

Transnational ties and life satisfaction of Polish migrants in the Netherlands

Research on integration processes using assimilation and transnationalism theories

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Abstract

This study describes the evidence for a relationship between transnationalism and one aspect of integration: the life satisfaction of migrants from Poland. This research project pays attention to the engagement of ties with the country of origin and evaluates this engagement by differentiating two types: economic and social ties. According to the assimilation and transnational theories, opposing hypotheses on the relationship between transnational economic and social ties and life satisfaction can be formulated. The assimilation theory assumes that transnational ties will lower life satisfaction. However, according to the alternative theory of transnationalism, transnational ties will boost life satisfaction. This article draws on data from the Families of Poles in the Netherlands dataset (Karpinska et al., 2016). The results from the analysis suggest that transnational economic ties do not affect life satisfaction, while transnational social ties have a positive effect on life satisfaction. These results do not support the assimilation theory but find some support for the transnational theory.

Keywords: *assimilation; life satisfaction; transnational network analysis; transnationalism*

1 Introduction

In 2004, the European succession of Poland took place. The European succession had several effects on the characteristics of migration from Polish to the Netherlands (Gijsberts & Lubbers, 2013). Before 2004, Polish migrants' main motive to migrate was an opportunity to work abroad and send remittances back to Poland, meaning Polish migrants earned money in the Netherlands to support (non)kin in Poland. Polish migrants intended to move back to Poland after some time.

After 2004, the characteristics of the migration changed as Polish migrants were no longer obliged to request a permit of residence in the Netherlands and a mandatory working permit for EU migrants was abolished in 2007 (Karpinska & Ooijevaar, 2016; Kleinepier et al., 2015). Polish migrants started to bring their families to the Netherlands, also known as family reunification (Gijsberts & Lubbers, 2013). Bringing kin to the host country can be interpreted as a willingness to stay for a long time or even permanently in the host country (Karpinska & Ooijevaar, 2016). In 2014, Polish migrants became the biggest group of migrants in the Netherlands (Karpinska & Ooijevaar, 2016). The arrival of Polish migrant *families* as a new type of migrant means that information about the integration of these Polish migrants becomes critical since they intend to stay in the Netherlands. The arrival of Polish migrant families raises new questions: To what extent are these Polish families integrated? What influences the integration of Polish families?

As stated by the Rijksoverheid (2022), integration in a host country is necessary to partake in society and develop personal skills within society. Erdal and Oeppen (2013) pointed out that in Europe, the term 'integration' refers to the adaptation processes of the migrant to the host country. Migrant integration is "the sum of processes that increase the opportunities of immigrants and their descendants to obtain the valued 'stuff' of a society, as well as social acceptance, through participation in major institutions such as the educational and political system and the labour and housing markets" (Alba & Foner, 2015, p.5). Recent literature has broadened the view on integration analysis by focussing on 'objective' immigrant characteristics and 'subjective' immigrant characteristics. Integration aspects include Dutch language proficiency, having a job, respecting Dutch law (Rijksoverheid, 2022) and life satisfaction in the Netherlands (Arpino & de Valk, 2016).

In this research, I will study the life satisfaction of Polish migrants. Life satisfaction is a subjective score in evaluating one's life (Paparusso, 2019). Previous research showed that migrants had lower life satisfaction than natives (Arpino & de Valk, 2016). Arpino and de Valk (2016) reported that satisfaction with life in Germany showed a gap between German natives and migrants. A lack of (cultural) identification of migrants with Germany explained this life satisfaction gap. If migrants "[felt] more integrated and [identified] more with Germans" (Arpino & de Valk, 2016, p.1166), they were more satisfied with life than migrants who did not.

I will investigate life satisfaction utilizing the transnational network. The definition of a transnational network in the current research is the cumulation of ties of migrants with kin and non-kin residing in the country of origin. For example, the transnational network of Polish migrants is settled in Poland and can exist of kin and non-kin ties. As Erdal and Oeppen (2013), I recognize that transnational ties can be more complex than described above. Transnational ties are not only 'old' ties with members of the country of origin but are, for example, also ties with people not residing in the Netherlands or Poland but in other countries in the world. For the sake of simplicity, I will not include these other types of transnational ties in this research.

Previously, policymakers, scholars and the media saw a transnational network as problematic concerning integration. Geurts and Lubbers (2016) described that after Turkish migrants expressed loyalty to the country of origin during the military coup in Turkey in 2016, various media sources questioned their loyalty to their host countries. Verhagen (2016) argued that the engagement of migrants with country of origin ties would hinder integration. Scholars using the assimilation theory presumably agreed with the allegations of the media. According to the assimilation theory, invested time in local and transnational ties is seen as a zero-sum game: investment in members of the country of origin is seen as a lack of integration in the host country (Geurts & Lubbers, 2019).

With the rise of globalization, scholars have defined transnationalism as an alternative concept to research integration (Tedeschi et al., 2020). The theory of transnationalism states that engagement with the country of origin and the host country can coexist (Geurts & Lubbers, 2013). Erdal and Oeppen (2013) described that transnationalism interacts with and complements integration; rather than being 'Dutch or Polish', transnationalism assumes a dual migrant identity across borders.

De Haas and Fokkema (2011) suggested that the distance of a tie (local or transnational) and the *type* of network tie have different effects on integration. Transnational ties connected through financial transfers have a different effect on the integration of Polish migrants than transnational ties connected through emotional support. Following this reasoning, this paper will include the function of a transnational tie (social or economic) in its theorizing. Following the above, the research question is as follows: *What is the effect of transnational economic and social ties of Polish migrants in the Netherlands on life satisfaction?*

1.1 Societal relevance

Research on Polish migrant families, their transnational ties, and life satisfaction is essential for numerous reasons. First, information on the transnational ties of Polish migrant families in the Netherlands is limited, even though Polish migrants are one of the most prominent migrant groups in the Netherlands (Karpinska & Ooijevaar, 2016). The previously performed research on Polish migrants in the Netherlands was focused primarily on the socioeconomic characteristics of Polish migrants instead of the transnational ties of Polish families with kin and non-kin (Karpinska & Ooijevaar, 2016). Studying the network of Polish migrants can provide new insights, such as the extent and substance of a support network of Polish families in the country of origin.

Furthermore, the relationship between transnational ties and life satisfaction indicates return migration intentions (de Haas & Fokkema, 2011; Schiele, 2021). De Haas and Fokkema (2011) found that integration in the host country is negatively related to migrant return intentions. Schiele (2021) confirmed this relationship by reporting that the life satisfaction of migrants in Germany is negatively related to migrant return intentions. In the research of de Haas and Fokkema (2011), social ties with the country of origin negatively affected integration. If support for the transnational theory is found in the current study, life satisfaction could explain the relationship between transnational social ties and migrant return intentions.

At last, Dutch migration policy is currently directed to “counteract unwanted [foreign] influence as much as possible” and to “[integrate] newcomers [...] as fast as possible” (Rijksoverheid, 2022, p.1, translation by the author). In Dutch migration policy, ties with kin or non-kin of the country of origin are commonly described as undesirable, theorizing that

influences from the country of origin will delay Dutch integration. Support for assimilation theory (meaning that transnational ties negatively influence life satisfaction as an aspect of integration) would mean that the ideology behind the current Dutch migration policy is justified. Support for transnational theory (meaning that transnational ties positively influence life satisfaction as part of integration) would mean that the ideology behind Dutch migration policy is not necessarily justified. Transnational theory undermines the thought that integration is a one-way process in which migrants become more integrated into the host country while becoming less integrated into the country of origin and that migrants should prevent all kinds of transnational influence (Geurts & Lubbers, 2019). Evidence of transnationalism would mean that policymakers should not fear influences from the country of origin in migrants' day-to-day life. It is common to use studies on life satisfaction to inform such policy deliberations (Diener et al., 2013).

1.2 Scientific relevance

This study will contribute to the scientific debate around assimilation and transnationalism theory. Assimilation and transnationalism have been used as opposing theories studying integration. The current study aims to see if assimilation theory still proves to help explain integration in contemporary times or if transnational theory sketches a better image of the integration of migrants in the globalized world. Previously, researchers found a positive relationship between integration and transnationalism (Erdal & Oeppen, 2013). However, the underlying reasons for the relationship between integration and transnationalism remain empirically unclear (Vertovec, 2009). Tedeschi and colleagues (2020) reviewed studies on transnationalism and concluded that most of the research is qualitative. Evidence on the relationship between transnational networks and integration has yet to be found in quantitative research (Geurts & Lubbers, 2019).

2 Background

2.1 Characteristics of Polish migrants in the Netherlands

In 2010 and 2011, Gijsberts and Lubbers (2013) collected data from 800 Polish migrants registered in a municipality in 2009 or 2010 in the Netherlands. The socioeconomic demographics of these Polish were as follows: a relatively high share of the Polish migrants had a job (84%) compared to other migrants, and many Polish migrants had jobs in industry,

construction, and agriculture. The Polish had jobs requiring less education and paid less than jobs related to the educational level of Polish migrants (Gijsberts & Lubbers, 2013). However, the Polish were overall satisfied with their job and evaluated life in the Netherlands as better than in Poland (Gijsberts & Lubbers, 2015). Gijsberts and Lubbers (2015) found that in the following years after settlement in the Netherlands, the Polish became less satisfied with life in the Netherlands than before. Many Polish migrants lived in multi-person households without a partner or children. A small group of Polish migrants had a partner with or without children. The children of these Poles usually lived in the Netherlands and had a Polish father (Gijsberts & Lubbers, 2013).

2.2 Local and transnational ties of Polish migrants

Geurts and Lubbers (2019) reported that Dutch language proficiency in Polish migrants increased over time. Polish migrants who were not any more part of the Dutch population registers had less Dutch language proficiency and fewer local ties than Polish migrants who were still registered (Gijsberts & Lubbers, 2015). Gijsberts and Lubbers (2015) described that there is a chance that Polish left the Netherlands but were still registered.

Polish migrants usually formed local ties at work. However, these local ties at work decreased over time (Gijsberts & Lubbers, 2015). Gijsberts and Lubbers (2015) stated they could not find a direct explanation for the decrease in local ties. Lowering life satisfaction and experiencing discrimination were possible explanations. Gijsberts and Lubbers (2015) described that in one and a half years, the Polish became more disappointed with life in the Netherlands and experienced discrimination at work and in the media. At this time, the Partij voor de Vrijheid (PVV) launched a website called the Hotline of Poles ('Polenmeldpunt') (Gijsberts & Lubbers, 2015). Citizens could report the nuisance of Poles and other migrants from Middle and East Europe.

As stated above, it was common for Polish migrants to send remittances to kin in Poland. When the duration of stay increased, remittances slightly decreased (Gijsberts & Lubbers, 2015).

3 Theoretical framework

First, I will describe the concept of life satisfaction of migrants. Second, I will describe the concept of the transnational economic and social network. At last, I will hypothesize the effect of transnational economic and social ties on the life satisfaction of Polish migrants using the opposing theories of assimilation and transnationalism.

3.1 Life satisfaction of migrants

Life satisfaction “refer[s] to the individual’s evaluation of his or her life” (Arpino & de Valk, 2016, p.1165). Life satisfaction can also be defined as subjective wellbeing (Arpino & de Valk, 2016). Usually, “there is considerable stability in life satisfaction judgments over short time intervals but greater changes over time as circumstances in lives are likely to change (Diener et al., 2013, p. 499). Therefore, life satisfaction is a valuable tool for studying the effects of migration on migrants.

Individuals evaluate their life through individual and context-related domains, such as having a job, having a family, or being socially included (Hooghe & Vanhoutte, 2010). The latter is significant when analyzing the life satisfaction of migrants (Arpino & de Valk, 2016). I will elaborate on this statement below. Personality traits, such as optimism, or cultural background, can also influence life satisfaction (Schiele, 2021). Polek, van Oudenhoven, and Ten Berge (2011) found evidence of a migrant personality. Polish migrants in the Netherlands had high levels of a secure attachment style. Infants establish a secure attachment if they can return to a safe base, such as a caregiver, if exploration causes distress. Secure-attached children possessed certain personality traits in adulthood, such as being more open to social interactions and trusting than others. This migrant personality correlated with higher life satisfaction (Polek et al., 2011).

Life satisfaction can result from earlier experiences (Arpino & de Valk, 2016) since life satisfaction takes the outcome of people’s choices into account (Diener et al., 2013). For migrants, life satisfaction results from achieving primary goals related to the motive of migration, such as better economic returns in the host country than in the country of origin (Arpino & de Valk, 2016; Schiele, 2021). If migrants achieve primary goals in the host country, life satisfaction is higher.

Other studies showed that the life satisfaction of migrants is usually lower than the life satisfaction of the majority (Kirmanoglu & Baslevent, 2014). Diener et al. (2013) explained

that life satisfaction is not only based on individual characteristics but is also influenced by community and societal circumstances. Experienced discrimination in society is a societal circumstance which explains the gap in life satisfaction between migrants and the majority. Kirmanoglu and Baslevent (2014) stated that migrant minorities can perceive discrimination based on ethnic characteristics and for simply being an immigrant. Polish migrants in the Netherlands were blamed for taking away opportunities of labour of Dutch natives (McGinnity & Gijsberts, 2015). Such allegations created a hostile social climate towards Polish migrants, leading to perceived group discrimination by local contacts and the media (McGinnity & Gijsberts, 2015).

3.2 Transnational economic and social network

The network of a migrant can consist of local and transnational ties (Djundeva & Ellwardt, 2020). Local ties are ties established in the host country. Transnational ties are ties with people living in the country of origin. Local and transnational ties can consist of kin and non-kin ties. Djundeva and Ellwardt (2020) argued that the transnational social network gradually becomes smaller the more time migrants stay in the host country. Over time, migrants tend to focus on transnational ties that provide support which can lead to a transnational network consisting only of family members and close friends.

The transnational network is divided into cultural, political, economic, and social ties (Geurts & Lubbers, 2019). The current paper focuses on the latter ties: economic and social. A form of emotional or practical support shapes social ties. Financial transactions such as the remittances sent from Polish migrants to kin living in Poland connect economic ties. Two members in a network can be socially *and* economically connected, meaning that members can provide emotional support *and* financial support (Karpinska & Dykstra, 2016).

3.3 Assimilation theory

Assimilation theory has been used to describe integration processes (Harris & Todaro, 1970). Migrants have a certain amount of time and money, which can be invested in only one source at a time. If a migrant invests their time and money in the country of origin, the migrant cannot invest this time and money in the host country. Investment of time and money in the country of origin is seen as a lack of integration in the host country (Geurts & Lubbers, 2019). Erdal and Oeppen (2013) used a different term for this mechanism: the

“antagonistic” type. The antagonistic type states that the demand for resources in the country of origin will limit the ability to meet the demands of the host country (Erdal & Oeppen, 2013).

Through this theorizing, the persistence of transnational economic ties implies that migrants cannot reinvest economic resources in the host country. Chabé-Ferret and colleagues (2018) stated that sending remittances and reinvesting economic resources in the host country are a trade-off for migrants and that temporary migrants are more likely to send remittances back to their origin country than migrants intending to settle in the host country. Based on the theory of Chabé-Ferret and colleagues (2018), Polish migrant families would be investing more in the Netherlands than temporary Polish migrants, such as those seeking opportunities of labour to send remittances back to Poland. Examples of investments in the host country are buying a house or a car, being able to pay taxes, donations to churches or associations, being able to use social services such as education, health and pension and becoming a member of sports- or other types of clubs (Mazzacuto, 2008). Investments in the host country are essential in becoming part of society. Migrants investing in the host country meet local ties in church communities, sports clubs, and other associations. Being part of society causes higher life satisfaction (Arpino & de Valk, 2018), just as social engagement increases mental capacities to deal with challenges and causes happiness (Helliwell, 2014).

A transnational network can also result in the fact that migrants have more responsibilities to fulfil than natives (Erdal & Oeppen, 2013). Migrants with a transnational network need to get used to living in a new country while maintaining and supporting the network in the origin country. Migrants can indeed have dual lives having responsibilities in the host and the origin country. Migrants with transnational economic ties should send remittances to provide for members residing in their country of origin.

Moreover, economic hardship in the host country raises the financial burden. The lack of ability to send remittances to transnational ties could create conflict with the people expecting these remittances since migrants cannot support these people (de Haas & Fokkema, 2011). Conflict with transnational economic ties could lead to lower life satisfaction. This theory is only applicable if the gained economic resources in the host country are lower than the economic resources that are needed to send as remittances.

If migrants cannot invest their gained economic returns in the host country due to economic ties *or* if migrants cannot support economic ties due to economic hardship in the host country, life satisfaction in the Netherlands will be lower.

H1a: Polish migrants with a more extensive transnational economic network have lower life satisfaction.

Two explanations exist for the relationship between the transnational social network and life satisfaction. First, De Haas and Fokkema (2011) stated that transnational social ties have a psychological negative effect on the wellbeing of migrants. Maintaining solid and many transnational ties could create feelings of homesickness or feelings of loss, leading to lower life satisfaction. For example, in a qualitative study, a Polish migrant reported that he "was deeply saddened by the separation from his wife" (Ryan, 2010, p. 89). Most Polish migrants stated that the separation from loved ones mainly caused feelings of loss (Ryan, 2010). However, Ryan (2010) did not report the length of separation between migrants and transnational ties nor the possibility of future family reunification. Therefore, the effect of transnational social network on life satisfaction for Polish reunified families can differ. If Polish migrant families are reunified, feelings of loss will not be apparent and negatively influence life satisfaction.

Second, transnational social ties lead to a lack of engagement in the host country (Erdal & Oeppen, 2013). Transnational social ties could 'absorb time', which migrants otherwise could invest in local ties (de Haas & Fokkema, 2011). Put differently, upholding transnational social ties could hinder the formation of a local social network. Arpino and de Valk (2018) used the concept of lacking 'social embeddedness' to describe this lack of a local network. Transnational social ties could also waste time, while migrants could invest in learning the host language (Geurts & Lubbers, 2019). Geurts and Lubbers (2019) theorized that contact with transnational ties reduces the time to pursue Dutch language proficiency. A lack of Dutch language proficiency is, in turn, also negatively related to social embeddedness (Geurts & Lubbers, 2019).

Arpino and de Valk (2018) explained that social embeddedness implies that migrants identify with host country citizens, have a local support network and foster a feeling of

belonging in the host country. Social embeddedness leads to a feeling of inclusion. On the contrary, Polish migrants lacking local social ties are prone to loneliness due to a deficit in a local support network (Djundeva & Ellwardt, 2020). Thus, social embeddedness leads to a feeling of inclusion, while a lack of social embeddedness leads to loneliness. Research on the direct effect of a local social network on life satisfaction is scarce. However, Arpino and De Valk (2018) argued that research has established that perceived inclusion in society leads to higher life satisfaction.

To summarize, migrants who experience homesickness and separation loss due to transnational social ties or migrants who lack social embeddedness due to transnational social ties have lower life satisfaction.

H1b: Polish migrants with a more extensive transnational social network have lower life satisfaction.

The conceptual model of the transnational network on life satisfaction explained by assimilation theory is as follows (Figure 1):

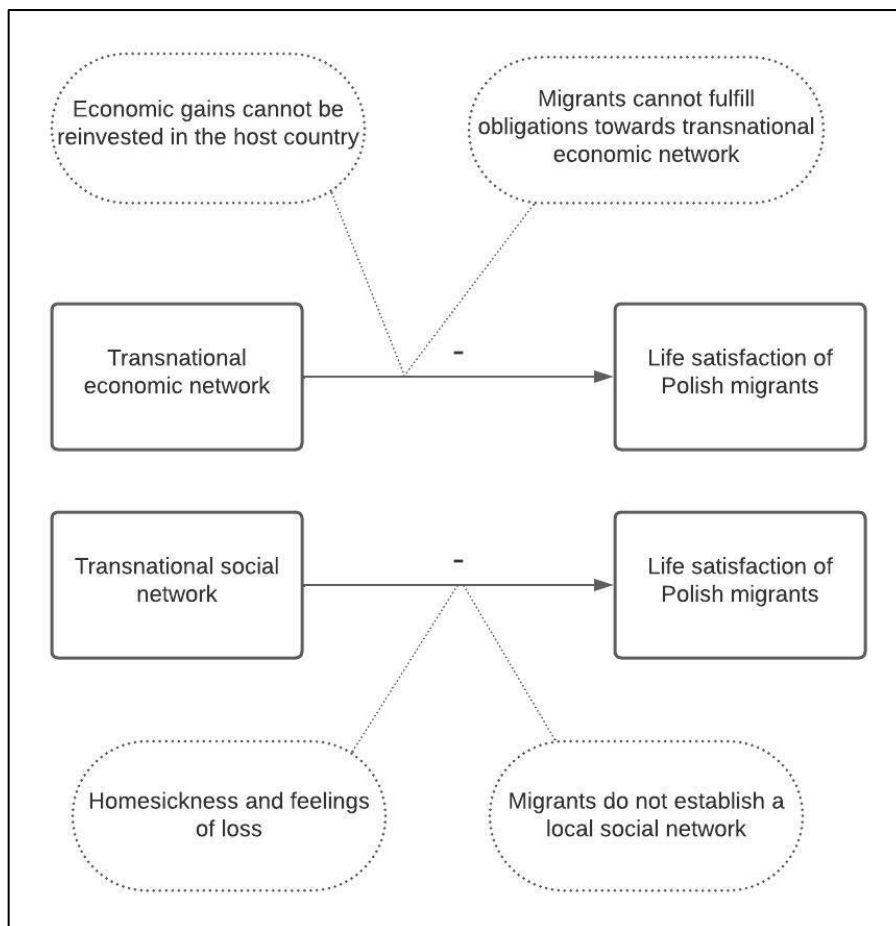


Figure 1 | Conceptual model of hypotheses derived from assimilation theory.

3.4 Transnationalism

Recent literature has contested assimilation theory by proposing the concept of transnationalism. Transnationalism does not have a universal definition yet but is seen as a component of globalization (Tedeschi et al., 2020). Globalization is accompanied by increased communication technologies and massive digitalization, enabling migrants to uphold social and economic ties with the country of origin through telephone, internet, and online banking accounts (de Haas & Fokkema, 2011). Schiller and colleagues (1992, p. 1) defined transnationalism as “the processes by which immigrants build social fields that link together their country of origin and their country of settlement”. De Haas and Fokkema (2011) supported this statement by arguing that transnational ties do not inhibit but can complement participation in the host country. Transnationalism and integration do not oppose each other but are “balancing acts” (Erdal & Oeppen, 2013, p. 1). Erdal and Oeppen (2013) meant that resources gained in the country of origin can enlarge resources in the host country and vice versa. Erdal and Oeppen (2013) called this the “synergistic type” of transnationalism. Ryan (2010) gave the example of religious migrants building a community through local church visits. Erdal and Oeppen (2013) wanted to stress that transnationalism and integration can exist simultaneously and interact.

Opposed to hypotheses derived from assimilation theory on the relation between the transnational economic network and life satisfaction, hypotheses derived from transnational theory will state that migrants with a more extensive transnational economic network will have higher life satisfaction. As described above, the relationship between transnational economic network and life satisfaction will mostly depend on the migration motive, namely a higher gain of financial resources in the host country than in the country of origin, and if the migration is ‘successful’ (Schiele, 2021). A ‘successful’ migration occurs when migrants can meet initial migration goals in the host country: a particular increase in financial resources. Migrants could move to another country to support kin or non-kin ties (de Haas & Fokkema, 2011). Helliwell (2014) states that in economic ties, the ‘giver’ receives an increasing boost in life satisfaction. Being able to give economic resources to a member

residing in Poland could result in a positive evaluation of life by migrants (Geurts & Lubbers, 2019).

H2a: Polish migrants with a more extensive transnational economic network have higher life satisfaction.

Especially in contemporary Europe, digitalization enables migrants to keep in contact with transnational ties with a phone or online (Tedeschi et al., 2020). Nowadays, it is easier to maintain contact between transnational social ties than when Harris and Todaro (1970) started to write about assimilation theory. Communication between transnational social ties goes faster than it used to go.

Further, according to the synergistic type of transnationalism, feelings of belonging and connections with network members in one place can lead to connections (or the further development of connections) in the other place (Erdal & Oeppen, 2013). Erdal and Oeppen (2013) predicated their theory upon Vertovec's (2009) hypothesis, which stated that transnational social ties could give a sense of 'confidence' in the migrants. This sense of 'confidence' is related to the openness of migrants to make new local connections and to the willingness of migrants to integrate by learning the Dutch language (Vertovec, 2009). Transnational social ties lead direct and indirect (through Dutch proficiency) to an increase in local ties. A local network leads to certain benefits for Polish migrants, such as a local support network and a decrease in loneliness (Djundeva & Ellwardt, 2020) and identification with the Dutch (Arpino & de Valk, 2018), which correlate with higher life satisfaction.

H2b: Polish migrants with a more extensive transnational social network have higher life satisfaction.

The conceptual model of the transnational network on life satisfaction explained by transnational theory is as follows (Figure 2):

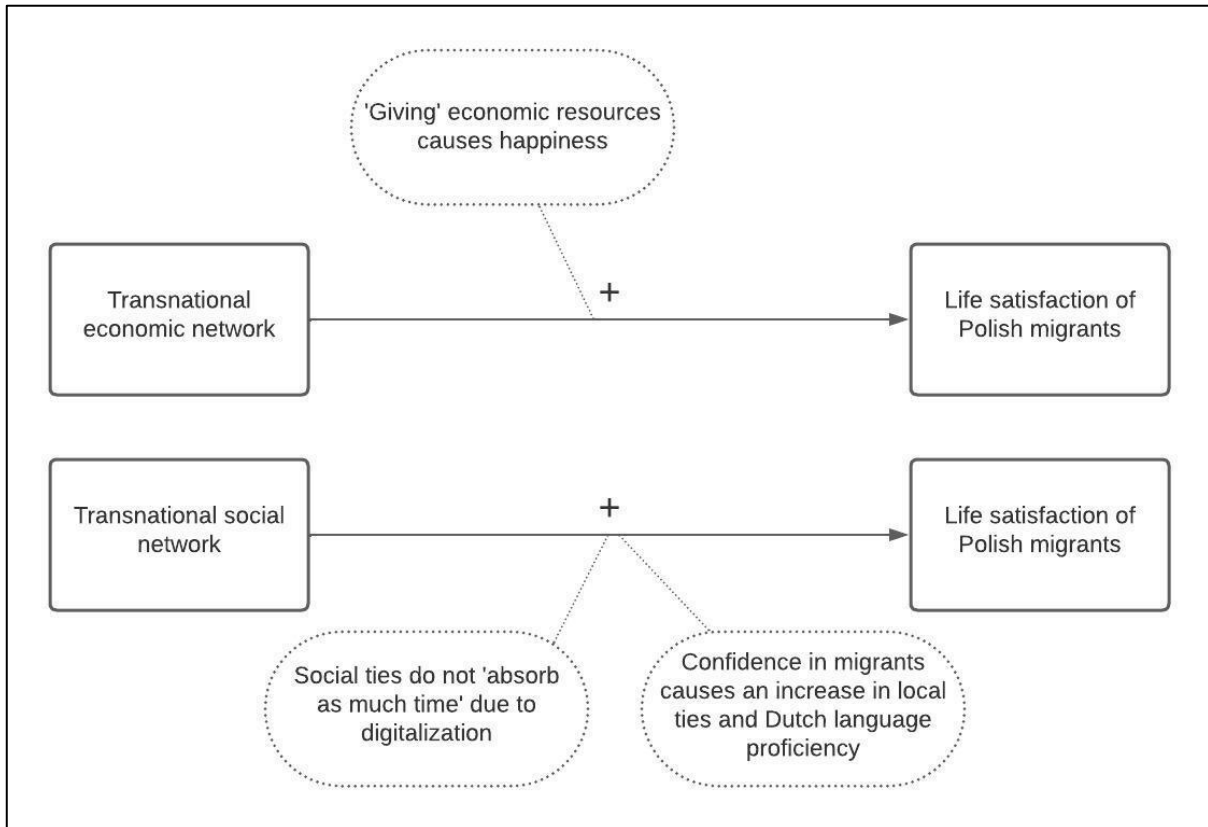


Figure 2 | Conceptual model of hypotheses derived from transnational theory.

4 Methodology

4.1 Data

This study will use data from the Families of Poles in the Netherlands (FPN) survey wave 1 (Karpinska et al., 2016). The blueprint of the FPN survey is the 2015 questionnaire of the Gender and Generations Survey (GGS, <http://www.ggp-i.org/>). Data collection for the survey took place between October 2014 and April 2015 among Polish migrants who registered in the municipality of residence in the Netherlands after the Polish EU succession in 2004. The data consists of 1131 respondents who were approached through web and computer-assisted personal interviews. The interviews were conducted in Polish and Dutch. The response rate was 51%.

The FPN survey has questions about migration history and intentions to return or move to another country but also about the family of origin, exchanges of money, espoused family obligations, and marital and parenthood histories.

4.2 Life satisfaction

The dependent variable, life satisfaction, is measured with the question: *“How satisfied have you been up to now with your life in the Netherlands?”* Respondents rated life satisfaction on a 10-point scale. Life satisfaction was recoded (0 = not at all satisfied; 10 = completely satisfied).

4.3 Transnational economic and social network

Following the theoretical framework, the network of Polish migrants will be divided based on two types of ties: the transnational economic network and the transnational social network. These networks consist of a cumulation of kin and non-kin ties. Due to the existing variables in the dataset, I codified kin and non-kin first separately and in a different manner. Kin ties were recoded into transnational kin ties. Second, each transnational kin tie was recoded into transnational economic and social kin ties. Then, the economic and social ties with other members of the transnational network were identified. At last, the independent variables, the transnational economic network and the transnational social network, were constructed.

4.3.1 Transnational kin

Types of kin ties used in this research are ties with the current partner, children with the current parent, children with the first, second and third previous partner and children with no (co-resident) partner, as well as ties with a mother, father, brother, and sisters. Even though data on economic and social ties with previous partners were available, the current country of residence of the previous parents was not, leading to the exclusion of ties with previous partners.

A kin tie was recoded into a transnational kin tie based on a condition in SPSS. The condition was that a kin tie must live in Poland to be recoded as a transnational kin tie. For example, if a respondent had a partner and the partner was living in Poland, the transnational partner was coded as 1. Then, the variable ‘transnational kin’ (minimum = 0; maximum = 10) was coded as ratio variable by the sum of all transnational kin ties.

4.3.2 Transnational economic network

An economic tie is established through financial transactions, such as money and goods, and is bidirectional. However, in this research, only financial transactions in the direction of the respondent towards other members are relevant. Assimilation and transnational theories did not state anything about the role of receiving money or goods and the integration of migrants.

Thus, economic kin ties were identified by asking: 'Have you given any money or goods in the previous 12 months to [kin tie]?' Transnational economic kin ties were constituted through a second condition. If the respondent had a transnational partner and if the respondent had given any money or goods in the previous 12 months to the partner, a new variable, 'transnational economic partner', was coded as 1. All other kin were coded similarly (Figure 3). At last, 'transnational economic kin' was coded as a ratio variable by the sum of all transnational economic kin ties (minimum = 0; maximum = 2).

Codification of transnational economic *non-kin* ties occurred differently (Figure 4). Non-kin ties were identified by asking: 'In which country does the [first] other person whom you have given money or goods live?'. If the respondent answered 1 'Poland', a new variable, 'transnational economic non-kin tie', was coded as 1. The variable 'transnational economic non-kin' (minimum = 0; maximum = 3) was coded as a ratio variable by the sum of all transnational economic kin ties. Finally, 'transnational economic network' (minimum = 0; maximum = 3) was the cumulation of the variable 'transnational economic kin' and 'transnational economic non-kin'.

4.3.3 Transnational social network

Unlike in the codification of the economic network, in this research, a tie will be defined as social if emotional support comes from two directions (from the respondent and to the respondent). Assimilation theory states that the respondent will only have a certain amount of time to spend (Geurts & Lubbers, 2015). It is irrelevant if a member of the respondent's network or the respondent himself reaches out to discuss personal matters as long as the respondent's time is invested in transnational instead of local contacts. A social tie is identified in two questions: 'Did you discuss important personal matters during the last 12 months with [tie]?' or 'Did [tie] discuss his/her important personal matters with you during the last 12 months?'.

Transnational social kin was identified by computing variables based on conditions. For example, if the respondent had a transnational father and the respondent *or* the father discussed important personal matters with one another, the newly computed variable 'transnational social father' was coded as 1. All other kin were coded similarly (Figure 3). At last, 'transnational social Polish kin' was coded as a ratio variable by the sum of all transnational social Polish kin ties (minimum = 0; maximum = 8). 'Transnational Polish partner' acted as an exception and was only coded if the partner discussed personal matters with the respondent since no variable existed to the question "Did you discuss important personal matters during the last 12 months with your partner?".

Codification of transnational social non-kin occurred as follows. If the respondent answered 1 'Poland' to one of the questions 'In which country does the [first] other person with whom you have discussed important personal matters live?' or 'In which country does the [first] other person who discussed his/her important personal matters with you live?', the newly computed variable, [first] 'transnational social non-kin tie', had value 1. An extra condition was added if the respondent answered 1 'Poland' to both questions. The person with whom the respondent discussed important personal matters could be the same as the person who discussed his/her important personal matters. In this case, the transnational social tie was counted as 1. Age was used as the conditional variable. For example, if the respondent answered 1 'Poland' to both questions and the age of the first variable was the same as the second variable, the transnational social Polish non-kin tie was counted as 1. If the age of the first variable did not have the same value, the transnational social non-kin tie was counted as 2 (Figure 2). All transnational social non-kin ties were summed up in the variable 'transnational social non-kin' (minimum = 0; maximum = 8). Finally, the 'transnational social network' (minimum = 0; maximum = 8) was the cumulation of the variable 'transnational social kin' and 'transnational social non-kin'.

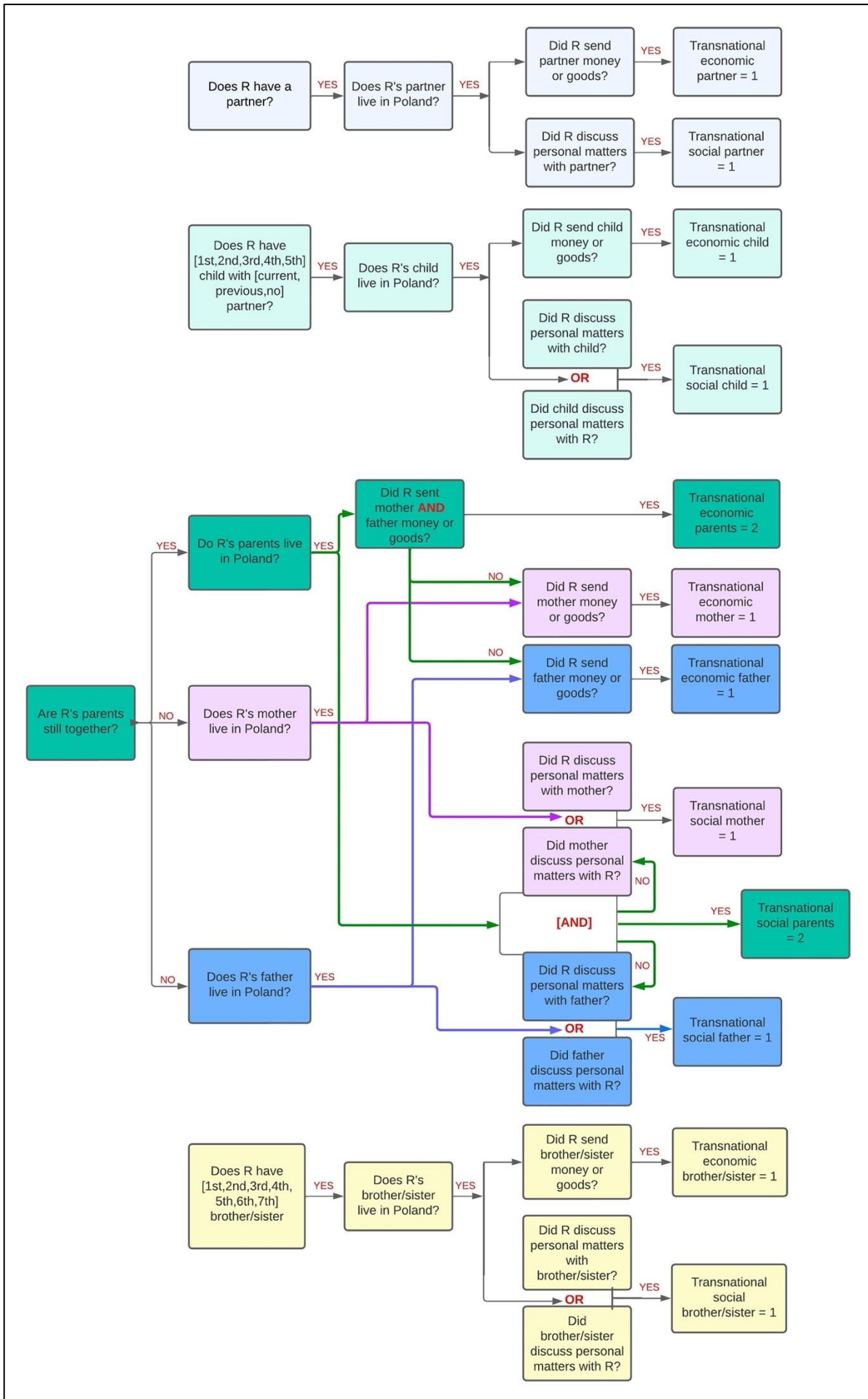


Figure 3 | Codification of transnational economic and social Polish kin ties.
R = Respondent.

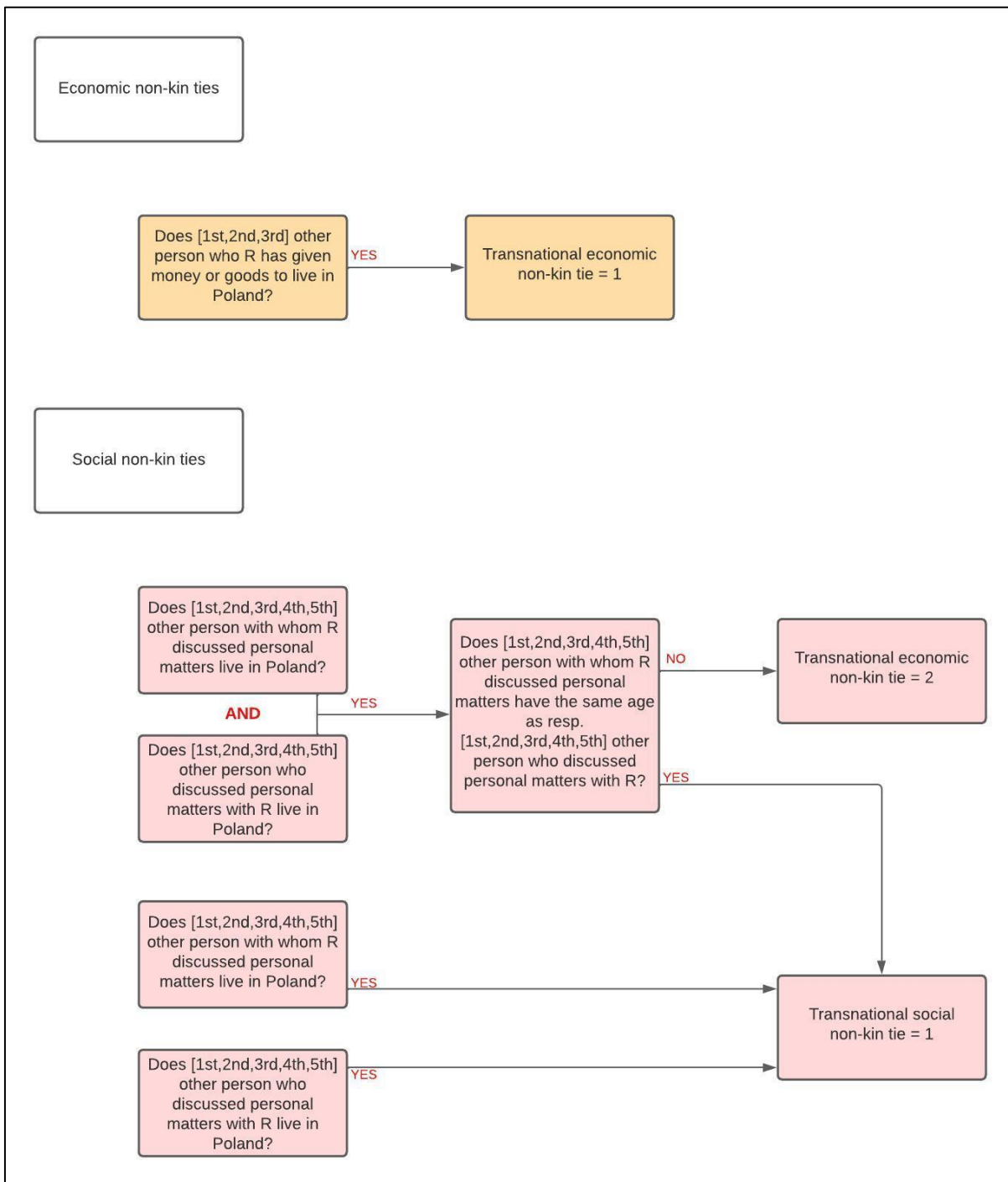


Figure 4 | Codification of transnational economic and social Polish kin ties.
R = Respondent.

4.4 Control variables

I controlled for additional control variables which have been shown in previous research as explanatory factors for life satisfaction (Hooghe & Vanhoutte, 2011), such as gender, age, partnership status (Djundeva & Ellwardt, 2020), education, income, main activity, and generalized trust. Other factors which could affect life satisfaction in the Netherlands, such

as experienced discrimination (Kirmanoglu & Baslevent, 2014; McGinnity & Gijberts, 2015), homesickness (Ryan, 2010), Dutch language proficiency (Geurts & Lubbers, 2015) and the living situation in the Netherlands compared to the living situation in Poland (de Haas & Fokkema, 2011) are also added as control variables.

Gender is recoded as follows: (0 = female, 1 = male). The variable year of birth was recoded into age in years by subtracting the year of birth of 2023 if the birth month was in or after June. Respondents born in or before May had one extra year subtracted. Two respondents (721 and 807) were identified as outliers and excluded from the data. The year and month of arrival in the Netherlands and the birth year and month of these respondents were the same. Partnership status was recoded (0 = 'No partner', 1 = 'Partner'). The level of education was coded following the International Standard Classification of Education (ISCED-97), distinguishing between (0) 'No education', (1) 'Low' (ISCED 1), (2) 'Intermediate' (ISCED 2–3), and (3) 'High' (ISCED 4–5). Level of education is coded into dummy variables with (2) 'Intermediate' as the reference category.

Income was measured through personal income in euros. Personal income was computed by recoding question 8.26 into similar categories as question 8.27 (1 = '499 or less', 2 = '500 – 999', 3 = '1.000 – 1499', 4 = '1500 – 1999', 5 = '2000 – 2499', 6 = '2500 – 2999', 7 = '3000 – 4999', 8 = '5000 or more', 97 = 'I don't know', 98 = 'I don't want to say'). If values on question 8.26 were 97 or 98, personal income was measured through question 8.27. Respondents answering question 8.25 as 11 ('I did not receive any income'), were included in category 1 ('499 or less') of personal income. Finally, categories 97 and 98 of personal income were coded as system-missing values.

The variable main activity was recoded. The categories 'Employed by a business or organization', 'Employed by an employment agency', 'Self-employed' and 'Helping family member in a family business or farm' were recoded into (1) 'Employed'. Other values were recoded as follows: (2) 'Student', (3) 'Unemployed', (4) 'Retired', (5) 'Disabled or ill permanently or for a longer period', (6) 'Other, such as military service'. The main activity is coded into dummy variables with (1) 'Employed' as the reference category.

Generalized trust is measured and recoded through the mean of the following questions (Cronbach's alpha = .537): 'Can most people be trusted, or do you need to be careful in dealing with people?' (0 = 'Need to be careful', 1 = 'Can be trusted') and 'If people

had the chance, would they try to take advantage or be fair?' (0 = 'Try to take advantage', 1 = 'Try to be fair').

Experienced discrimination is measured and recoded through the mean of the following questions (Cronbach's alpha = .800): 'Have you ever experienced discrimination because of your nationality in one of the following situations?' (1) 'When applying for a job or internship', (2) 'At work', (3) 'On the street, in shops, public transport', (4) 'At associations, sports clubs', (5) 'When going out, at clubs etc.', (6) 'By public services (policy, immigration, tax office)' (1 = 'No, never', 2 = 'Yes, sometimes', 3 = 'Yes, often'). Bartlett's test was significant (KMO = .819, Determinant = .152).

The variable homesickness is recoded (1 = 'No, never', 2 = 'Yes, sometimes', 3 = 'Yes, very often').

Dutch language proficiency is the mean of four recoded items (Cronbach's Alpha = .938): Understands Dutch, speaks Dutch, reads Dutch and writes Dutch (1 = 'Not at all', 2 = 'Not well', 3 = 'Not good nor bad', 4 = 'Well', 5 = 'Very well'). According to the factor analysis, these four items can be formulated as one. Bartlett's test is significant (KMO = .811, Determinant = .023).

The living situation in the Netherlands compared to the living situation in Poland is recoded (1 = 'Much worse', 2 = 'Worse', 3 = 'About the same', 4 = 'Better', 5 = 'Much better'). In the analysis, the living situation in the Netherlands compared to the living situation in Poland is treated as an interval/ratio variable. This control variable did not correlate too much with life satisfaction (Pearson's $r = .449$).

4.5 Analytical approach

At first glance, the independent variables and life satisfaction do not show a linear relation (Appendix 1). The independent variables were log-transformed to fix non-linearity. Appendix 2 shows that scatterplots show a linear fit after the log transformation. However, one can still see a pattern in the scatterplots. A pattern in the scatterplots can indicate a non-linear relation, such as a quadratic or cubic relation, between the independent and dependent variables. The boxplots in Appendix 3 also indicate non-linear relations.

I tested the possibility of these non-linear relations. A quadratic relation was tested by computing a new variable by multiplying the independent variables by themselves (economic network * economic network; social network * social network). A cubic relation

was tested by computing a new variable by multiplying the independent variables by themselves three times (economic network * economic network * economic network; social network * social network * social network). Then, I performed two Ordinary Least Square (OLS) regressions to analyze the change of R² and to see if this change was significant. In the first OLS regression, the control variables were added first. The independent variable economic network was added in the second model. In the third and the fourth model, respectively, the quadratic and cubic variables of the economic network were added. A similar OLS regression was performed with the social network and the quadratic and cubic variables of the social network. Appendix 4 shows the model summaries of these OLS regressions.

The model summary of the OLS regression with the economic network as an independent variable did not provide evidence of a quadratic nor a cubic relation with life satisfaction (quadratic: R² change = .000, p = .595; cubic: R² change = .000, p = .674). The model summary of the OLS regression with the social network as an independent variable also did not provide evidence of a quadratic nor cubic relation with life satisfaction (quadratic: R² change = .000, p = .382; cubic: R² change = .001, p = .171). The model summaries do not indicate a quadratic or cubic non-linear relation. Therefore, I decided to use the log transformations of the independent variables in the final analysis.

I will perform two OLS regressions in the data analysis. The transnational economic network will act as the independent variable in the first regression. The transnational social network is the independent variable in the second regression. The equations of the regressions are:

$$life\ satisfaction = a + [control\ variable]x + log_{10}(economic\ network)$$

$$life\ satisfaction = a + [control\ variable]x + log_{10}(social\ network)$$

Log transformations increases missing values because a log 10 base cannot be less than or equal to zero. All respondents who do not have a transnational economic network will be excluded in the first regression. All respondents who do not have a transnational social network will be excluded in the second regression.

4.6 Ethics and privacy

When using pre-existing datasets, some ethical considerations need to be made. In the FPN dataset, respondents have been recoded into numbers to secure the respondents' privacy. The analysis outcomes in this paper did include any re-identification of respondents. The use of the dataset did also not lead to any damage towards the respondents. Access to the appointed dataset was not disclosed to others than the researcher. Further, I state that data was accurately represented.

5 Results

5.1 Demographic characteristics

The demographic characteristics of the respondents in this study are expressed in Table 1. The demographic characteristics of the Polish in this study showed high similarities with the respondents in the study of Gijsberts and Lubbers (2013). A percentage of 79.2 of the respondents in this study were employed, and 96.8% had an intermediate or high education level. Nevertheless, most respondents had a personal income of 1999 euros or below. The respondents evaluate life in the Netherlands as better than in Poland (mean = 4.1; minimum = 0; maximum = 5).

Table 2 presents descriptive information on the independent, log-transformed independent, and dependent variables. On average, respondents had a small transnational economic network (mean = 0.06; minimum = 0; maximum = 3). The transnational social network was more extensive but still small (mean = 0.88; minimum = 0; maximum = 9). The transnational economic network and the transnational social network had a lot of missing values after log transformation, as predicted, respectively 1070 and 615. Respondents' life satisfaction had a mean of 8.4 (minimum = 1; maximum = 10). The high life satisfaction of respondents is comparable with the sample of Gijsberts and Lubbers (2013), who also found that Polish migrants had a high score on life satisfaction.

Table 1 | Demographic characteristics of respondents from FPN data.

Variable (n=1129)	Missing	Valid percentage or mean/SD	Minimum	Maximum
Gender	0		0	1
<i>Female</i>		59.8		
<i>Male</i>		40.2		
Age in years	0	41.5/7.2	29	66
Partnership	0		0	1
<i>No partner</i>		14.7		
<i>Partner</i>		85.3		
Education level	0		0	3
<i>No education</i>		0		
<i>Low</i>		3.2		
<i>Intermediate</i>		62.7		
<i>High</i>		34.1		
Personal income	151		1	8
<i>0 – 499 euros</i>		21.5		
<i>500 – 999 euros</i>		10.2		
<i>1000 – 1499 euros</i>		27.6		
<i>1500 – 1999 euros</i>		15.8		
<i>2000 – 2499 euros</i>		4.9		
<i>2500 – 2999 euros</i>		2.0		
<i>3000 – 4999 euros</i>		2.0		
<i>5000 euros and above</i>		2.9		
Main activity	0		1	6
<i>Employed</i>		79.2		
<i>Student</i>		1.9		
<i>Unemployed</i>		16.3		
<i>Retired</i>		0		
<i>Disabled/ill</i>		1.2		
<i>Other</i>		1.3		
Generalized trust	0	0.4/0.4	0	1
Experienced discrimination	22	1.4/4	1	3
Homesickness	0		1	3
<i>No, never</i>		19.6		
<i>Yes, sometimes</i>		57.9		
<i>Yes, very often</i>		22.5		
Dutch language proficiency	0	2.8/1.1	1	5
Living situation better in the Netherlands vs Poland	0	4.1/0.8	1	5

Table 2 | Descriptive statistics of the transnational network, the log-transformed transnational network, and life satisfaction.

Variable (n=1129)	Missing	Mean/SD	Minimum	Maximum
Transnational economic network	0	0.06/0.30	0	3
Transnational economic network (log-transformed)	1070	0.07/0.13	0	0.48
Transnational social network	0	0.88/1.34	0	9
Transnational social network (log-transformed)	615	0.20/0.25	0	0.95
Life satisfaction	0	8.4/1.9	0	10

5.2 Assumptions

Residuals of life satisfaction were independent and normally distributed (Appendix 5 and 6).

Life satisfaction showed homoscedasticity (Appendix 7).

5.2.1 Transnational economic network and life satisfaction

Linearity was tested in scatterplots seen in Appendix 2. I already stated above how I concluded that the assumption of linearity was met. I identified one influential case (Cook's distance=.55). I excluded this case from the regression. Problems with multicollinearity arose after the exclusion of the influential case. The regression showed signs of multicollinearity between the dummy variables of the controls homesickness (2 'Yes, sometimes'; 3 'Yes, always') (tolerance_{min}=.279 and VIF_{max}=4.1). I recoded homesickness into a bivariate to solve this problem (0 = No homesickness, 1 = Homesickness). After recodifying homesickness, the first regression showed no signs of multicollinearity (tolerance_{min}=.522 and VIF_{max}=1.914). The predictors, namely the controls and the independent variable transnational economic network, did not correlate (Pearson's $r < 0.8$).

5.2.2 Transnational social network and life satisfaction

The assumption of linearity was met, as described in the methodology section (Appendix 2). I identified no influential cases (Cook's distance=.039). The predictors, the control variables and the transnational social network, did not correlate (Pearson's $r < 0.8$). I did not recode homesickness for the second regression. There were no signs of multicollinearity between the predictors (tolerance_{min}=.324 and VIF_{max}=3.091).

5.3 Data analysis

Table 3 includes the results of the transnational economic network on the life satisfaction of Polish migrants with the control variables. The control variables education level, personal income, and main activity were entered as dummy variables. The reference groups of these dummy variables were respectively 'No income', '0 – 499 euros', and 'Employed'. No values were found for the categories 'Retired' and 'Disabled' of main activity. Therefore, 'Retired' and 'Disabled' were excluded from the regression analysis. The most important finds of the first regression are as follows:

The first model described the effect of the control variables on life satisfaction. Model 1 was significant as a whole. The control variables explained the variance of life satisfaction for 54.5%. The transnational economic network was added in Model 2. Model 2 was also significant as a whole. When the transnational economic network was added to the model, the model explains 54.6% of the variance in life satisfaction. The change in variance suggested a minor, if not insignificant, role of the transnational economic network on life satisfaction. The transnational economic network was positively related to life satisfaction. However, this relation was not significant. These results did not support **H1a (Polish migrants with a more extensive transnational economic network have lower life satisfaction)** and **H2a (Polish migrants with a more extensive transnational economic network have higher life satisfaction)**. All in all, the first analysis regarding life satisfaction did not support either assimilation theory or transnational theory. Also, a better living situation in the Netherlands compared to Poland significantly improved life satisfaction.

Table 4 presents the associations between the transnational support network and life satisfaction, including the control variables. Homesickness was added as a dummy variable with the category 'No, never' as the reference group. No values were found for the category 'Retired', leading to the exclusion of this category from the analysis.

The first model describes the effect of the control variables on life satisfaction again. Model 1 was significant as a whole. Model 1 explained 33.9% of the variance in life satisfaction. Model 2 represented the effect of the transnational social network on life satisfaction, including the control variables. Model 2 was also significant as a whole. When the transnational social network was added to the model, the model explained 34.7% of the variance in life satisfaction.

Table 3 | Linear regression models predicting life satisfaction of Polish migrants by the transnational economic network (n=56)

	Model 1*			Model 2*		
	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>B</i>	<i>SE</i>	<i>Beta</i>
<i>Gender: male</i>	-.706	.471	-.214	-.688	.482	-.209
<i>Age in years</i>	.035	.033	.136	.037	.035	.145
<i>Partnership</i>	.036	.941	.006	.081	.968	.013
<i>Education level^{A,B}</i>						
Low education	-.146	1.215	-.017	-.179	1.237	-.021
High education	-.660	.436	-.205	-.663	.442	-.206
<i>Personal income^C</i>						
500 – 999 euros	-2.411	.956	-.387*	-2.442	.975	-.392*
1000 – 1499 euros	-.761	.496	-.226	-.755	.503	-.224
1500 – 1999 euros	.405	.617	.101	.434	.635	.108
2000 – 2499 euros	-2.833	1.062	-.328*	-2.819	1.077	-.326*
2499 – 2999 euros	-.504	1.105	-.058	-.484	1.122	-.056
3000 – 4999 euros	-.756	1.113	-.088	-.732	1.131	-.085
5000 euros and above	1.268	1.093	.147	1.210	1.128	.140
<i>Main activity^{D,E}</i>						
Student	3.161	1.968	.261	3.263	2.030	.270
Unemployed	-.999	.808	-.160	-.964	.828	-.155
Other	-.733	1.796	-.061	-.797	1.835	-.066
<i>Generalized trust</i>	-.215	.576	-.050	-.188	.593	-.044
<i>Experienced discrimination</i>	-.431	.532	-.124	-.442	.541	-.127
<i>Homesickness</i>	-.446	.722	-.086	-.483	.744	-.093
<i>Dutch language proficiency</i>	.043	.206	.028	.045	.209	.030
<i>Living situation better in the Netherlands vs Poland</i>	.794	.272	.391**	.792	.276	.390**
<i>Transnational economic network (log-transformed)</i>				.449	1.667	.038
Constant			4.657			4.524
R ²			.545			.546

Note: (A) The category 'intermediate education' acts as the reference group; (B) No respondents were recognized for 'No education'; (C) The category '0 to 499 euros' acts as the reference group; (D) The category 'Employed' acts as the reference group; (E) No respondents were recognized for 'Retired' or 'Disabled/ill'.

Note: *: $p < .05$; **: $p < .01$; ***: $p < .001$.

Table 4 | Linear regression models predicting life satisfaction of Polish migrants by the transnational social network (n=501)

	Model 1***			Model 2***		
	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>B</i>	<i>SE</i>	<i>Beta</i>
<i>Gender: male</i>	-.267	.161	-.072	-.244	.161	-.065
<i>Age in years</i>	.019	.009	.081*	.019	.009	.082*
<i>Partnership</i>	.025	.190	.005	.049	.190	.010
<i>Education level^{A,B}</i>						
Low education	.034	.417	.003	.032	.415	.003
High education	-.169	.148	-.047	-.192	.147	-.054
<i>Personal income^C</i>						
500 – 999 euros	-.576	.223	-.108**	-.586	.222	-.110**
1000 – 1499 euros	-.265	.170	-.068	-.284	.170	-.073
1500 – 1999 euros	-.170	.222	-.033	-.158	.221	-.031
2000 – 2499 euros	-.273	.345	-.032	-.245	.343	-.029
2499 – 2999 euros	-.126	.507	-.010	-.142	.505	-.011
3000 – 4999 euros	-.479	.516	-.036	-.440	.514	-.033
5000 euros and above	.210	.386	.021	.231	.385	.023
<i>Main activity^{D,E}</i>						
Student	.240	.423	.022	.207	.421	.019
Unemployed	-.627	.195	-.133***	-.626	.194	-.133***
Disabled/ill	-.429	.683	-.024	-.426	.679	-.024
Other	.816	.567	.055	.814	.565	.055
<i>Generalized trust</i>	.561	.576	-.050**	.494	.187	.110**
<i>Experienced discrimination</i>	-.705	.155	-.186***	-.746	.155	-.197***
<i>Homesickness^F</i>						
Yes, sometimes	-.693	.229	-.194**	-.727	.228	-.203**
Yes, always	-1.364	.251	-.354***	-1.408	.250	-.366***
<i>Dutch language proficiency</i>	.148	.066	.093*	.156	.066	.098*
<i>Living situation better in the Netherlands vs Poland</i>	.762	.089	.332***	.761	.088	.332***
<i>Transnational social network (log-transformed)</i>				.625	.265	.090*
Constant			4.972			4.917
R ²			.339			.347

Note: (A) The category 'intermediate education' acts as the reference group; (B) No respondents were recognized for 'No education'; (C) The category '0 to 499 euros' acts as the reference group; (D) The category 'Employed' acts as the reference group; (E) No respondents were recognized for 'Retired'; (F) The category 'No, never' acts as the reference group.

Note: *: $p < .05$; **: $p < .01$; ***: $p < .001$.

Similar to the first regression, the role of the transnational social network in the variance of life satisfaction was small. The transnational social network related positively and significantly to life satisfaction. When the transnational social network is more extensive, the life satisfaction of Polish migrants was higher. This result did not support **H1b (Polish migrants with a more extensive transnational social network have lower life satisfaction)**. However, it confirmed **H2b (Polish migrants with a more extensive transnational social network have higher life satisfaction)**.

Model 2 also showed significant relations between some control variables and life satisfaction. The relation between the category '500 – 999 euros' of personal income was significant and positively related to life satisfaction. A migrant who earned 500 to 999 euros per month has a more positive effect on life satisfaction compared to a migrant who earned 0 to 499 euros per month. The category 'Unemployed' of the main activity showed a significant negative relation with life satisfaction. An unemployed migrant had lower life satisfaction than an employed migrant. Furthermore, generalized trust had a significant positive effect on life satisfaction. When a Polish migrant had more generalized trust, the migrant had higher life satisfaction. Experienced discrimination had a significant negative effect on life satisfaction. When a migrant had experienced more discrimination in different places, the migrant had lower life satisfaction. Further, the categories 'Yes, sometimes' and 'Yes, always' significantly and negatively affected life satisfaction. If a Polish migrant sometimes missed his home or always misses his home, he/she had a lower life satisfaction than a Polish migrant who never missed his home. Dutch language proficiency and a better living situation in the Netherlands than in Poland significantly and positively affected life satisfaction. A Polish migrant with better Dutch language proficiency than another Polish migrant had higher life satisfaction. Also, Polish migrants who evaluated life in the Netherlands as better than life in Poland had a higher life satisfaction than Polish migrants who evaluated life in the Netherlands as worse than life in Poland.

6 Conclusion and discussion

Many researchers have used transnational theory as an alternative to assimilation theory to describe migrant integration processes (Tedeschi et al., 2020). However, the underlying mechanisms of the relationship between transnationalism and integration still need to be addressed (Vertovec, 2009). The present study described evidence for a relationship

between transnationalism and one aspect of integration, namely life satisfaction. These results aligned with previous studies illustrating that transnationalism and integration can coexist and are interacting processes (Erdal & Oeppen, 2013; Geurts & Lubbers, 2019).

I have built upon the assimilation theory and transnational theory. This study used two types of ties, economic and social ties, of the transnational network to draw a complete picture of the processes of transnationalism on life satisfaction. I found no support for hypotheses derived from assimilation theory but some support for hypotheses derived from transnational theory. I found no relationship between the transnational economic network and life satisfaction. However, the transnational social network showed a positive relationship with life satisfaction. Presumably, emotional support of transnational ties can provide migrants with confidence, which can be used in engagement in the host country, leading to a higher evaluation of one's life.

Notably, the directions of relations of the controls were in line with what is generally reported in previous literature. Expected directions were found in generalized trust (Geurts & Lubbers, 2019), experienced discrimination (Kirmanoglu & Baslevent, 2014), homesickness (Ryan, 2010), Dutch language proficiency (Geurts & Lubbers, 2019) and living situation in the Netherlands compared to Poland (de Haas & Fokkema, 2011). The standardized coefficients of the controls on life satisfaction were greater than the standardized coefficient of the transnational social network on life satisfaction, suggesting that a transnational network is only of minor importance in predicting the life satisfaction of immigrants compared to previously researched controls.

In conclusion, transnational ties that provided or needed emotional support caused a high evaluation of life. Sending remittances back to Poland was not essential in determining the life satisfaction of Polish migrants. What do these results imply for the social or political debate?

De Haas and Fokkema (2011) stated that for different groups of migrants, the motivation for migration is fundamentally mixed and different mechanisms are applied when studying transnationalism. The generalizability of these results on other types of migrant groups residing in the Netherlands must be considered carefully. Arpino and de Valk (2018) stated that the life satisfaction of migration is partially dependent on identification with natives and the host country. Polish migrants do not differ as much from Dutch natives as other migrant groups concerning race and religion. Polish migrants could have less

difficulty than other migrant groups in identifying with native Dutch due to these characteristics. Kirmanoglu and Baslevant (2014) described that migrant minorities are prone to discrimination in the host country based on race, religion and (previous) nationality. Polish migrants could have higher life satisfaction than other migrant groups who experienced more discrimination.

The results of this study highlighted transnationalism's possible role in (future) policy interventions. The notion that transnational influence is undesirable for integration (Rijksoverheid, 2022) does not apply to the life satisfaction of migrants. This study showed that economic and social ties with the country of origin did not stand in the way of the life satisfaction of migrants. Transnational influence was even desirable concerning social ties. While I established a relationship between transnational social ties and life satisfaction, confirmation of underlying mechanisms is yet to be found. Possibly, transnational social ties gave confidence to migrants to pursue a local network (Erdal & Oeppen, 2013). Additional research on the relationship between transnational and local networks needs to be done.

Even though the present study provided some new insights into the transnational network and life satisfaction of migrants, I should discuss some limitations. Life satisfaction usually shows only slight variation in data and is often left-skewed (Bond & Lang, 2019). Long-term factors such as personality explain 60 to 80 per cent of the variance in life (Diener et al., 2013). The remaining percentage is partially due to occasion-specific factors (such as migration) and error of measurement (Diener et al., 2013). In the FPN dataset, Polish migrants have come to the Netherlands between 2004 and 2014. Migration as an occasion-specific factor could have a different impact on Polish migrants based on the year they started living in the Netherlands.

Second, a few problems arose in the codification of social ties. Age was used as an additional condition to avoid duplication of the same members within the social network. Suppose the first member with whom the respondent discussed important personal matters is different from the first member who discussed important personal matters with the respondent but has the same age. In that case, the codification led to an unallowed removal of one social tie. However, after personal reflection on the data, the chance that the unallowed removal occurred was small. Also, some issues accompanied the definition of a social tie used in this research. A social tie was established if the respondent had had one conversation about important personal matters with a member. In reality, people could

establish social ties through activities other than providing emotional support, such as the exchange of common interests. Besides, the definition of social ties in this research needed assessment in terms of strength. Now it lacked confirmation of the existence of the social tie when the respondent filled out the questionnaire. However, the definition of social ties in the present study did have an assessment of support.

At last, this study and social network analysis in general (Wuchty, 2009) heavily relied on respondents' self-reported data. Self-reported data is prone to mistakes and can entail a mismeasurement of reality if respondents suffer from social-desirability bias (Wuchty, 2009).

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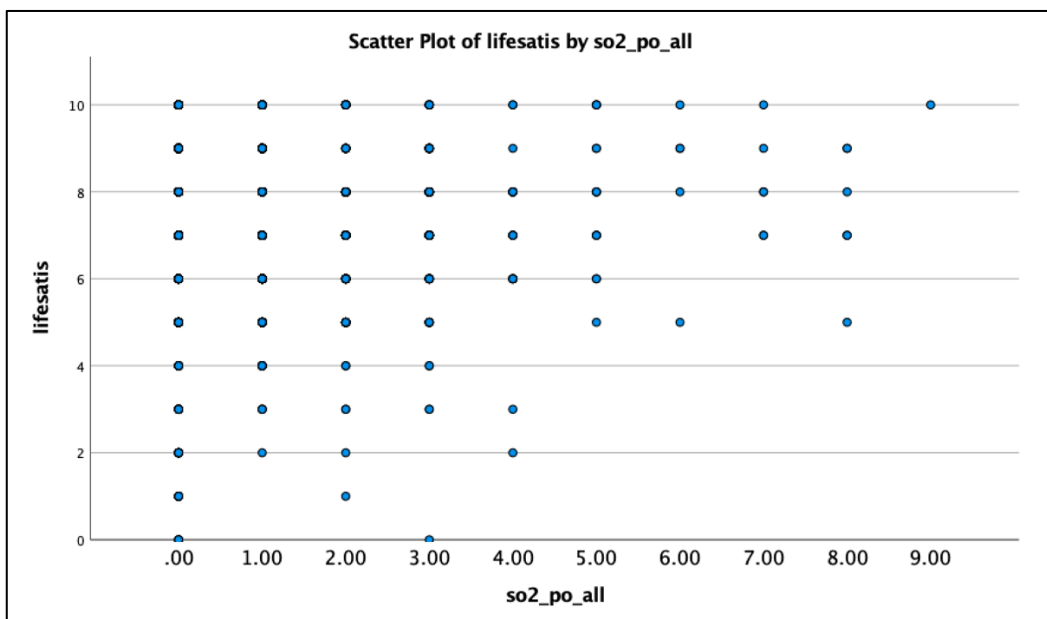
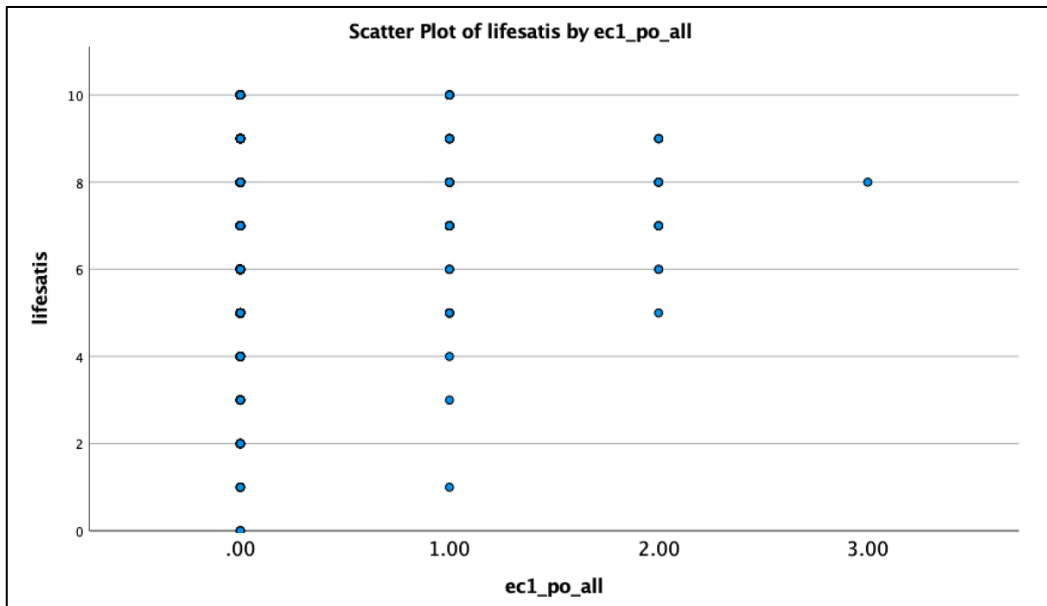
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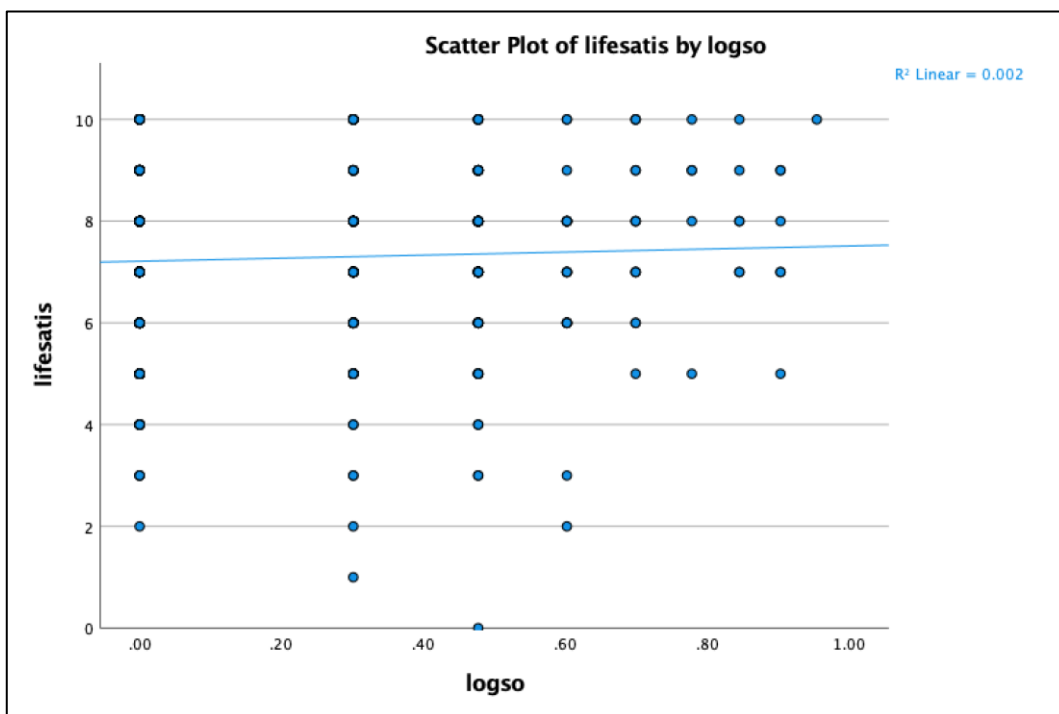
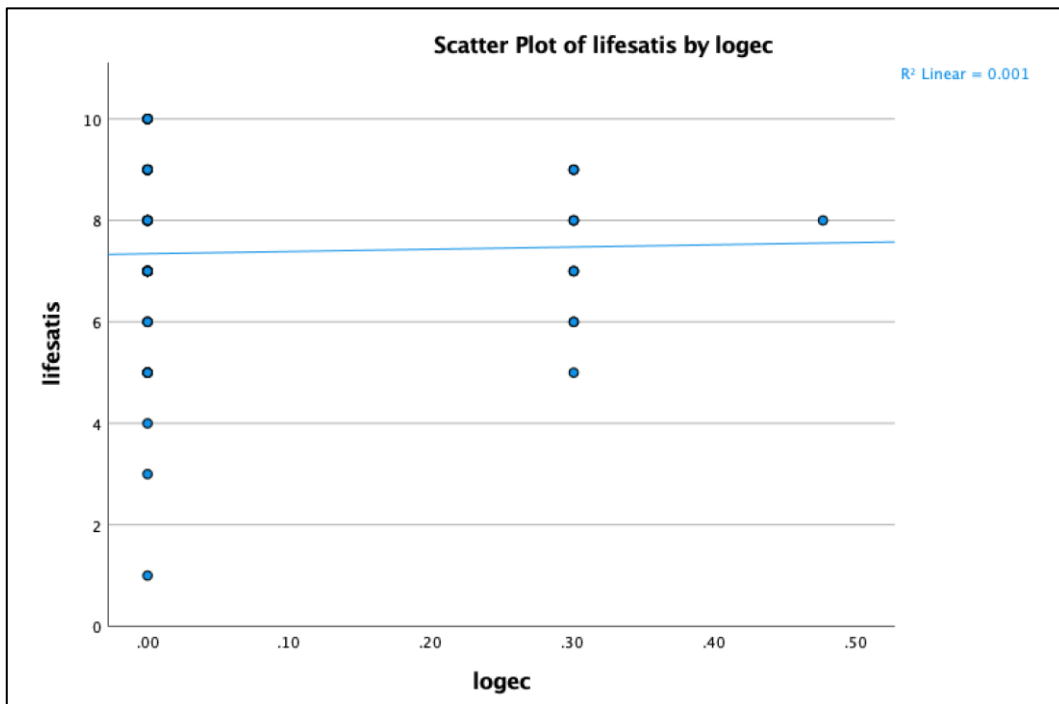
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9 Appendix

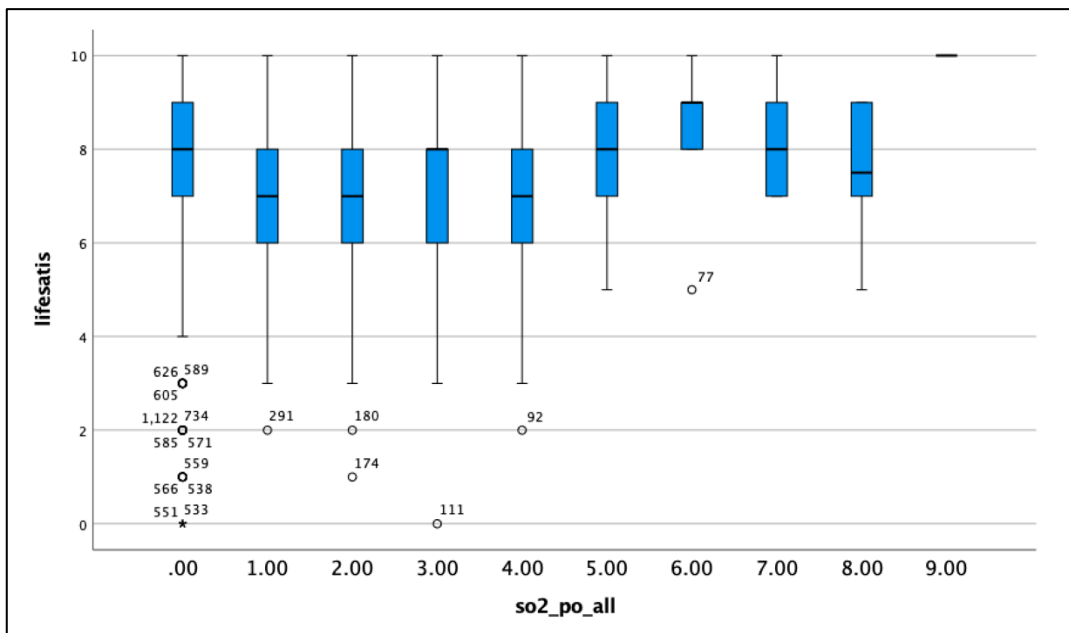
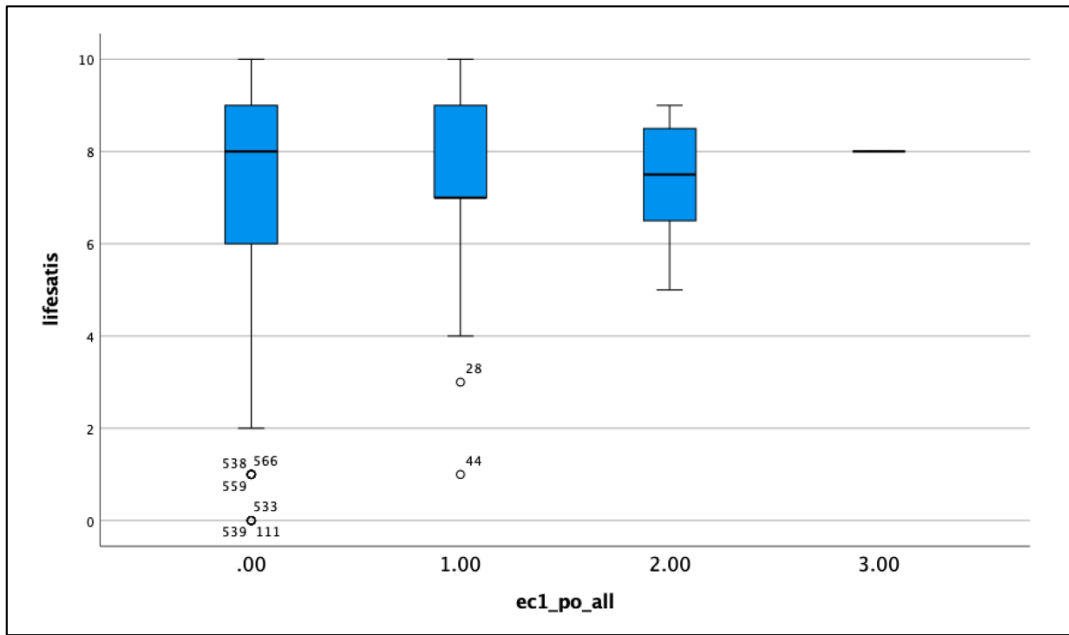
Appendix 1. Scatterplots of the independent variables on life satisfaction.



Appendix 2. Scatterplots of log-transformed independent variables.



Appendix 3. Boxplots of independent variables on life satisfaction.



Appendix 4. Model summaries of OLS regressions with independent variables, the quadratic independent variables, and the cubic independent variables.

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.598 ^a	.357	.344	1.511	.357	27.368	22	1084	<.001	
2	.598 ^b	.357	.343	1.512	.000	.057	1	1083	.812	
3	.598 ^c	.357	.343	1.512	.000	.283	1	1082	.595	
4	.598 ^d	.357	.343	1.513	.000	.177	1	1081	.674	2.089

a. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3

b. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, ec1_po_all

c. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, ec1_po_all, ec1_all_2

d. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, ec1_po_all, ec1_all_2, ec1_all_3

e. Dependent Variable: lifesatis

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.598 ^a	.357	.344	1.511	.357	27.368	22	1084	<.001	
2	.601 ^b	.361	.348	1.507	.004	6.775	1	1083	.009	
3	.601 ^c	.362	.347	1.507	.000	.765	1	1082	.382	
4	.602 ^d	.363	.348	1.507	.001	1.875	1	1081	.171	2.106

a. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3

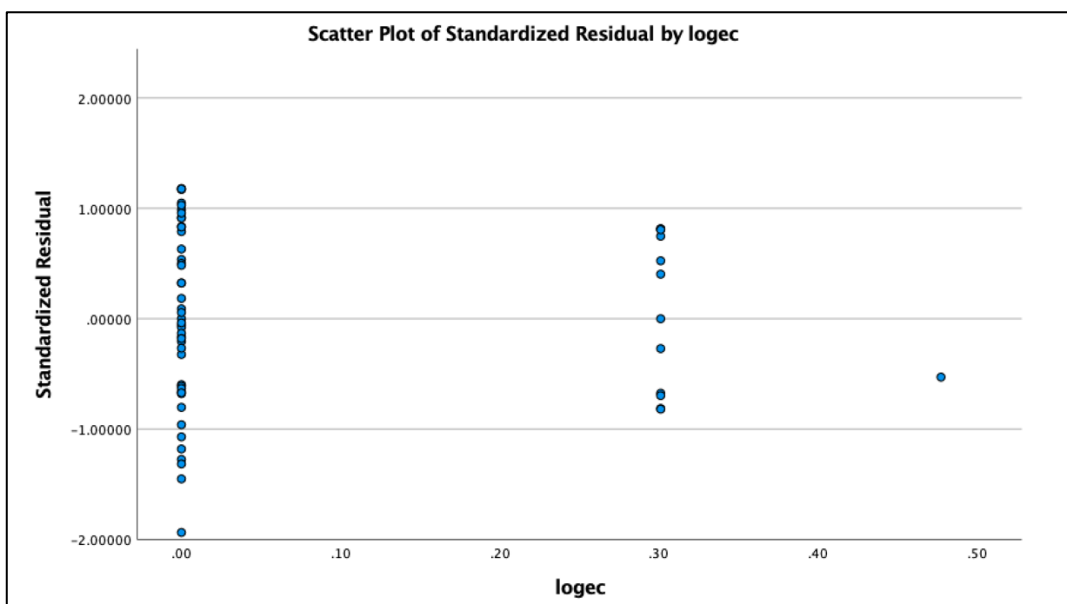
b. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, so2_po_all

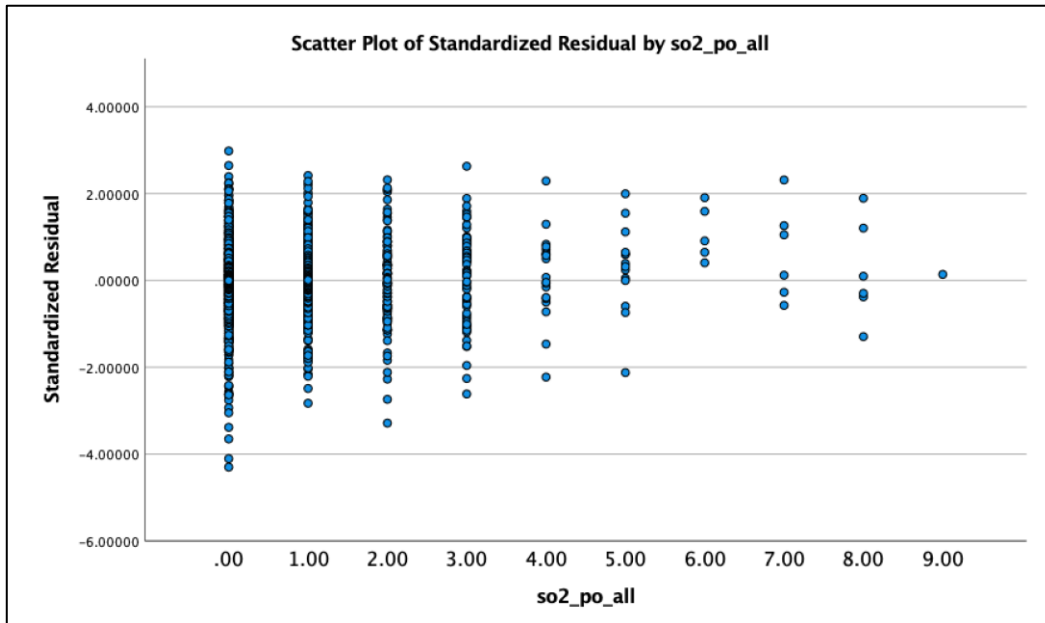
c. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, so2_po_all, so2_all_2

d. Predictors: (Constant), live_comparison, age_years, inco6, inco5, home2, partner_status, inco7, inco8, unemploy, low_educa, other, lang_prof, disabled_ill, student, discrim, inco4, inco2, high_educa, trust_gen, gender_RE, inco3, home3, so2_po_all, so2_all_2, so2_all_3

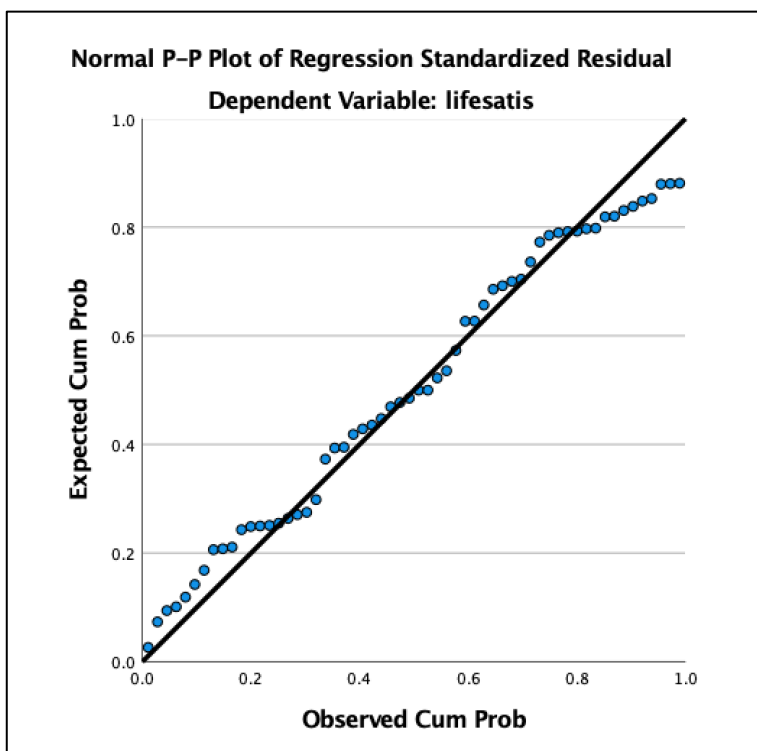
e. Dependent Variable: lifesatis

Appendix 5. Independent residuals of log-transformed independent variables.

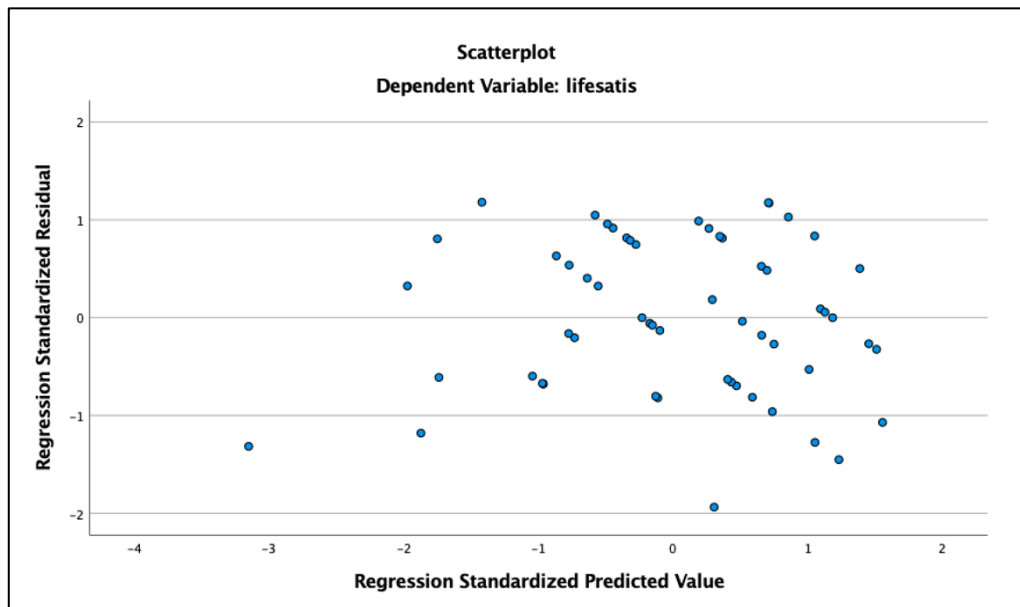




Appendix 6. Normally distributed residuals of life satisfaction.



Appendix 7. Homoscedasticity of life satisfaction.





CHECKLIST ETHICAL AND PRIVACY ASPECTS OF RESEARCH

INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Bonnie French, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: Social networks and life satisfaction

Name, email of student: Mischa van Deventer 668738md@student.eur.nl

Name, email of supervisor: Pearl Dykstra dykstra@essb.nl

Start date and duration: April 11th, 2023 – June 25th, 2023

Is the research study conducted within DPAS **YES - NO**

If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: HUMAN SUBJECTS

1. Does your research involve human participants. **YES - NO**

If 'NO': skip to part V.

If 'YES': does the study involve medical or physical research? **YES - NO**

Research that falls under the Medical Research Involving Human Subjects Act ([WMO](#)) must first be submitted to [an accredited medical research ethics committee](#) or the Central Committee on Research Involving Human Subjects ([CCMO](#)).

2. Does your research involve field observations without manipulations that will not involve identification of participants. **YES - NO**

If 'YES': skip to part IV.

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). **YES - NO**

If 'YES': skip to part IV.

PART III: PARTICIPANTS

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? YES - NO
2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? YES - NO
3. Will information about the possibility to discontinue the participation at any time be withheld from participants? YES - NO

4. Will the study involve actively deceiving the participants? YES - NO

Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.).

5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? YES - NO

6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? YES - NO

7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? YES - NO

8. Is the health and/or safety of participants at risk during the study? YES - NO

9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? YES - NO

10. Are there any other possible ethical issues with regard to this study? YES - NO

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

Please attach your informed consent form in Appendix I, if applicable.

Continue to part IV.

PART IV: SAMPLE

Where will you collect or obtain your data?

Families of Poles survey (FPN)

Note: indicate for separate data sources.

What is the (anticipated) size of your sample?

1131 respondents

Note: indicate for separate data sources.

What is the size of the population from which you will sample?

The population of Polish migrants in the Netherlands. The direct size is unknown, since Polish migrants have possibly already returned to Poland. Currently, 160.000 Polish are registered in the Netherlands.

Note: indicate for separate data sources.

Continue to part V.

Part V: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

Data will be stored at a personal google Drive and external hard drive, which will only be accessed by the researcher.

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

I'm responsible.

How (frequently) will you back-up your research data for short-term data security?

Every week.

In case of collecting personal data how will you anonymize the data?

The data I will use is already anonymized.

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

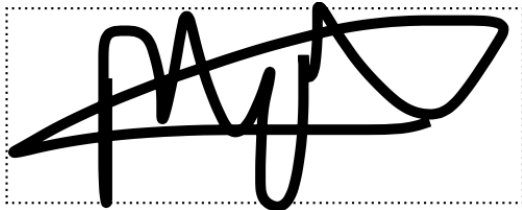
Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Mischa van Deventer
Dykstra

Name (EUR) supervisor: Pearl

Date: March 26th, 2023

Date: June 24th 2023

A large, bold, black handwritten signature, likely 'M. van Deventer', enclosed in a dotted rectangular box.A smaller, black handwritten signature, likely 'P. Dykstra', written on a horizontal line.

