of political orientation. Research suggests that personal values influence the attitude towards immigrants, as values reflect basic motivations that lead to certain attitudes, amongst which the attitude towards immigrants (Davidov et al., 2014). Research has shown that values related to promoting the welfare of others lead to a more positive attitude towards immigrants, while values related to preserving the past lead to a more negative attitude (Schwartz, 2012a). These same values influence one's political orientation (Schwartz, 2007), which is in its turn related to one's attitude towards immigrants as stated before (Schwartz, 2012b ; Decker et al., 2022 ; Piurko et al., 2011).

Besides the factors mentioned above, there are other factors of influence that are not included in the current study. One of these is related to religion (Schmidt, 2021). In this study, we leave this variable out of scope, as the effect yields different results in specific conditions. For example, some studies suggest that this effect only holds when immigrants practice a different religion than the respondent (Schmidt, 2021). On top of that, Schmidt (2021) also argues that factors can differ in their relative role between countries. However, as most theories speak of influence factors in general sense, in demarcating the boundaries of this study the focus has been put on factors in general, leaving a between-country analysis out of scope.

1.4 Combining theory

In short, three different theories – contact theory, ethnic competition theory, and theory of basic personal values – have been discussed separately in their relation to the attitude towards immigrants. But looking at the influences of these theories only in isolation would be an oversimplification, as human attitudes are too complex to be captured in a one-on-one relationship (Hayes, 2013). To this extent, no model could ever be accurate (MacCallum, 2003), but looking into how these different theories relate to each other could at least reduce this oversimplification (Hayes, 2013). Aligned with this, research has been conducted looking into mediating relations of and between the different theories discussed.

Firstly, research has found support that perceived intergroup threat mediates the influence of personal values on the attitude towards immigrants. More clearly, the more people value promoting the welfare of others, the less they perceive intergroup threat, and the less they perceive intergroup threat, the more positive their attitude towards immigrants. Oppositely, the more people value preserving the past, the more people perceive intergroup threat, and the more people perceive intergroup threat, the more negative their attitude towards immigrants (Davidov et al., 2020).

Likewise, research has indicated that intergroup contact mediates the influence of perceived intergroup threat on the attitude towards immigrants, where higher levels of perceived intergroup threat are related to lower levels of intergroup contact, leading to a more negative attitude towards immigrants (McLaren, 2003).

However, there is a mediation effect that has not yet been tested while being theoretically plausible. More specifically, no mediation effect of intergroup contact on the relationship between personal values and the attitude towards immigrants has been examined to date, while relationships amongst these factors in isolation have been empirically supported (Dovidio et al., 2017 ; Schwartz, 2012a). In addition, research looking into factors equal or related to these concepts has proven it likely for such an effect to be present (Walsh & Tartakovsky, 2021 ; Savig & Schwartz, 1995). Besides that, quality of contact has in its turn been indicated to moderate the relationship between intergroup contact and the attitude towards immigrants (Laurence & Bentley, 2018). Namely, when contact is experienced as positive, intergroup contact is related to a more positive attitude, and when contact is experienced as negative, intergroup contact is related to a more negative attitude (Barlow et al., 2012).

As mentioned, more theoretical grounding regarding the attitude towards immigrants is needed in order for more effective instruments to be developed (Paluck et al., 2021). As it has not been investigated before, the aim of this research is to theoretically contribute to explaining the attitude towards immigrants by looking into the mediating role of intergroup contact on the relationship between personal values and the attitude towards immigrants, and into the conditions amongst which quality of contact moderates the relationship between intergroup contact and the attitude towards immigrants.

From this aim follows the central question: *to what extent does intergroup contact have a mediating effect on the relationship between personal values and the attitude towards*

immigrants, and under which conditions does quality of contact moderate the relationship between intergroup contact and the attitude towards immigrants?

Next, the theories and expected relations will be further embedded into literature. Based on this, a conceptual model and hypotheses will be derived. How the hypotheses will be tested will be discussed in the methods section, while the outcomes will be stated in the results section. Finally, this will be followed by a conclusion and a discussion, of which the latter includes the knowledge contribution and practical implications, the limitations, and directions for future research.

2. Theoretical background

In the prior paragraph, three theories have been discussed. In this chapter, we will focus on the two theories that are involved in the central question. These are the contact theory and the personal values theory. First, they will be further elaborated upon. Subsequently, the relations between the theories will be discussed. This leads to a conceptual model and four hypotheses to be tested.

2.1 Contact theory

In their meta-analysis of the contact theory, Pettigrew and Tropp (2006) found that intergroup contact led to more positive attitudes towards the outgroup which, in light of current research, concerns immigrants. The concept of intergroup contact has different underlying processes, conditions and influence factors that will be discussed.

Underlying processes of contact theory

Pettigrew (1998) indicates four interrelated underlying processes of how intergroup contact affects the attitude towards the outgroup. First of all, people with trained knowledge of different cultures have more positive attitudes towards different ethnic groups (Weldon et al.,

1975 ; Fiedler et al., 1971), and the learning of it can, amongst others, occur as a consequence of intergroup contact (Pettigrew & Tropp, 2006).

Secondly, an increase in intergroup contact can lead to more positive attitudes towards immigrants due to behavioral changes, as repeated contact leads to more positive behavior (Jackman & Crane, 1986), and behavioral changes lead to changing attitudes (Pettigrew, 1998).

Thirdly, as contact increases, affective ties can be generated, leading to more positive attitudes towards immigrants (Pettigrew, 1998). People with affective ties towards immigrants feel more empathy and admiration towards them, making their attitudes more positive than those who have not generated affective ties with immigrants (Pettigrew, 1997).

The last process regards ingroup reappraisal. Through intergroup contact, people can re-evaluate their own customs and attach less value to them, leading to less ingroup pride and a more positive attitude towards the outgroup (Pettigrew & Tropp, 2006).

Conditions of contact theory

On top of the underlying processes that give an interpretation of *how* intergroup contact leads to more positive attitudes, the founder of the contact theory, Allport (1954), provided four conditions of *when* intergroup contact leads to more positive attitudes related to contact settings. However, Pettigrew and Tropp (2006) built on this, stating that these conditions are not essential, but facilitating, and are only effective in specific, structured situations. The conditions related to contact settings state that during the intergroup contact, the people in contact must be of equal status, have common goals related to the contact, cooperate, and there must be institutional support for the contact to take place (Allport, 1954).

On top of the processes and conditions mapping the contact theory, there are other aspects of contact that influence the relationship between intergroup contact and the attitude towards immigrants: quality of intergroup contact and direct versus indirect contact.

Quality of contact

The conditions discussed before relate to contact settings (Pettigrew & Tropp, 2006). However, research suggests there is also a factor related to the contact itself that influences the attitude towards immigrants: quality of contact. As an individual factor quality of contact has been related to attitude towards immigrants in multiple studies, supporting that negative contact predicts more negative attitudes, and positive contact more predicts more positive attitudes (Graf et al., 2014 ; De Coninck, 2021 ; Laurence & Bentley, 2018). And as an indirect factor, quality of contact as part of the relationship between intergroup contact and the attitude towards immigrants has been found to be a moderator. More specifically, when contact quality is positive, intergroup contact leads to a more positive attitude towards immigrants, and when contact quality is negative, intergroup contact leads to a more negative attitude towards immigrants (Barlow et al., 2012 ; Laurence & Bentley, 2018 ; Dovidio et al., 2017).

Direct versus indirect intergroup contact

Besides the quality of the contact, there is also a distinction between direct and indirect contact and its effects on the attitude towards immigrants. Most studies in the light of contact theory have studied intergroup contact as direct contact, meaning that the respondents of studies came in direct, face-to-face contact with immigrants (Barlow et al., 2012 ; Laurence & Bentley, 2018 ; Dovidio et al., 2017 ; Graf et al., 2014). Indirect contact has been studied to a lesser extent, but has been found impactful as well, for example through mass media (Fuochi et al., 2020) and through friends who have been in contact with the outgroup (Dovidio et al., 2011 ; Pettigrew et al., 2011).

Indirect contact seems to have a cascading effect, as people talk with their ingroup about positive experiences, who hence get a more positive attitude (Dovidio et al., 2011 ; Wright et al., 2008) and become more prepared to intergroup contact (Pettigrew et al., 2011), but this would not be possible without direct contact in the first place. On top of that, the effects of

indirect contact seem to be mitigated by the effect of direct contact when this is present (Fuochi et al, 2020). For these reasons, this study focuses on direct contact only.

In short, there is a positive effect between intergroup contact and the attitude towards immigrants driven by four different processes, which is stronger under certain conditions related to the contact setting, and which is moderated by contact quality related to the contact itself.

2.2 Theory of basic personal values

Values are elements that reflect the basic motivations humans have (Schwartz, 2012a). Schwartz (2012a) describes ten different values, each of which comes from a basic motivation. The values are: self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism.

As described in the introduction, values related to promoting the welfare of others have demonstrated to be related to a more positive attitude towards immigrants, whereas values related to preserving the past lead to more a negative attitude towards immigrants (Davidov et al., 2014 ; Becker et al., 2022 ; Walsh & Tartakovsky, 2021). Three values in particular seem to play an important role related to this. These are universalism, conformity, and tradition.

Universalism

People who score high on the universalism value generally recognize that people who are different from them have to be respected and appreciated as equals. Welfare and protection of others is at the top of their mind, seeing social justice and equality as means to create harmony in society (Schwartz, 2012a ; Schwartz, 2007).

Immigrants enter new countries as part of a minority group, often yet without a job, social structure or financial means (McLaren, 2003). As people that score high on the universalism value are motivated to promote the welfare of others, research has confirmed that

these people have a more positive attitude towards immigrants than people who score low on this same value (Becker et al., 2022 ; Davidov et al, 2014 ; Schwartz, 2007).

Conformity and tradition

Conformity and tradition both refer to a motivation to adhere to social norms and expectations. Following Schwartz (2012a), people that score high on these values will assume that following social norms is important, as these act as guidelines for smooth interaction and group functioning. These norms and expectations are formed based on the past. Hence, people that score high on conformity and tradition value preserving the past.

The difference between the two values lies in the source of where the social norms and expectations come from. For conformity, this is traced back to individuals close to them, like parents. As for tradition, this is not motivated through individuals but through abstract bodies, like cultural customs (Davidov et al., 2014).

The tradition value is seen as peripheral to the conformity value, their only difference being the source of where the social norms or expectations come from. As they lie especially close to each other in definition and motivation (Schwartz, 2012a ; Davidov et al., 2008), they are often taken together as one conformity-tradition construct (Sagiv & Schwartz, 1995 ; Schwartz, 2007 ; Davidov & Meuleman, 2012). To keep consistency, the current study will follow the same course of action.

Because immigrants often bring with them new customs and norms, to people that score high on conformity-tradition this is interpreted as a threat to their current customs and norms. The newcomers will, due to their different customs, not live up to the social expectations, frustrating people that value conformity-tradition more strongly. Therefore, people that score high on conformity-tradition have a more negative attitude towards immigrants (Davidov et al., 2014 ; Becker et al., 2022 ; Davidov et al., 2020 ; Schwartz, 2007).

2.3 The model

Now the theories around the central question and their expected relationship towards the attitude towards immigrants have been embedded into literature it is time to further look into the likelihood of a mediating effect of intergroup contact on the relationship between personal values and the attitude towards immigrants.

As explained, increased intergroup contact and higher scores on universalism are related to a more positive attitude towards immigrants. On the other hand, decreased intergroup contact and increased conformity-tradition are related to a more negative attitude towards immigrants. But what about the relationship between personal values and intergroup contact? A concept closely related to this has been researched by Sagiv and Schwartz (1995), who found that personal values were related to willingness for intergroup contact. More specifically, stronger universalism scores were related to more willingness for intergroup contact, while stronger conformity-tradition scores related to less willingness for intergroup contact. This regards the same values that influence the attitude towards immigrants directly stated before. Although willingness for intergroup contact is not the same as actual intergroup contact, the concepts are closely related and willingness contributes to the potential of intergroup contact occurring (Ron et al., 2017). Therefore, this is considered indicative for the relationship to exist.

Concluding, the same values trigger both the attitude towards immigrants and intergroup contact, and in the same direction, while intergroup contact also influences the attitude towards immigrants. But regarding the direction of the latter association, a notion of causality must be made. Namely, people with a more negative attitude could avoid intergroup contact, and people with a more positive attitude could search for more intergroup contact (Pettigrew, 1998). However, longitudinal research supported that increased intergroup contact led to a more positive attitude over time, indicating causality from intergroup contact to the

attitude towards immigrants (Pettigrew, 1998). Hence, this is the causal inference assumed in the current study.

Itzchakov and DeMarree argue (2022, p. 1): “Interactions are likely to affect people’s attitudes because the interpersonal context gives conversation partners a great deal of opportunity to intentionally or unintentionally influence each other”. Based on this, it could be argued that people that score higher on universalism, who are more willing to have intergroup contact, have more opportunity to be influenced by intergroup contact and thus have a more positive attitude. Likewise, people that score higher on conformity-tradition, who are less willing to have intergroup contact, have less opportunity to be influenced by intergroup contact and thus have a more negative attitude. Therefore, a mediation effect of intergroup contact on the relationship between personal values and the attitude towards immigrants is likely to exist. This leads to the following first two hypotheses:

H1: the more universalism valued, the more intergroup contact, and the more intergroup contact, the more positive the attitude towards immigrants

H2: the more conformity-tradition is valued, the less intergroup contact, and the less intergroup contact, the more negative the attitude towards immigrants

In addition, the relationship between intergroup contact and the attitude towards immigrants is expected to be moderated by quality of contact (Dovidio et al., 2017), leading to the third hypothesis:

H3: the impact of intergroup contact on the relationship between personal values and the attitude towards immigrants will be moderated by quality of contact such that

- a) when quality of contact is positive, intergroup contact will lead to a more positive attitude towards immigrants and;
- b) when quality of contact is negative, intergroup contact will lead to a more negative attitude towards immigrants

Partial moderated mediation

Even though a mediation effect is plausible, the expectancy is that not the entire relation between the personal values and the attitude will be explained through intergroup contact. There are a few reasons for this.

Firstly, as mentioned before, people that score high on the value universalism inherently believe that people from the outgroup should be treated as equals (Schwartz, 2007 ; Schwartz, 2012a), and people that score high on the combined value conformity-tradition follow that people from the outgroup are a threat as they change the customs they are aiming to preserve (Davidov et al., 2014 ; Becker et al, 2022). Despite the expectation that intergroup contact mediates this relationship, there is reason to believe that from the very core of these values there is already a baseline in attitude towards immigrants that is not mediated by intergroup contact.

Secondly, how and when intergroup contact operates in relation to the attitude towards immigrants is dependent on underlying processes, conditions and factors which are not always easy to control for (Pettigrew & Tropp, 2006). Pettigrew (1998) touches on the difficulty of this subject. He argues that as too many factors related to the contact setting would exclude most intergroup contact situations, including them would make the research less relevant. At the same time research also suggests that the effect of the conditions relating to the contact setting only persists when all conditions are met due to their interrelated nature (Pettigrew and Tropp,

2006). Including less than four will therefore not lead to better results, while including all of them would make the research less relevant. Therefore, in this research, all conditions will be left out of scope.

The same course of action holds for the underlying processes as they, while providing important background knowledge, indicate processes of prejudice reduction (Pettigrew & Tropp, 2006), referring to change. The current research does not focus on attitude change, but on explaining the concept itself. Contact quality, however, is always present, being either positive or negative. For this reason, this moderator is included in the model. In conclusion, this means that part of the variation that this research cannot explain can be assigned to these underlying processes, conditions and indirect factors left out of scope. This leads to the fourth and last hypothesis:

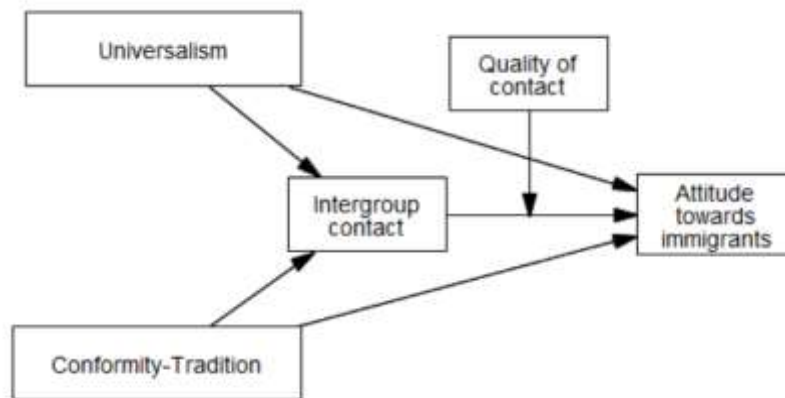
H4: despite the degree of intergroup contact,

- a) the more universalism is valued, the more positive the attitude towards immigrants
- b) the more conformity and tradition are valued, the more negative the attitude towards immigrants

In conclusion, a partial mediation effect of intergroup contact on the relationship between personal values and the attitude towards immigrants is expected, moderated by quality of contact. As the mediation is hence expected to be moderated, this leads to a moderated mediation to be tested. The conceptual model of this can be found in figure 1.

Figure 1

Conceptual Model



3. Methods

In this paragraph, the methodological aspect of this study will be discussed. First, the research design will be enclosed. Secondly, information will be given about the population to be studied and the participants, including an assessment of the ethics that needed to be taken into account in the current study. Next, the constructs that were analyzed will be further elaborated on.

3.1 Research design

This research used an explanatory research approach as the aim was to explain an uninvestigated combination of factors that influence the attitude towards immigrants. Due to the quantitative, static nature of the central question in combination with the premise that there was a limited amount of characteristics to be studied, the data collection could be done at a single point in time using survey data (Denscombe, 2019). In this study, a secondary dataset coming from the European Social Survey (ESS) was used. Next, an explanation will be given why the ESS was appropriate to work with in the current research.

3.2 The dataset

The European Social Survey (ESS) is a face-to-face survey that is conducted in waves every two years in various countries across Europe. In this survey, respondents answer questions about attitudes, beliefs and behavior patterns according to high scientific standards (European Social Survey, 2014a).

Each wave contains a part with similar questions for purposes of longitudinal studies and trend watching. On top of that, in each wave a main theme is introduced with specific questions regarding that theme. Whereas attitude towards immigrants and personal values are tested each wave, variables related to intergroup contact were only tested in wave 7, based on data collected in 2014. As this is the only wave that contains all variables needed for analysis of the research model, this is the wave that was used in the current research. Due to the scientific aim of this study to explain a relation rather than to explain a current situation, the difference in timespan between moment of data collection and current analysis of nine years will not influence the reliability of the outcomes. Nevertheless, where appropriate the gap was taken into account.

3.3 Participants

The research population of the ESS concerned all people currently living in the country with a minimum age of 15. Also, the ESS excluded people who have been away for more than six months, students abroad for study, temporary visitors and people living in institutions. From the remaining population, a random selection was done (European Social Survey, n.d.).

As the attitude towards a population group, immigrants, is addressed in this study, immigrants themselves were excluded from the analysis. The ESS does not give any definition of how they define an immigrant. Hence, the same definition was used by Davidov et al. (2014), as they did comparable research in terms of using the ESS wave 7 and measuring the attitude towards immigrants. This definition was termed “foreign born”. In this research, the exclusion

of this group was done by filtering on the category “No” concerning the ESS-item: were you born in [country]?

From the remaining total of 35,634 participants in the survey, a selection of two out of the twenty-two countries was made. Reason for this is that in an extremely large population, small differences in the data can already lead to significant results (Field, 2016). Taking a smaller sample therefore led to data easier to interpret. And, despite that country-level analysis was not entailed in the scope of this research, economic prosperity was and to measure this, two countries were selected that were strongly divergent on their scores on economic prosperity in 2014. The countries selected were Lithuania and Sweden, as Sweden was ranked number 1 on economic prosperity factor in 2014, and Lithuania number 37 (Legatum Institute Foundation, n.d.).

3.4 Ethics

As this research uses a secondary dataset, no direct influence on the ethical treatment regarding respondents could be exerted. However, there are important notes to share regarding ethics related to the respondent treatment and scientific integrity.

Respondent treatment

The ESS has strict guidelines related to three important subjects concerning the treatment of respondents: transparency, anonymity, and voluntary participation.

Regarding transparency, prior to the interview households received a letter. In this letter, details regarding the aim of the research, how the data is used, by whom the data is used, privacy and data quality protection were thoroughly covered. Also, it was clearly stated that the data will be kept for an indefinite period of time. On top of that, at the beginning of the actual interviews, again the details entailed in the letter were covered (European Social Survey, 2014a).

Much information could be found about the extent to which anonymity is covered by the ESS. After data collection, to guard the privacy of respondents, strict guidelines were followed. Firstly, basic precautions were taken by having a large enough sample per country with anonymous respondents. Also, sensitive personal data was stored safely and not published publicly. However, due to the combination possibilities of the extensive amount of items it might still have been possible to trace a respondent back to its identity. For those cases, rounding, substitution or cell suppression have been applied. For the remaining data risk the ESS has obtained a license of the Norwegian Data Inspectorate. Thus, in general data privacy was well covered (European Social Survey, 2014a ; European Social Survey, 2015).

Then, regarding voluntary participation, respondents could voluntarily decide if they wanted to participate, and withdraw at any point of the interview. Also, the guidelines of the ESS state that after refusal of participation there was no more contact, indicating there was no further pushing for participation. At the beginning of the interview, respondents had to fill in a form of informed consent before the interview could take place. In this way, voluntary consent and transparency were well covered. One negative note that was inclined in the project instructions was that, when participations did not want to answer or participate, the instructions did indicate some nudging to continue, for example by stressing that it was all confidential (European Social Survey, 2014a). This could have pushed respondents into participating while they might have wanted to seize participation.

Finally, a more critical note with regard to respondent treatment in general. What was not clearly visible in the documents provided by the ESS was a notion on the treatment of participants. These were be expected for example in the project instructions or the interview guidelines, for example to clearly state a respondent has to be treated with respect. Possibly, as the interviews were conducted by a professional research agency, these guidelines might have been present, while not publicly being shared.

Scientific integrity

Scientific integrity refers to the extent to which the researcher followed high professional standards, used appropriate techniques for data analysis, and avoided misrepresentations of their work (Denscombe, 2019). In order to abide by these guidelines, it was important for the researcher to stay honest and open throughout the process about the choices made and the way the analysis was conducted. In this research, limitations in the discussion section address this and choices made with regard to the construction of the research were based on empirical grounding as much as possible.

3.5 The constructs

Each wave contains a quality control process. In this process the questionnaire and its items are tested repeatedly, translated in the correct manner, monitored with regard to random sampling procedures, and reviewed concerning the concepts that needed theoretical grounding (European Social Survey, 2015). Next, regarding the latter, the concepts used in this study will be further elaborated based on this theoretical grounding. First, the key variables are explained, followed by the control variables.

Key variables

The key variables concern the independent, dependent, mediation, and moderation variables.

Independent variables. The independent variables consist of the personal values universalism and conformity-tradition. In the ESS, these were measured according to the PVQ21, based on the 40-item Portrait Value Scale (Schwartz, 2003 ; Davidov et al., 2008). Research suggests that using this scale is valid for measuring personal values, but that the values conformity and tradition have to be paired in order to support the condition of invariance (Davidov et al., 2008). As this was already the intention of the current study this led to no further issues in using the ESS.

The items and their values can be found in table 1, appendix 1. The universalism construct contained three items about valuing promoting the welfare of others, whereas conformity-tradition contained four items related to preserving the past. Respondents were requested the following: “Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you. Use this card for your answer” (European Social Survey, 2014b, p.2). Next, the respondents could select between scores 1 (very much like me) and 6 (not like me at all).

Before being ready for analysis, the different items per construct were combined and their means were taken. The variables resulting from these mean calculations were inversed to align the direction of the variables with the other predicting and dependent variables such that, for example, a higher score on universalism would yield a more positive score on the attitude towards immigrants. Finally, the constructs were tested on reliability and internal consistency. For the construct of universalism, Cronbach’s $\alpha = .628$ and for conformity-tradition Cronbach’s $\alpha = .627$. These are reasonable, considering the low amount of items used per construct (Schwartz, 2003). None of the items being removed left a higher Cronbach’s α , meaning that all items were included when testing the hypotheses. Regarding the internal consistency, the average correlation between items of universalism was 0.43, and of conformity-tradition was 0.41 which are both sufficient (Field, 2016).

Dependent variable. As for the dependent variable, the attitude towards immigrants, three items were combined to create the construct for measurement. These items were selected as they have been widely used to measure the attitude towards immigrants (Schmidt, 2021), and the ESS has proven to be a valid instrument to test attitudes in general (Davidov et al., 2008). The items are stated in table 2 in appendix 1.

Likewise to the independent variables, the mean of the combined scores of these items was taken to create the final construct. Cronbach's $\alpha = .853$, which overall indicates a reliable scale. The average correlation ($r = .73$) suffices in terms of internal consistency (Field, 2016).

Mediator. As for the mediating variable, intergroup contact, the indicator discussed in the theory was followed, meaning that intergroup contact refers to the amount of contact one has with the outgroup. The item of the ESS taken included in this research to measure this is stated in table 3, appendix 1.

Moderator. The moderating variable, quality of contact, is related to the item of intergroup contact as there is a routing included in this item in the ESS. Namely, as you answer that you never have intergroup contact on the intergroup contact item, you do not get the question about contact quality. How this is dealt with will be discussed later on. The item it concerns can be found in table 4, appendix 1.

As the theory only refers to negative and positive contact, the ordinal quality of contact variable was transformed in a dichotomic categorical variable stating either positive or negative contact that was used for hypotheses testing.

Control variables

Control variables enhance the internal validity of a study by limiting the influence of external variables. This avoids research bias (Allen, 2017). Based on the literature assessed for the current research, the variables that were aimed to control for are age, education level, intergroup threat, political orientation, and economic prosperity through analyzing two diverging countries. The items related to these variables can be found in table 5, appendix 1.

Interpretation of questions

In a questionnaire, the use of words is crucial for preventing miscommunication (Vennix, 2019). Therefore, dubious concepts should be elaborated on. The ESS has aimed to do this by explaining concepts in the questions when needed. For example, in one of the

questions measuring universalism the word “different” is used. As this word can have many interpretations, the ESS placed a note in the questionnaire with the following description: “Different in almost any way. The key idea is that (s)he sees difference/diversity positively and as something worth learning about” (European Social Survey, 2014b, p.2). In this way, the ESS aims to keep misinterpretations to a minimum, keeping data quality high.

3.6 Data analysis

To test a moderated mediation, two methods are generally used. These are structural equation modelling (SEM) and linear regression analysis using the bootstrap approach (Field, 2016 ; Preacher & Hayes, 2004). Both methods are deemed valid for moderated mediation analysis, and while SEM is arguably more suitable for more complex model testing when testing multiple indicators at the same time, it is a complex procedure (Li, 2011). Linear regression analysis, however, is straightforward in its use and lends itself perfectly for simpler model testing (Preacher & Hayes ; Li, 2011). Because this model is relatively simple, linear regression analysis was applied using the Process tool. As you can only enter one predictor at a time in Process models, the two predictors will be analyzed separately. For the effect, both unstandardized and standardized effects will be described, as the former is less complex when interpreting the data and the latter is useful for comparability across different studies (Field, 2016).

4. Results

Before the dataset could be analyzed and interpreted, a few steps were taken. First, a missing value analysis was performed. Next, the necessary assumptions were tested to value the quality of the model (Field, 2016). After this, the model parameters were estimated applying the method of Ordinary Least Squares to find the best model fit (Hayes, 2013), based on which conclusions were drawn with regard to the hypotheses.

4.1 Missing value analysis

To determine whether the missing values in the data were missing completely at random or were structured in a pattern, Little's MCAR test was performed. Overall, missing values were between 0-6% which, following general rule of thumb, is not problematic (Little & Rubin, 2019). One variable, however, had a particularly high percentage of missing values. This regards the variable for political orientation. Overall, this variable had 19% missing values and, when looking at country-level differences, this high percentage proved to be almost completely due to missing values for country Lithuania (31%). As there is a problematic proportion of missing values and they are not randomly distributed the variable political orientation will be left out of scope in this research.

For the remaining variables, Little's MCAR test showed that the pattern was not missing completely at random, as $p < ,001$. This may lead to biased results, something that has to be taken into account when making statistical inferences (Little & Rubin, 2019). However, as the sample size is rather large the impact of missing values is less critical as individual cases do not contribute as much as when the sample is small.

Next to the non-intended missing values, there are also the missing values as a result of a routing for the variable quality of contact. Namely, if you answered that you never had contact with an immigrant you could not make any inferences about contact quality and hence, you were routed away from this question. For analysis, the scores with a routing were assigned a central score based on the sample mean as to minimize the bias resulting, as otherwise in regression analysis the respondents with a routing would have been excluded from the analysis. Next, a dummy variable was included with either contact or no contact as an additional verification.

4.2 Assumption testing

After running the missing value analysis, the necessary assumptions were tested. These regarded linearity, normality, multicollinearity and heteroscedasticity. They will be discussed in order.

Linearity

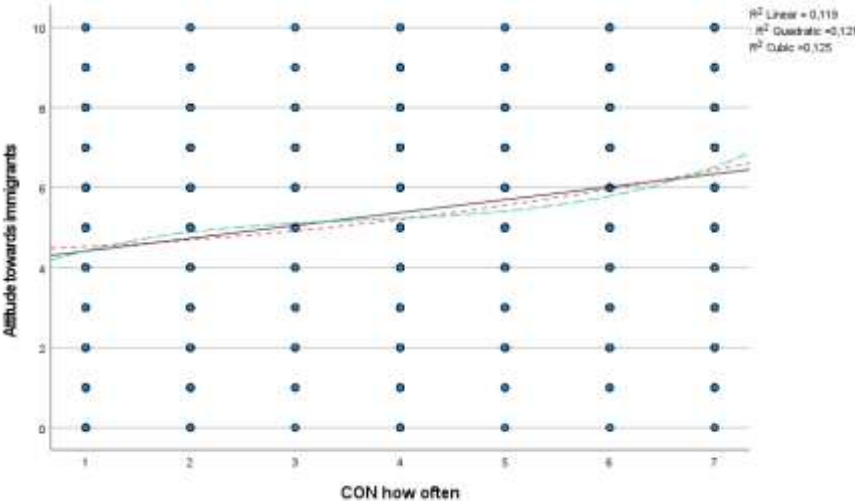
Firstly, regarding linearity both significant linear and non-linear relationships between the predictors, the mediator, the moderator and the dependent variable were found when conducting polynomial regression. Also, the non-linear relationships often provided a slightly better model fit (+0-1%). This is problematic as this indicates that the model does not predict the data correctly (Field, 2016). Transformations based on log and square root did not solve the issues regarding linearity or improve model fit. This could be due to increased chances of achieving significance when dealing with a large sample size (Field, 2016). To validate this, a subset of 25% the data was taken and the polynomial regressions were analyzed again. Most polynomials still proved significant, but for the relation between intergroup contact and the personal values the polynomials were now insignificant. Hence, possibly, for the relationship between the independent variables and intergroup contact, the non-linearity was explained by the large sample size. The polynomials of the personal values when the attitude towards immigrants was defined as the dependent variable remained significant, as did the polynomials of the moderator and the mediator. Possibly, the latter could be due to the nature of the variable intergroup contact, which is ordinal, while being treated as a continuous variable in linear regression analysis (Agresti, 2010).

As Hayes (2013, p.53) argues: “The question is not whether we have violated an assumption, but how much doing so leads us astray when we interpret our results and the inferences we make from them”. Looking at the example below, the impact of the non-linearity found might not be too serious for the current model. As can be seen in figure 2, the quadratic

(red dotted line) and cubic (green dotted line) closely revolve around the linear line (black line), with a maximum increase of variation explained of 0,6%. Despite that extreme caution must be taken related to the inferences made based on this model as this assumption remains violated (Hayes, 2013), the model could still provide meaningful information about the relationships under study.

Figure 2

Scatterplot of Linear, Quadratic, and Cubic Relationship Between Attitude Towards Immigrants and Interpersonal Contact



Normality

Secondly, regarding normality, skewness and kurtosis were measured for testing non-normal distributions. For skewness, the most extreme value was 0.355 and for kurtosis -1.571. Including that neither of these are problematic regarding normality, Field (2016) also stresses that in large sample sizes, normality matters less and tests regarding significance should not be done as they have a high chance of yielding significance while it should not be worried about. Therefore, no further tests regarding normality have been done.

Multicollinearity

The third assumption concerns multicollinearity. In SPSS, the predictive variables were centered before conducting analyses. When running regression analyses and interpreting the tolerance values, no combination of variables came close to reaching the problematic limit of 0.2 (Menard, 1995). On top of that, in Process, centering of predictive variables could be selected. Even though when measuring indirect effects this has no effect on estimation accuracy or the standard error as the variance between predictors will be removed by the same factor, this option was still selected as it can make the test more meaningful and more easily interpretable (Hayes, 2013). For validation, these results were compared with the original values but no noteworthy differences in significance, effect or direct of effect were found. For final interpretation, the centered variables were used.

Heteroscedasticity

And finally, the last assumption taken into account was heteroscedasticity. To overcome biased inferences based on unequal variance across different values of the predictors Process offers the application of HC 3, which is strongly recommended to be used as it has a minimum loss of power when errors are homoscedastic (Hayes & Cai, 2007 ; Hayes, 2013). Therefore, HC 3 will be applied when measuring the indirect effects and the assumption of heteroskedasticity can be met.

In conclusion, all assumptions other than linearity were met. Regarding the inferences, extreme caution must be taken as violating the assumption of linearity indicates a bad model fit (Field, 2016), and as values were missing non-randomly. However, when being respectful towards the complexities of the data, valuable information can be retrieved nevertheless (Hayes, 2013).

4.3 Hypotheses testing

As explained, two different models were used to in order to answer the central question. First, the full theoretical model was tested. Next, the mediation was validated in isolation in order to be able to draw more detailed conclusions. The significance of the direct, indirect and total effects were analyzed using the bootstrap procedure for confidence intervals in the Process tool.

Moderated mediation

For testing the moderated mediation, model 14 of Process was applied. Figure 3 shows the results of the model with universalism as predictor, and figure 4 shows this same model with conformity-tradition as predictor. Regarding model fit for universalism, the full model explained 45.87% of the variance in the attitude towards immigrants. For conformity-tradition this was 45.84%.

Figure 3
Moderated Mediation of Value Universalism

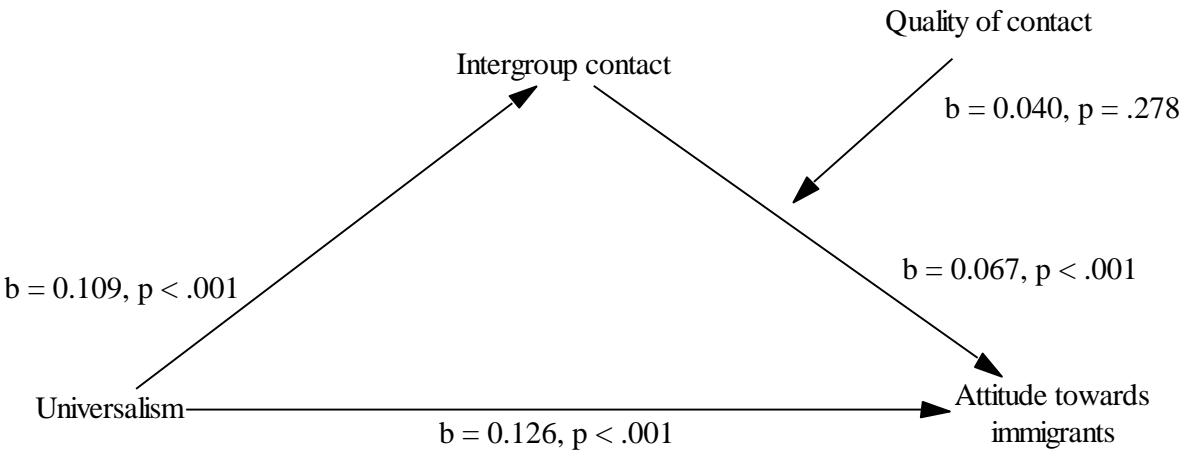
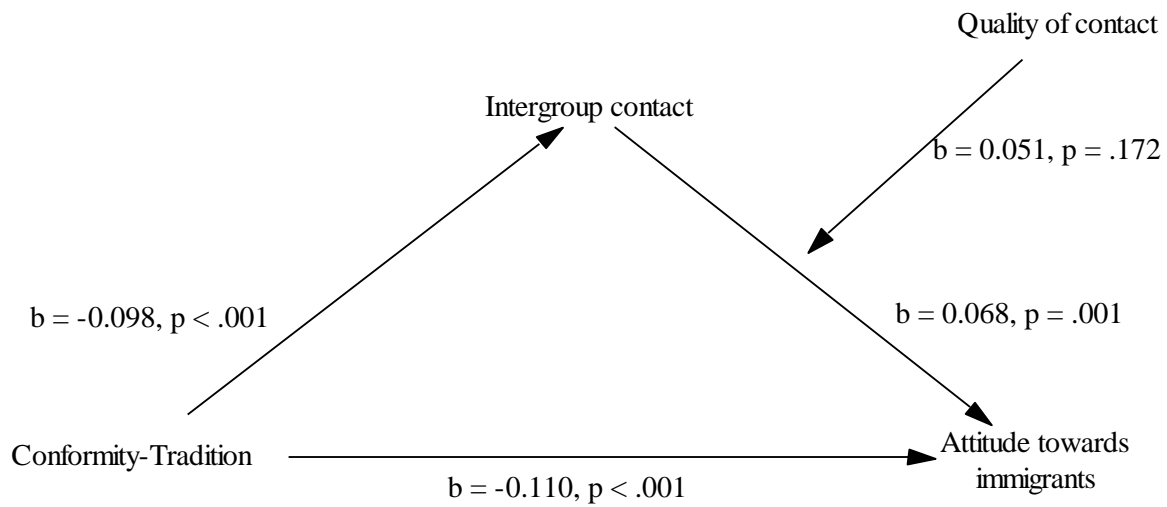


Figure 4

Moderated Mediation of Value Conformity-Tradition



In both models, no significance was found for the moderated mediation effects, as the combined effects of intergroup contact and quality of contact were $p > .05$. This suggests that overall the impact of intergroup contact as a mediator on the relationship between personal values and the attitude towards immigrants does not significantly depend on the quality of contact. Leading from this is a rejection of hypothesis 3 for both values.

As in both models the main effect of the moderated mediation was not significant, the significance and effect sizes of positive and negative contact were not further interpreted as inferences would be built around uncertainty (Hayes, 2013). However, the outcomes did not rule out the possibility that the mediating effect was present without the moderator. The direct effects of both models with regard to the mediator were significant, which could be an indication that a mediating effect, independent of the conditions of the quality of contact, is present. Thus possibly, when analyzing the mediating effect alone, intergroup contact could still significantly explain part of the variation in the attitude towards immigrants. Therefore, model 4 in Process was tested for both universalism and conformity-tradition, excluding quality of contact as a moderator.

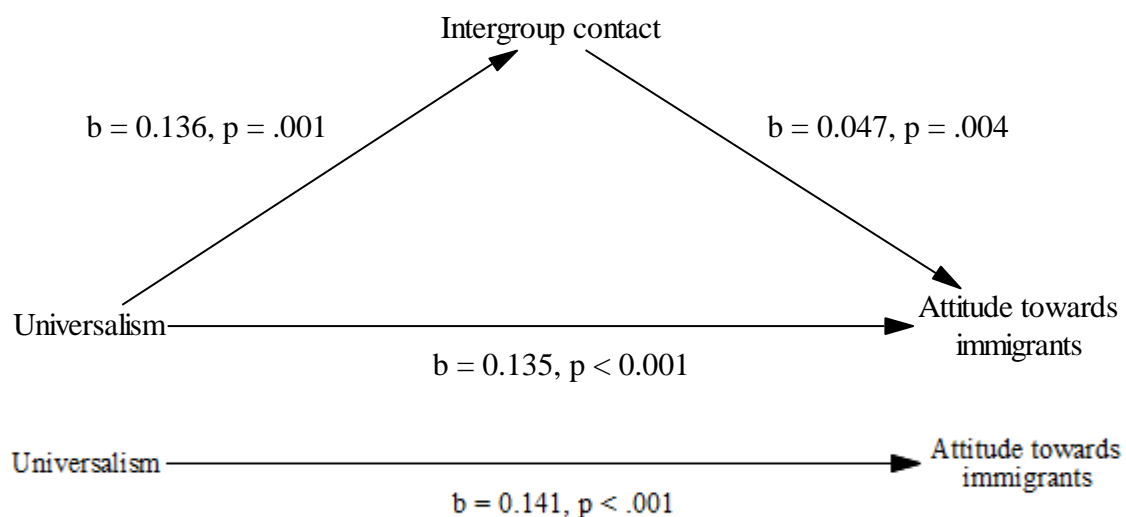
Mediating effect of universalism

Excluding the quality of contact, the resulting mediation model for universalism is depicted in figure 5. Compared to the degree of variation of the attitude towards immigrants explained, the model including quality of contact explained 2% more, meaning that quality of contact did explain a small part of the variation in the attitude towards immigrants.

In line with expectations, higher scores on universalism significantly predicted more intergroup contact, and more intergroup contact significantly predicted a more positive attitude towards immigrants, leading to the conclusion that, based on this data, hypothesis 1 was supported. On top of that, both direct effects with and without controlling for the mediator were significant and positive, meaning that with and without the mediator, higher scores on universalism led to a more positive attitude towards immigrants, therewith supporting hypothesis 4 regarding the direct effect of universalism on the attitude towards immigrants.

Figure 5

Mediation of Value Universalism



The effect sizes and their confidence intervals provide information about the degree of mediation found in the data (Field, 2016), and can be found in table 6, appendix 2. The unstandardized effect, resulting from the combination of paths from universalism to intergroup contact and from intergroup contact to the attitude towards immigrants, tells that for every unit increase of universalism, there was a 0.006 unit more positive attitude towards immigrants through intergroup contact. The standardized effect stated that for every increase of universalism with the standard deviation, the attitude towards immigrants became 0.003 unit more positive. Both effects were significant, but relatively low, indicating a minor mediation effect. This was also supported by the model fit as the model including the mediator explained 43.86% and excluding the mediator 43.71%. This is only a 0.15% increase.

In conclusion, a mediating effect of intergroup contact on the relationship between universalism and the attitude towards immigrants, and thus hypothesis 1, was supported while the effect was relatively small. Hence, the mediator explained just a small proportion of variance in the attitude towards immigrants. There are many different ways to determine whether a “true” mediation effect is present (Field, 2016), but in the current research the focus was mainly on the significant relationships found. However, this does not mean that the effect itself was substantial.

Regarding the direct effect between universalism and the attitude towards immigrants, hypothesis 4 for universalism was supported, meaning that despite the degree of intergroup contact, the more universalism and thus promoting the welfare of others is valued, the more positive the attitude towards immigrants.

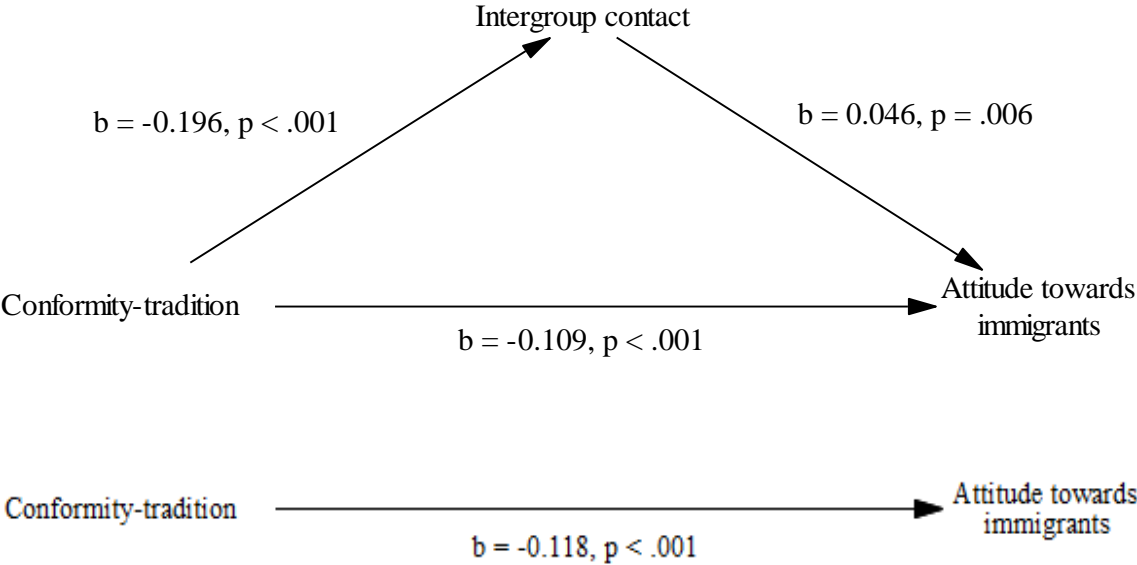
Mediating effect of conformity-tradition

Now taking conformity-tradition as the independent variable whilst excluding quality of contact, the results were again in line with expectations concerning direction and significance. A visual representation of this is depicted in figure 6. Higher levels of conformity-

tradition led to less intergroup contact, and less intergroup contact led to a more negative attitude towards immigrants as this relationship was positive. Resulting from this, hypothesis 2 was supported. Compared to the model fit including quality of contact, this model explained 2% less variation, meaning that quality of contact did play a role in explaining the attitude towards immigrants.

Figure 6

Mediation of Value Conformity-Tradition



The effect sizes can be found in table 7, appendix 2 and state that when considering the unstandardized effect, for every unit increase of conformity-tradition, the attitude towards immigrants became 0.009 units significantly more negative. When speaking in terms of standard deviations, this effect was even smaller (0.004) but in the same direction. Again, the mediating effect was hence rather low. The model fit showed a slight increase compared to the model not including the mediator, from 43.66% to 43.80% (+0.14%).

In conclusion, hypothesis 2 was supported, meaning that the more conformity-tradition, and thus preserving the past, was valued, the less intergroup contact, and the less intergroup

contact, the more negative the attitude towards immigrants. Here too the effect was relatively small as effect size was low and the mediator explained just a small proportion of the variance around the attitude towards immigrants.

Concerning the direct relationship between conformity-tradition and the attitude, hypothesis 4 was also supported, meaning that despite the degree of intergroup contact, there was still a statistically meaningful negative relationship between conformity-tradition and the attitude towards immigrants.

In all models, the control variables proved significant and in line with the direction expected from theory. Noteworthy here is that quality of contact as a direct influence factor on the attitude towards immigrants was significant as well, indicating that this variable plays some role in explaining the variation of the attitude towards immigrants, just not a moderating one between the relationship of intergroup contact and the attitude.

5. Conclusion

This chapter will interpret the results as such that a conclusion can be drawn with regard to the central question.

As was outlined in the results, the impact of intergroup contact as a mediator on the relationship between personal values and the attitude towards immigrants does not significantly depend on the quality of contact. Hence, there is no indication to assume that the condition of positive contact on the mediating relationship would lead to a more positive attitude towards immigrants, or that the condition of negative contact on the mediating relationship would lead to a more negative attitude towards immigrants.

When looking into the indirect effect of intergroup contact between personal values and the attitude towards immigrants, more meaningful results were found. For both values universalism and conformity-tradition a significant indirect effect was verified. This means that

it can be stated that, leading from the conclusions based on the value universalism, the more promoting the welfare of others is valued, the more intergroup contact, and the more intergroup contact, the more positive the attitude towards immigrants. And, related to the value conformity-tradition, the more preserving the past is valued, the less intergroup contact, and the less intergroup contact, the more negative the attitude towards immigrants.

As the direct relationship between both values and the attitude towards immigrants remained significant when including intergroup contact, the effects found for both personal values could be interpreted as such that despite the degree of intergroup contact, the more universalism is valued, the more positive the attitude towards immigrants, and the more conformity and tradition are valued, the more negative the attitude towards immigrants. To this extent it is confirmed that intergroup contact is a partial explanatory mediator, and a significant baseline relationship between personal values and the attitude towards immigrants remains even when accounting for intergroup contact. Possibly, this could be due to the baseline in core values individuals have, or to underlying processes and conditions of intergroup contact not accounted for in the current study.

Now the hypothesis regarding the moderated mediation has been rejected, and the hypotheses regarding the mediation effect have been supported, the effect sizes and differences in explained variation can provide the information to answer the central question of this research. As the central question is twofold, it will be answered as such. The first part of it refers to the mediation: *to what extent does intergroup contact have a mediating effect on the relationship between personal values and the attitude towards immigrants...?*

After intergroup contact had been found a statistically meaningful indicator between personal values and the attitude towards immigrants the effect sizes were interpreted. For both values universalism and conformity-tradition, effects were of low size. On top of that, including intergroup contact in the model led to a less than 1% increase of model fit, also indicating that

intergroup contact is, although significant and in the direction as hypothesized, not a substantial differentiator in explaining the attitude towards immigrants.

The second part of the central question was the following: *...and under which conditions does quality of contact moderate the relationship between intergroup contact and the attitude towards immigrants?* Analyzing the model including quality of contact as a mediator showed no significant results. Altogether, intergroup contact plays a minor but meaningful role as a mediator between personal values and the attitude towards immigrants, and contact quality does not influence the relationship between intergroup contact and the attitude towards immigrants in the conceptual model analyzed.

6. Discussion

In this chapter, both the contribution to scientific knowledge and practical implications will be outlined, followed by a critical reflection of limitations of the current research. Finally, the section will be closed with suggestions for further research.

6.1 Contribution and implications

The internal aim of this research was to deliver a theoretical contribution to explaining the attitude towards immigrants. After determining the knowledge gap, this was done by finding confirmation that intergroup contact to a minor extent mediates the relationship between personal values and the attitude towards immigrants, while disconfirming that contact quality in its turn moderated the relationship between intergroup contact and the attitude towards immigrants.

The knowledge acquired in this research gives indication to assume that intergroup contact does significantly but not substantially indirectly explain the attitude towards immigrants as a mediator between personal values and the attitude towards immigrants. In theory this could mean that intergroup contact is not very strongly predicted by personal values,

and that intergroup contact does not have a substantial effect on the attitude towards immigrants. Correlations, to be found in appendix 3, confirmed this. All associations demonstrated a significant, but small to medium effect (Field, 2016). As a mediation is a combined effect of both the relation between the independent variable and the mediator, and between the mediator and the dependent variable, together this yields an even smaller effect.

Adding quality of contact to the mediation model, neither positive nor negative contact affects the relationship between intergroup contact and attitude towards immigrants. As comparison, model 1 of Process showed that the interaction without the mediation attached to it was significant, thus confirming prior theory about this relationship. From this can be derived that, even though the moderation effect is present with intergroup contact as the independent variable, this effect is not present when intergroup contact is treated as the mediator between personal values and the attitude towards immigrants.

Regarding practical implications, as mentioned earlier, more theoretical grounding is needed to develop more effective instruments to mitigate negative consequences of a more negative attitude towards immigrants and empower the effects of a more positive attitude (Paluck et al., 2021). With regard to this, this research has clarified the impact of intergroup contact as a mediator between personal values and the attitude towards immigrants. From the outcomes of the current study, the practical recommendation would be not to focus instrument development on increasing intergroup contact, due to the significant but low effect size, nor to specifically aim for positive contact when doing so.

6.2 Limitations

There are three limitations that may have affected the results of this study. Firstly, regarding the lead up to the conceptual model. Willingness for intergroup contact and intergroup contact potential were seen as sufficiently indicative for actual intergroup contact to

occur. However, this was not empirically substantiated. Possibly, this was insufficient grounding for the mediating relationship to be present, resulting in a small effect size.

Secondly, research regarding social behavior, including attitudes, is often not static in nature (Pettigrew, 1992), while statistical techniques used in the current study treat it as such. As no statistical model could ever capture real-world accuracy, linear regression analysis could lead to an oversimplification of analysis, even though a bit less so when testing a moderated mediation compared to only a direct relationship (Hayes, 2013). Thus, results could still be far off from how reality operates.

As a third and important notion, intergroup contact is measured as an ordinal variable, while in linear regression analysis it is treated as an interval variable. Even though the results give meaningful information about the directions of the effect, it raises a number of issues. Regarding validity, relationships can be distorted due to unequal distances between answer categories and the model fit might not represent the true coefficients. Concerning reliability, there could be a loss of contained information hidden in the ordering of the categories and, as mentioned in the analysis, it could have caused for the violation of the linearity assumption to be as persistent as it was (Agresti, 2010). On the one hand, the question can be raised if this key variable could have been surveyed as a continuous variable, as respondents might not reliably be able to remember the actual amount of intergroup contact they have had. Also, in the current study a secondary dataset was used with no influence on the construction of answer categories. Therefore, no steps could have been taken to make this item of interval level upfront. On the other hand, however, different analysis techniques could have been applied, respecting the characteristics of the ordinal variable, like logistic regression using cumulative logits (Agresti, 2010).

6.3 Suggestions for further research

Leading up to the final part of this research, there are three suggestions for further research. Extended to the limitations, one important recommendation is to put more focus on the dynamic nature of the attitude towards immigrants, using models that acknowledge dynamic patterns and that come closer to real-world accuracy. The beforementioned structural equation modeling might be one of the tools that would be interesting to apply for this.

Secondly, while scoping the current research, conditions and processes underlying the relationship between intergroup contact and the attitude towards immigrants were intentionally left out as they limited the contact opportunities possible. However, more in-depth insight into the differences of these conditions and underlying processes could provide valuable information about why and when attitudes are affected by intergroup contact. Also, including these conditions could possibly lead to a better model fit compared to the model in the current study.

Finally, in the current study, between-country analysis has been excluded as most theory leading up to the specific knowledge gap did not attribute specific country differences. However, these differences need to be acknowledged, as Schmidt (2021) already indicated that factors could exert differences in effects for different countries. On top of that, when running the moderated mediations for each country in isolation, these proved significant when only analyzing the Lithuanian respondents, while remaining insignificant for the Swedish ones. Therefore, it is recommended to invest in cross-national research to determine how the effects drawn from the current research play out when comparing different countries, based on their specific features.

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8. Appendix

Appendix 1. Constructs

Table 1

Personal Values and Items

Value	Item
Universalism	(S)he thinks it is important that every person in the world be treated equally. (S)he believes everyone should have equal opportunities in life.
	It is important to him/her to listen to people who are different from him/her. Even when (s)he disagrees with them, (s)he still wants to understand them.
	(S)he strongly believes that people should care for nature. Looking after the environment is important to him/her.
Tradition	It is important to him/her to be humble and modest. (S)he tries not to draw attention to him-/herself.
	Tradition is important to him/her. (S)he tries to follow the customs handed down by his/her religion or his/her family.
Conformity	(S)he believes that people should do what they're told. (S)he thinks people should follow rules at all times, even when no-one is watching.
	It is important to him/her always to behave properly. (S)he wants to avoid doing anything people would say is wrong.

Note. Supplementary Questionnaire, by European Social Survey (2014b)

Table 2

Items Attitude Towards Immigrants and Measurement Categories

Item	Measurement categories
Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?	0-10 0 = extremely bad 10 = extremely good
Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries?	0-10 0 = extremely undermined 10 = extremely enriched
Is [country] made a worse or a better place to live by people coming to live here from other countries?	0-10 0 = worse 10 = better

Note. Supplementary Questionnaire, by European Social Survey (2014b)

Table 3*Intergroup Contact Item and Measurement Categories*

Item	Measurement categories
How often do you have any contact with people who are of a different race or ethnic group from most [country] people when you are out and about? This could be on public transport, in the street, in shops or in the neighborhood.	1 (Never)
	2 (Less than once a month)
	3 (Once a month)
	4 (Several times a month)
	5 (Once a week)
	6 (Several times a week)
	7 (Every day)

Note. Supplementary Questionnaire, by European Social Survey (2014b)

Table 4*Quality of Contact Item and Measurement Categories*

Item	Measurement categories
[Following on item intergroup contact] Thinking about this contact, in general how bad or good is it?	1 (Extremely bad) to 10 (Extremely good)

Note. Supplementary Questionnaire, by European Social Survey (2014b)

Table 5*Control Variables and Items*

Variable	Item
Age	Age of respondent, calculated
Education Level	Highest level of education [turned into cross national groups by experts] 0 = less than primary 1 = primary 2 = lower secondary 3 = upper secondary 4 = post-secondary non-tertiary 5 = short-cycle tertiary 6 = bachelor 7 = master 8 = doctoral
Intergroup threat	Immigrants... 0) take jobs away in country, to 10) create new jobs in country
Political orientation	Scale from 0) Left, to 10) Right
Economic prosperity	1) Lithuania, 2) Sweden

Note. Supplementary Questionnaire, by European Social Survey (2014b)

Appendix 2. Effect sizes of mediation analyses

Table 6

Unstandardized Effect(s) of X on Y for Predictor Universalism

Var	Effect	BootSE	BootLLCI	BootULCI
Intergroup contact	,006	,003	,002	,013

Table 7

Completely Standardized Indirect Effect(s) for Predictor Universalism

Var	Effect	BootSE	BootLLCI	BootULCI
Intergroup contact	,003	,001	,001	,005

Table 8

Unstandardized Effect(s) of X on Y for Predictor Conformity-Tradition

Var	Effect	BootSE	BootLLCI	BootULCI
Intergroup contact	-,009	,004	-,017	-,002

Table 9

Completely Standardized Effect(s) of X on Y for Predictor Conformity-Tradition

Var	Effect	BootSE	BootLLCI	BootULCI
Intergroup contact	-,004	,002	-,007	-,001

Appendix 3. Pearson correlations of mediation

Table 10

Pearson Correlations of Mediation

	Intergroup Contact	Universalism	Tradition- Conformity	Attitude towards immigrants
Intergroup Contact	-	,257**	-,159**	,345**
Universalism	,257**	-	,391**	,236**
Tradition- Conformity	-,159**	,391**	-	-,098**
Attitude towards immigrants	,345**	,236**	-,098**	-

Note. Sign ** indicates a significant effect ($p < .001$)