International Students' Well-being in the Netherlands: the Role of Social Capital and

Perceived Cultural Distance

Lisa Wagener

S3657515

Department of Psychology, University of Groningen

PSB3E-BT15: Bachelor Thesis

Group number: 28

Supervisor: Anne Kuschel

Second evaluator: dr. Samantha Adams

In collaboration with: Sarah Sagel & Ioannis Kontogiorgis.

July 11, 2022

A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate, but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it, to which you could refer, please contact the supervisor mentioned.

Abstract

Many factors can influence subjective well-being, for example social contact. Previous research suggested that a larger cultural distance undermines the well-being of international students. This study builds on the existing literature on international students by investigating the role of social capital and perceived cultural distance on international students' subjective well-being. To investigate the relationship between social capital and subjective well-being, both the quantity and quality of social capital are included, as well as a distinction between three different contact groups: co-nationals, other internationals and host-nationals. Previous research had suggested that these different groups can influence international students' well-being differently, and we wished to shed more light on how these different forms of social capital can influence their subjective well-being. We expected that more contact with all three groups would be associated with higher subjective well-being and that a higher perceived cultural distance would be associated with lower subjective well-being. A cross-sectional questionnaire was shared among international university students in the Netherlands ($N = 134$). Correlational analysis revealed that only contact with host-nationals (Dutch people) was significantly positively correlated with subjective well-being and that contact with co-nationals and other internationals was not. Multiple regression analysis revealed that support from Dutch people was the only predictor that significantly explained variance in subjective well-being. Correlational analysis and regression analysis supported our expectation that a higher perceived cultural distance was associated with lower subjective well-being. Ways in which contact between international students and host-nationals could be encouraged are discussed.

Keywords: International students in the Netherlands, Perceived cultural distance, Social capital, Subjective well-being,

International Students' Well-being in the Netherlands: the Role of Social Capital and

Perceived Cultural Distance

In the modern world, countries are getting more connected and the world is becoming more globalized. Knowledge is shared between countries and many students are enrolled at universities abroad. They do so either for a short period of time (e.g. a semester abroad) or for a longer period (e.g. throughout their whole Bachelor's degree). The percentage of international students in the Netherlands has risen to 11.8% of the total student population in 2019 (OECD, 2022), meaning that international students comprise a significant share of the Dutch student population. Most students come from Germany, but there are also many students hosted from Italy, China, Belgium and the United Kingdom (UNESCO, 2022). While studying abroad can be seen as a fun adventure, international students also face challenges. These challenges, in turn, can impact their stay and their well-being – oftentimes, in a negative way: several studies have found that international students experience lower well-being than national students (Alavi & Mansor, 2011; Cetinkaya-Yildiz et al., 2011, Nuffic, 2022). Potential influencing factors on students' adaptation and well-being can be the social capital that the international students have built and the perceived cultural distance that the international students experience.

The current study looks to explore whether and to what extent social capital and perceived cultural distance influence the subjective well-being of international students in the Netherlands. Previous research has suggested that social contact is important for one's happiness (Ambrey et al., 2017; Bruine de Bruin et al., 2020; Myers, 2000). This might particularly be true for international students, who need to leave their social networks behind. In addition, a bigger difference between the culture of origin and the culture of the host country can lead to more difficulties adjusting to the new culture experience (Polek et al., 2010; Searle & Ward, 1990; Ward & Searle, 1991), which is why we are interested in measuring this variable as well. We consider different types of social capital: contact between international students

and people from their home country, contact between international students and other internationals, and contact between international students and native Dutch people.

Challenges of International Students

According to Berry's acculturation model, acculturation is "the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members" (Berry, 2005, p. 698). When international students start their studies in a new country, they will interact with the people from the host culture and cultural and psychological changes will follow, where they will adapt to the new culture. This, in turn, is often associated with higher well-being (Pilishvili, 2017). While acculturation sometimes develops easily, the process can also be difficult and can result in an internal conflict or acculturative stress (Berry, 2005).

International students face many potential stressors (Mesidor & Sly, 2016; Smith & Khawaja, 2011). Firstly, they face language difficulties (Cetinkaya-Yildiz et al., 2011; Mori, 2000; Trice, 2003), forming barriers in the academic domain (e.g. understanding lectures) as well as in the social domain (e.g. making friends). Secondly, they face educational stressors (Hashim & Zhiliang, 2003; Liberman, 1994; Mukminin, 2019), for example expectations about university life and university services that are not met or unfamiliarity with the Dutch classroom climate. Thirdly, they face social stressors, such as experiencing discrimination and difficulties in establishing a new social network in the new country. In addition, they also have fewer resources to cope with these challenges since their friends and family are far away. The abovementioned stressors are also found among international students in the Netherlands. A study conducted among Indonesian students in the Netherlands revealed that there are educational stressors, such as a mismatch between university and students' values and unfamiliarity with the Dutch classroom climate. Language issues and feelings of loneliness are also challenges that international students face (Mukminin, 2019).

Social Capital and Well-being

Social capital can possibly have a buffering effect for international students against acculturative stress. Scholars have not agreed on one definition for social capital. Whereas some argue that social capital are the resources that people can access through their social network (Bourdieu, 1986; Lin, 2001), others argue that the interpersonal relationships in themselves are social capital (Putman, 2000) – and that the latter is the perspective that this article uses. Social capital is associated with many positive outcomes, such as reduced experienced stress (Cohen & Wills, 1985), improved happiness, and higher subjective well-being (SWB) (Ambrey et al., 2017; Bian et al., 2018; Bruine de Bruin et al., 2020; Huang et al., 2019; Myers, 2000; Phillips, 1981; Rojas & Carlson, 2006). SWB has not one best definition, but is generally referred to as a combination of a general satisfaction with life and the net effect of positive and negative affect (Diener, 1984).

Bonding and Bridging Social Capital

Previous research has underlined the positive impact of social capital on people moving to another country (Khosravi et al., 2019; Ng et al., 2017; Shu et al., 2020), but it remains unclear what type of social capital benefits immigrants or international students the most (Bender et al., 2019). Social capital can be divided in two different types: bonding social capital and bridging social capital (Putman, 2002). Bonding social capital brings people together who are similar in certain aspects (e.g. nationality), and bridging social capital brings people together who are dissimilar in certain aspects. Both are associated with different resources or benefits. Related to this, Bochner and colleagues (1977) developed a functional model focusing on the different types of social capital that international students build, which has also been replicated a few years later in a bigger and more diverse sample (Furnham & Alibhai, 1985). According to this model, international students form three types of friendships during their stay abroad: friendships with people from their home country (co-national friendships); friendships with

other international students (multi-national friendships); and friendships with people from the host country (host-national friendships), where the latter two can be seen as bridging social capital and the first one as bonding social capital. These types of friendships serve different functions and are associated with different benefits (Bochner et al., 1977).

Host-national Contacts. Host-national friendships are mostly instrumental of nature and serve to achieve goals in the new country (Bochner et al., 1977). The positive outcomes associated with host-national contacts are widely documented, for example: more satisfaction, less homesickness, less loneliness, less stress, more cultural adjustment, and higher SWB in general (Church, 1982; Hendrickson et al., 2011; Kashima & Loh, 2006; Pekerti et al., 2020; Searle & Ward, 1990; Shu et al., 2020; Vaccarino et al., 2021; Walsworth et al., 2021; Zlobina et al., 2006)

Co-national Contacts. Co-national friendships are used to affirm and express the common culture of origin, as well as to reduce stress, offer emotional support and increase each other's self-esteem (Bochner et al., 1977). Several studies have found that co-national contacts contribute to SWB (Neri & Ville, 2008; Pekerti et al., 2020; Ward & Rana-Deuba, 2000), while others have found that co-national contacts, in fact, undermine SWB (Geeraert et al., 2014; Hendrickson et al., 2011; Walsworth et al., 2021) or adaptation to the host culture (Bochner et al., 1977; Geeraert et al., 2014). A possible reason might be that strong co-national contact can be accompanied with less interest in the new culture, local people and the language, in turn hindering long-term accomplishments and acculturation. Nevertheless, this type of friendship is found often among international students and is a friendship they value or even prefer over friendships with students from another country (Bochner et al., 1977; Furnham & Alibhai, 1985; Neri & Ville, 2008).

Multi-national Contacts. According to Bochner (1977), the function of multi-national friendships is mostly to engage in recreational activities together. Previous research regarding

the relationship between multi-national contacts of international students and SWB is not as extensive as the research conducted concerning co-national contact and host-national contact – and the results are contradicting as well. According to Hendrickson et al. (2011), because all international students have to adjust to the new country, these contacts can give a sense of commonality which can benefit SWB. Another study concluded that international students with more multi-national contacts were psychologically better adjusted (Kashima & Loh, 2006). However, in a study examining the association between multi-national friendships and the feeling of belonging, there appeared to be no significant association (Brunsting et al., 2021). Feeling a sense of belonging is associated with feeling valued and feeling accepted, which in turn is positively related with SWB (Atri et al., 2007). In conclusion, not much research has been conducted about the role of multi-national contacts and international students' SWB.

Quantity and Quality of Social Capital

Previous research has also looked into two other components of social capital: its quality and its quantity. Many scholars agree on the positive association between the quality of social interaction and SWB, but the relation between the quantity and SWB is less clear. Different studies found a strong positive correlation between friendship quality and SWB or cultural adjustment (Demir et al., 2007; Geeraert et al., 2014; Mehl et al., 2010; Sandstrom & Dunn, 2014; Wilson et al., 2015). Mehl et al. (2010) found that happier people spend less time alone, spend more time talking to people and that a higher proportion of these conversations was in-depth conversations instead of small-talk. Bruine de Bruin et al. (2019) concluded that relationship quantity was the main driver of well-being across the life span, although the perception of relationship quality was a better predictor of SWB. Another study found that relationship quantity does matter, but only on the low end of the spectrum (Ren et al., 2021). Sandstrom and Dunn (2014) also emphasize that it is not only the quality of interactions but also the quantity of interactions that enhance SWB. Yet another perspective is that the number

of friends is enhancing in some conditions and not in others: Sam (2000) found that the number of friends is SWB enhancing for international students from developing countries but not for international students from developed countries.

Perceived Cultural Distance

As the study by Sam (2000) illustrates, the country of origin can play a crucial part in international students' acculturation process. In the text above, one way in which the country of origin can influence the international students' experience was explained: by influencing the association between social capital and SWB. Sam found that the country of origin had more implications for the international students. There was a direct effect of country of origin on their SWB, where international students from North America were more satisfied than their peers from Africa and Asia during their study abroad in Norway.

The country of origin can influence the international students' experience in important ways. The greater the gap between the culture of origin and the host culture, the more difficulties internationals will experience (Polek et al., 2010; Searle & Ward, 1990; Ward & Searle, 1991). Cultural distance covers multiple dimensions of daily life, for example religion, social norms, and values. Neri and Ville (2008) found similar results as Sam (2000), with students from western countries performing better academically than students from non-western countries at a university in Australia. Another study has underlined the importance of value alignment for adaptation: when there is a difference between the own values of an immigrant or international student and the values in the host culture, this can be associated with less adaptation to the new culture. For example, when there is a big difference between the own values and the values of the new country, it is more difficult to create one's own successful life in the new culture (Yijälä et al., 2012). This again confirms that differences between oneself and the host culture can have adverse consequences on one's stay abroad.

An even better predictor of SWB might be perceived cultural distance (PCD) instead of objective measures of cultural distance (Chirkov et al., 2005; Suanet & Van de Vijver, 2009). Several studies have found a positive association between a greater PCD and lower cultural adjustment or SWB (Demes & Geeraert, 2014; Taušová et al., 2019; Zlobina et al., 2006). For example, Galchencko and van de Vijver (2007) looked at the psychological problems and sociocultural adaptation among different groups of international students in Russia. They found that a greater PCD is associated with more psychological problems and less sociocultural adaptation: international students from former USSR countries had the higher SWB and adaptation, whereas students from Asia indicated perceiving a larger cultural distance as well as feeling more psychological problems and experiencing less cultural adjustment.

Present Study

The present study will dive deeper into the acculturation process of international students and will examine how the different sources of social capital are associated with the SWB of international students in the Netherlands. Bonding and bridging social capital, as well as quantity and quality of social capital, will be considered. In addition, the role of PCD on the international students' SWB will be examined. In line with previous research studying the connection between social capital and SWB, we expect all types of social capital to be positively associated with international students' SWB, especially host-national friendships, since this relation has been widely confirmed. There is no consensus between previous studies concerning co-national friendships or multi-national friendships in relation to SWB. However, since the general relationship between social capital and SWB is well-established, we expect that these types of friendships will also be positively associated with SWB. In addition, in line with previous research, we expect that PCD is negatively correlated with students' SWB. In sum, this leads to the following hypotheses:

H1: The more contact international students have with host-nationals, the higher their SWB will be.

H2: The more contact international students have with other internationals, the higher their SWB will be.

H3: The more contact international students have with co-nationals, the higher their SWB will be.

H4: The higher the PCD that international students experience, the lower their SWB will be.

This study will be contributing to the ever-expanding knowledge about international students' SWB in several ways. Firstly, the subject of international students is still quite new, which leaves plenty of room for providing new insights and (dis)confirming existing findings. Especially looking at the association between multi-national friendships and SWB is valuable since only a few studies have taken this type of friendship into account (Brunsting et al., 2021; Hendrickson et al., 2011; Kashima & Loh, 2006). This research focuses on many different sources of social capital, which makes this research very worthwhile since not many previous studies have looked at all these sources together in one study. Oftentimes, they only looked at one type of social contact (e.g. host-national contact) or measured either quality or quantity of social capital – and not both. A recent study emphasized the importance of looking at the different sources of social support and group membership instead of measuring how much support someone receives in general: it matters *who* gives support (Richardson et al., 2022). In their opinion, this has not happened enough in previous research. The importance of including the quality of social capital when investigating the role of social capital on SWB is recently acknowledged by other researchers. Shu et al. (2020) and Kashima et al. (2006) emphasized in the discussions of their papers that future research should investigate the influence of the quality

of contact with host-nationals on international students' SWB and adjustment, as they only looked at the quantity of contact in their studies.

In addition, previous research mostly focused on international students' SWB and acculturation in Australia, New Zealand and the United States (e.g. Brunsting et al., 2021; Hasnain & Hajek, 2022; Kashima & Loh, 2006; Mesidor & Sly, 2016; Mori, 2000; Pekerti et al., 2020; Searle & Ward, 1990; Trice, 2003). The Netherlands differs from these countries in certain aspects, for example language or social norms. Conducting a research in the Netherlands can help explore whether the previous findings can be generalized to other countries.

Method

Participants & Design

A total of 140 students filled in an online questionnaire. This was after deleting those who did not complete the questionnaire or did not give informed consent. Two participants were excluded from the sample because they were Dutch. Three participants were excluded because they arrived in the Netherlands in 2022, and only participants who had lived in the Netherlands for six months or longer were included. Lastly, one participant was excluded because this person indicated to have arrived in 20221. Due to ambiguity, this person was also excluded. This leaves a total sample of 134 participants suitable for analysing. The sample included 80 women (59.70%), 49 men (36.57%), 3 participants who indicated "other" (2.24%), and 2 participants who preferred not to say (1.49%). The participants were between 18 and 30 years old ($M = 21.66$, $SD = 2.26$). The participants came from 39 different countries, including 57 from Germany (42.54%), 7 from Romania (5.22%), 7 from Italy (5.22%) and 5 from Greece (3.73%) (see Appendix A for a complete overview). The students were living in different cities in the Netherlands, with the most students from our sample living in Groningen (85.07%), Utrecht (3.73%) and Leeuwarden (2.24%). See Appendix A for a complete overview of all the countries of origin and all the cities of residence.

The participants were recruited through a convenience sampling where the researchers shared the questionnaire in their personal networks and through social media (e.g. WhatsApp). There was no financial compensation for the participants. In addition, first-year Psychology students from the University of Groningen could earn credits for their studies by participating in our research.

Materials & Procedure

The participants filled in a cross-sectional online Qualtrics questionnaire consisting of questions about our different variables: social capital, PCD and SWB.[1] To measure social capital, we chose one operationalization for the quality of social capital (social support) and one operationalization for the quantity of social capital (contact frequency).

Before the data collection started, our study was approved by the Ethics Committee from the University of Groningen. After reading the information about the study, the participants were asked to give informed consent before being able to proceed with the questionnaire.

At the end of the questionnaire, the participants were asked whether they had answered the questions seriously, and there was given an opportunity to ask any question they might have.

The questionnaire took about 15 to 20 minutes to complete. The participant could end the questionnaire at any given time without consequences. Because participants could leave their email addresses at the end of the survey if they wanted to receive the results after the study was finished, the responses were not completely anonymous.

Demographics and Control Variables

First, the participants were asked to answer questions about their demographics and about the control variables. This included their gender and age, their city of residence and in which city their university is located. After that, they were asked to specify their nationality by

---

[1] This research was part of a Bachelor Thesis project. This questionnaire was made in collaboration with another Bachelor Thesis group and therefore also contained questions and scales that were not used in this research.

telling what their country of origin was. In addition, a couple of control variables were measured as well.

Previous research has suggested that well-being can differ according to the length of stay (Millán-Franco et al., 2019; Neri & Ville, 2008; Ward et al., 1998). Therefore we included a question about this in the questionnaire: "In which year did you arrive in the Netherlands?". Afterwards, this variable was used to measure how many years the participants had lived in the Netherlands. During the COVID pandemic, some students decided to move back to their parents temporarily or visit them for longer periods of time since all education was available online. For this reason, we also included a question asking how much of their time since their arrival students had spent in the Netherlands. Participants were asked: "How much of the time since you started studying in the Netherlands did you roughly spend in person in the Netherlands?". They could answer the question on a scale ranging from 1 = *never* to 5 = *always*. These two variables (years in the Netherlands and proportion of time in the Netherlands since arrival) were later combined into a new variable measuring the actual time participants had spent in the Netherlands since this gives a more accurate reflection than the two variables separately.

In addition, since whether or not there is an intention to stay can possibly influence a person's attitude or efforts during their stay in the new country, this was also measured. We asked the participants: "Do you intend to stay in the Netherlands after your studies?" where they could answer *yes*, *no* or *do not know yet*.

Social Capital

Social support was measured with a questionnaire created by Haslam and colleagues (Haslam et al., 2005), which we adapted to reflect our study context. Three questions were asked: "Do you get the emotional support you need?", "Do you get the help you need?" and "Do you get the resources you need?". All questions were asked three times: firstly, about co-nationals, secondly about the Dutch contacts and thirdly about other internationals, for example:

"Do you get the social support you need from other international students?". Participants could indicate to what extent they agree with the statement on a scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The scale reliability for co-nationals is α=.95, the scale reliability for Dutch people is α=.88, and the scale reliability for other internationals is α=.93.

Contact frequency was assessed through the question: "How often do you talk to several … in one day?". This question was asked three times, one time for every contact group. For example: "How often do you talk to several co-nationals in one day?". Participants can indicate the frequency of their social contact with that specific group on a scale ranging from 1 = *never* to 5 = *always*.

Perceived Cultural Distance

PCD was assessed with Demes and Geeraert's Brief Perceived Cultural Distance Scale (BPCDS, 2014). Participants were asked to think about their home country and the Netherlands, after which they were asked: "In your opinion, how different or similar are these two countries in terms of …". After that followed 12 items on which cultures can differ; such as climate, social environment and friends (see Appendix B for an overview of all the items). Participants were asked to rate the items on a scale ranging from 1 = *very similar* to 7 = *very different*. The scale reliability is α =.94. In addition to the 12 items, participants were asked to indicate how different the two cultures are in general (GPCD): "Think about your home country and the Netherlands. In your opinion, in general, how different or similar are these countries?" on a scale where 1 = *very dissimilar* and 7 = *very similar*. The GPCD was reverse coded and, after that, combined with the BPCDS as one measure of PCD. The scale reliability of this combined scale for PCD is α =.85.

Subjective Well-being

SWB was measured in three ways: positive affect, negative affect and satisfaction with life. To assess positive affect and negative affect, the PANAS-SF was used (Thompson, 2007).

Participants were asked to indicate how they normally feel. An example question is: "To what extent do you normally feel upset?". Participants could indicate to what extent they feel like this on a scale ranging from 1 = *never* to 5 = *always*. The scale consists of ten items: five concerning negative feelings and five concerning positive feelings. The scale reliability is α =.62. To measure satisfaction with life, the Satisfaction With Life Scale (SWLS) was used (Diener et al., 1985). The participants were asked to indicate to what extent they agreed with five statements on a scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. An example statement is: "In most ways, my life is close to ideal." The scale reliability is α =.85. When these two scales are put together as one measure of SWB, the correlating scale consists of 15 items with a scale reliability of α =.82.

To compensate for the potential negative feelings associated with answering the questions about their SWB, a question was added where they were asked to briefly describe a positive experience they recently had.

Results

Procedure of Analysis and Assumption Checks

To test the hypotheses, correlations were measured, and the impact of the independent variables were regressed on the dependent variable by using multiple linear regression and hierarchical regression. The analyses were performed with SPSS 28. Before the analysis started, the relevant assumptions were checked (see Appendix C and D for the details). The assumption of linearity was met, as well as the assumption of homoscedasticity and independence of variables. The residuals of the dependent variable deviated only slightly from a normal distribution, which is why the data has to be interpreted with caution, but it is still acceptable to perform the analysis. There were no outliers.

Social Capital and Control Variables

Control Variables

Second, Pearson correlations analysis was conducted to establish which variables correlate with each other. From the control variables, not many significantly correlate with the outcome variable of subjective well-being. As can be seen in Table 1, the variable actual time in the Netherlands correlates more strongly with SWB than the two original variables years in the Netherlands and proportional time in the Netherlands ($r = .20$) and is also the only one with a significant correlation with SWB out of all the control variables ($p = .025$).

Tabel 1

Correlations of control variables with SWB and their descriptives

	SWB	N	Mean	Standard Deviation
Proportional time in the Netherlands	.06	134	4.04	.75
Years in the Netherlands	.16	131	2.13	1.30
Actual time in the Netherlands	.20*	131	1.66	1.15
Intention to stay	-.10	134	2.37	.74

Note: Correlations between the control variables and SWB.

*. Correlation is significant at 0.05 level.

Actual Time in the Netherlands and Social Capital

Besides the previously mentioned relationships, more significant correlations have been observed between variables in the data (see Table 2). There is a significant positive relationship between actual time in the Netherlands and frequency of contact with Dutch people: $r = .24$, $p = .005$. There is also a significant relationship between actual time in the Netherlands and frequency of contact with other internationals: $r = .29$, $p < .001$. Between frequency of contact

with co-nationals and frequency of contact with other internationals is a significant negative correlation: $r = -.17$, $p = .048$. This suggests that international students who have lived in the Netherlands for a longer period of time spend more time with Dutch people and other international students. This also suggests that the more time international students spend with other internationals, the less time they spend with co-nationals (or, the more time they spend with co-nationals, the less time they spend with other internationals).

Most and Least Contact

When looking at the variable means and standard deviations (see Table 2), the results show that international students spend the most time with other internationals and the least time with Dutch people. The same pattern shows for support: internationals indicate they receive the most support from other internationals and the least support from Dutch people. As can be seen in the corresponding 95% confidence intervals, the intervals of the means of the variables for contact frequency do not overlap (Dutch: $M = 2.26$, 95% CI [2.09, 2.43], $p < .001$, co-nationals: $M = 3.10$, 95% CI [2.86, 3.34], $p < .001$, other internationals: $M = 3.97$, 95% CI [3.81, 4.13], $p < .001$) as do the intervals of the variables for social support (Dutch: $M = 4.16$, 95% CI [3.92, 4.41], $p < .001$, co-nationals: $M = 5.06$, 95% CI [4.80, 5.32], $p < .001$, other internationals: $M = 5.60$, 95% CI [5.41, 5.78], $p < .001$). This means that we can be 95% confident that these intergroup differences with regard to support and contact frequency really exist.

Table 2

Correlations, means and standard deviations of social capital variables and actual time in the Netherlands

	1	2	3	4	5	6	7
1. Contact frequency with Dutch	1	-.05	.26**	.43**	-.16	-.10	.24**

	1	2	3	4	5	6	7
2. Contact frequency with co-nationals		1	-.17*	-.05	.65**	-.16	-.04
3. Contact frequency with other internationals			1	.12	-.24**	.37**	.29**
4. Support from Dutch				1	.16	.30**	.13
5. Support from co-nationals					1	.067	-.01
6. Support from other inter-nationals						1	.04
7. Actual time in the Netherlands							1
N	134	134	134	134	134	133	131
Mean	2.26	3.10	3.97	4.16	5.06	5.60	1.66
Standard Deviation	1.00	1.41	.93	1.43	1.53	1.08	1.15

Note: Intercorrelations between the social capital variables and their correlations with actual time in the Netherlands. Their N, means and standard deviations are also shown.

**. Correlation is significant at the 0.01 level.

*. Correlation is significant at the 0.05 level.

SWB and Social Capital in General

Correlations were conducted to test whether frequency of contact and social support influence SWB when no difference is being made between the different contact groups. The results are shown in Table 3. The only significant relationship with SWB is between SWB and support in general: $r = .25$, $p = .003$. Support and frequency are interrelated as well: $r = .28$, $p < .001$.

Table 3

Descriptives of contact frequency and social support and SWB and their correlations

	SWB	Contact frequency	Social support	N	Mean	Standard Deviation
SWB	1	.10	.25**	131	4.05	.73
Contact frequency		1	.28**	134	3.11	.64
Social support			1	133	4.95	.91

Note: Correlations between contact frequency and social support and SWB.

**. Correlation is significant at the 0.01 level.

Hypothesis Testing Social Capital

Correlational Analysis

The Pearson correlations between the social capital variables and dependent variable were also assessed. As can be seen in Table 4, the only variables significantly correlated with SWB are support from Dutch people and the frequency of contact with Dutch people. The correlation between support from Dutch people and SWB is a moderate positive one: $r = .27$, $p = .002$. The correlation between frequency of contact with Dutch people and SWB was also positive but slightly lower: $r = .20$, $p = .023$. Correlations with social capital gained from co-nationals and other internationals were all non-significant. Based on the correlation analysis, there does not seem to be a significant relationship between social capital and co-nationals or other internationals. We therefore conclude that there is no evidence found for both Hypothesis 2 and Hypothesis 3, where we expected that both these types of social capital would be associated with higher SWB. To test whether Hypothesis 1 is supported by our data, a multiple regression analysis was conducted to analyse further which forms of social capital with Dutch people influences SWB.

Table 4

Correlations of social capital with SWB and their descriptives

	SWB	N	Mean	Standard Deviation
Contact frequency with Dutch	.20*	134	2.26	.10
Contact frequency with co-nationals	.01	134	3.10	1.41
Contact frequency with other internationals	-.01	134	3.97	.93
Support from Dutch	.27**	134	4.16	1.43
Support from co-nationals	.13	134	5.06	1.53
Support from other internationals	.12	133	5.60	1.08

Note: Correlations between the social capital variables and SWB.

**. Correlation is significant at 0.01 level.

*. Correlation is significant at 0.05 level.

Regression Analysis

After this, I ran a hierarchical regression analysis with the two social capital variables that significantly correlate with SWB (support from Dutch people and frequency of contact with Dutch people) and the control variable actual time in the Netherlands. First, actual time in the Netherlands is included in the model, after that support from Dutch people and after that contact frequency with Dutch people. As can be seen in Table 5, the actual time spent in the Netherlands is still a significant predictor of SWB in the final model, $\beta = .10$, $t(130) = 1.77$, $p = .08$, and leads to a significant increase in R^2 of .039, $F(2, 126) = 5.12$, $p = .03$. Support from Dutch people is also still a significant predictor of SWB in the final model, $\beta = .11$, $t(130) =$

2.25, p = .03 and leads to an increase in R^2 of .051, $F(2, 125) = 7.04$, $p = .01$. The effect of frequency of contact with Dutch people is now non-significant: $\beta = .04$, t(130), p = .59 and it has led to an increase in R^2 of .002, $F(2, 124) = .30$, $p = .56$. The adjusted explained variance is higher when contact frequency with Dutch people is left out of the model: $R_{adj}^2 = .07$ with contact frequency with Dutch people included in the model, and: $R_{adj}^2 = .08$ when the variable is left out.

Based on the correlational analysis and the hierarchical regression analysis, we found support for Hypothesis 1: more contact with Dutch people is associated with a higher SWB. However, only the quality of contact with Dutch people significantly explains variance in SWB.

Table 5

Model summary of hierarchical regression

Model	R	R Square	Adjusted R Square	SE	R Square Change	F Change	df1	df2	Sig. F Change
1	.20[a]	.04	.03	.73	.039	5.14	1	126	.025
2	.30[b]	.09	.08	.71	.051	7.04	1	125	.009
3	.30[c]	.09	.07	.71	.002	.30	1	124	.585

Note: Model summary of the stepwise hierarchical regression with the two significant social capital predictors and actual time in the Netherlands regressed on the dependent variable SWB.

a. Predictors: (Constant), Actual time in the Netherlands
b. Predictors: (Constant), Actual time in the Netherlands, Support from Dutch people
c. Predictors: (Constant), Actual time in the Netherlands, Support from Dutch people, Frequency of contact with Dutch people

PCD & Nationality

Descriptive information

First, I looked at the differences between countries regarding SWB and PCD. To compare countries, only the countries with four or more participants in the sample were included. The results are summed up in Table 6. The data shows that German students indicated that they experienced the fewest PCD ($M = 2.15$), against a total sample mean of 3.69, while Italian and Greek students experienced the most PCD ($M = 5.38$ and $M = 5.32$ respectively). The highest SWB is experienced by the English students ($M = 4.33$), while the lowest SWB is experienced by the Polish students ($M = 3.53$). The average SWB of the international students was 4.05 (SD =.73).

Table 6

Scores on SWB and PCD per nationality

Nationality	N	SWB	PCD total
Germany	57 (SWB) 47 (PCD)	4.20	2.15
Romania	7	3.93	4.44
Italy	6	4.27	5.38
England	4	4.33	3.06
Greece	4	4.10	5.32
Lithuania	4	3.61	4.64
Poland	4	3.53	4.59
Total	131 (SWB) 119 (PCD)	4.05	3.69

Note: Scores on SWB and PCD for every nationality where n > 3.

Individual Contributions BPCDS

The correlations of the single items from the BPCDS with SWB were calculated (see Table 7). The individual item that correlated most strongly with SWB is item 11 (friends) ($r =$ -.30) which was significant as well: $p < .001$, and the second strongest correlation was between item 12 (language), which was $r = $ -.28, $p = .001$. Two items of the BPCDS were not significantly correlated with SWB: Climate and Practicalities. All the correlations are shown in Table 7.

Table 7

BPCDS items correlations with SWB

BPCDS items	Correlation with SWB
1. Climate	-.14
2. Natural environment	-.20*
3. Social environment	-.28**
4. Living	-.22*
5. Practicalities	-.17
6. Food and eating	-.25**
7. Family life	-.18*
8. Social norms	-.21*
9. Values and beliefs	-.19*
10. People	-.25**
11. Friends	-.30**
12. Language	-.28**

Note: Correlations between the items of the BPCDS and SWB.

**. Correlation is significant at the 0.01 level.

*. Correlation is significant at the 0.05 level.

Hypothesis Testing PCD

When looking at the correlation analysis, PCD correlates moderately and significantly with SWB: $r = -.33, p < .001$. This suggests that more PCD is associated with lower SWB. After the correlational analysis, a regression analysis was performed. When PCD is regressed on SWB, it is still a significant predictor with $\beta = -.14, t(114) = -3.73, p < .001$. The corresponding explained variance is significant as well: R^2 of .11, $F(1, 114) = 13.89, p < .001$. PCD explains about 11% of the variance in SWB of international students, where a higher PCD is associated with a lower SWB (Table 8).

Based on the correlational analysis and the regression analysis, we can conclude that we found support for Hypothesis 4: A higher PCD is associated with lower SWB.

Table 8

Regression model PCD on SWB

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.33ᵃ	.11	.10	.71	.11	13.89	1	114	<.001

Note: Model summary of the linear regression model where PCD predicts SWB.

Final Regression Model

Taken together, when all three significant independent variables (actual time in the Netherlands, support of Dutch people and PCD) are included in one regression model, they together explain 19.10% of the variance in SWB, $F(3, 109) = 8.60, p < .001$ (see Table 9).

Table 9

Regression model actual time in the Netherlands, support from Dutch people and PCD on

SWB

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.44	.19	.17	.69	.191	8.60	3	109	<.001

Note: Model summary of the multiple regression model where actual time in the

Netherlands, support from Dutch people and PCD predict SWB.

Discussion

The main objective of this study was to examine the role of social capital and PCD in the SWB of international students in the Netherlands. In particular, the role of contact with three contact groups was examined: co-nationals, other internationals and host-nationals. For each contact group, the quality and quantity of contact were measured through the support from and contact frequency with the corresponding group. These four variables corresponded with four hypotheses. Hypothesis 1, which hypothesized that more contact with host nationals would be associated with a higher SWB, was supported by our data. Hypothesis 2, which hypothesized that more contact with other internationals would be associated with a higher SWB, was not supported. Hypothesis 3, which hypothesized that more contact with co-nationals will be associated with a higher SWB, was not supported. Hypothesis 4, which hypothesized that a higher PCD would be associated with a lower SWB, was supported.

Interpretation of Findings

Host-national Contact

We found support for the hypothesis that more contact with Dutch people would be associated with a higher SWB. This result confirms previous research underlining the importance of forming friendships with host-nationals (Hendrickson et al., 2011; Pekerti et al., 2020; Walsworth et al., 2021). However, when performing the regression analysis, only the support component of social capital with Dutch people remained significant. This means that when international students get the support they need from Dutch people, they experience a higher SWB compared to when they do not receive this support. The extent to which the variance in SWB can be explained by support from Dutch people is only small, which means that other factors mostly explain the variance in SWB. Due to the cross-sectional nature of our study, we cannot draw conclusions about the direction of this relationship. It is both possible that contact with Dutch people improves SWB or that international students with a higher SWB are better at building meaningful relationships with Dutch people.

Multi-national Contact

We did not find a significant relationship between contact with other internationals and SWB. Since previous research about the role of contact with other internationals is inconsistent and scarce, this result does not support nor reject previous findings. Theoretically, international students could be seen as partly bonding and partly bridging social capital since all international students share similar experiences. However, at the same time, other internationals can also challenge existing world views and originate from different backgrounds. One possible explanation for the non-significant result could be that multi-national friendships do not give the support and familiarity that co-national friendships do and also do not give the tools to participate in the new society that host-nationals do. As a result, international friendships could possibly not be giving the benefits of either bonding or bridging social capital. However, much is still unknown about the role of this contact group, and more research needs to be done to clarify this.

Another possible explanation for our non-significant results could be the influence of the COVID pandemic. Our study was conducted in 2022, and the average time international students had spent in the Netherlands was a little over two years, meaning that many international students had only lived in the Netherlands during the COVID pandemic. According to the functional model of Bochner (1977), the main function of multi-national friendships is to do recreational activities together. Especially for these kinds of activities, options were limited during the pandemic. In addition, all physical education was exchanged for online education during the pandemic, resulting in fewer or no physical interactions between international students in educational settings (Elmer et al., 2020). This could have made it difficult for international students to build meaningful relationships with other international students.

Co-national Contact

Contrary to our hypothesis, contact with co-nationals did not contribute to a higher SWB for international students. For a part, this was not expected since this is a form of social contact and social contact is associated with a higher SWB, as previous research demonstrated (Ambrey et al., 2017; Bian et al., 2018; Huang et al., 2019; Myers, 2000). However, previous research has not been consistent about the relationship between co-national contact specifically and its relationship with SWB. Some of the previous research suggested that more contact with co-nationals during a time abroad is associated with lower acculturation or satisfaction (Bochner et al., 1977; Geeraert et al., 2014; Hendrickson et al., 2011; Walsworth et al., 2021) which could explain our results. While acculturation is not the same as SWB, research has demonstrated that acculturation and adaptation to the new culture are important goals to achieve while living in another country (Berry, 2005) and that acculturation is associated with a higher SWB (Pilishvili, 2017). A potential explanation for why no significant effect is found in the present research could be that having contact with only people from one's home country does not provide the

tools to experience your time in the new country to the fullest. Contact with host-nationals provides these tools, but contact with co-nationals does not (or not as much) (Bochner et al., 1977).

Post Hoc Social Capital

Post hoc analyses revealed more interesting findings. First of all, our data possibly shed more light on the friendship networks of international students. We found a significant negative relationship between contact frequency of co-nationals and contact frequency of other internationals. Our results also indicated negative relationships between contact frequency of co-nationals and support from co-nationals with contact with host-nationals and support from internationals, but these were all insignificant. Even though they are not significant, it remains interesting that the same direction is seen in all these correlations. It could be possible that internationals who have built a social network consisting of co-nationals do not actively look for other types of friendships with a more bridging character, and thereby undermining SWB. The reason why all the correlations are non-significant could be our relatively small sample. Research suggests that a sample size of at least 191 is needed to detect small to moderate effects (Bender et al., 2019), and our sample included only 134 participants.

Secondly, a significant positive relationship was found between the time international students had spent in the Netherlands and the frequency of contact with other internationals and host-nationals. This is in addition to the significant negative relationship between contact frequency with co-nationals and contact frequency with internationals. Multiple mechanisms could be at play here. First of all, international students seem to build more friendships with people from other cultures after living in the Netherlands for a while. Secondly, it could mean that students with co-national friends are not open to friendships with internationals. Another possible mechanism is that students first make contact with people who are similar (co-nationals) and, after a while, trade their co-national contacts for other internationals. Previous

research suggests that international students first build friendships with co-nationals, and that their network becomes more varied after living in the host country for a longer period (Kim, 2001)

PCD

Hypothesis 4, stating that a higher PCD would be associated with a lower SWB, is supported by our data. When international students indicated that they perceived a greater cultural distance, this was associated with a significantly lower SWB. In addition, the same direction of effect is found in the regression analysis. This is in line with previous research (Galchenko & van de Vijver, 2007; Taušová et al., 2019; Zlobina et al., 2006). However, this association is relatively small. From the individual PCD items, the item about friends had the strongest association with SWB individually. This again confirms the importance of a satisfying social network in order to be happy. As far as cross-country comparisons go with this small sample, German students experience the fewest PCD. This was not surprising since Germany is a neighbouring country of the Netherlands and therefore has a culture relatively close to the Dutch culture.

After all the individual correlations and regression analyses, one multiple regression analysis was performed where the three significant predictors were included. Actual time in the Netherlands, support from Dutch people and PCD together explain a moderate amount of the variance in SWB, which means it can be valuable to consider these factors when moving to a new country.

Implications

The most important implication of this study is that contact between international students and host-nationals should be encouraged, and more opportunities for intercultural interaction should be created. There are many ways in which this can be put into practice. One suggestion is the wider implication of so-called buddy programs, where international students

are coupled up with a host-national. Another suggestion is to give education a more multicultural character, for example, through mixed-nationality work groups or university-wide cultural events (Shu et al., 2020). Another way to create more opportunities for intercultural interaction is through housing (Hendrickson et al., 2011). Housing directors could be encouraged to create intercultural homes where host-nationals live together with international students. Living together offers many opportunities for interaction and intercultural learning. Social psychology research has shown that proximity is one of the main predictors of becoming friends. A pioneering study by Festinger, Schachter and Back in 1950 demonstrated that on a university campus, students formed more friendships with people that lived close to them. Additionally, all students should be informed about the potential positive effect of forming friendships between international students and host-nationals in order to increase their intrinsic motivation to build these types of friendships.

The findings about PCD also have practical implications. University services and non-university services could focus more on the well-being of international students from countries with a culture a lot different from the host culture since they are at a higher risk of facing acculturation problems and experiencing a lower SWB. A cross-cultural training at home before leaving or one at the start of the study abroad period where international students learn about the host culture might help to adjust to the new culture and, at the same time, might provide tools to make it easier to interact with locals.

Limitations

There are three limitations that should be addressed concerning this research. The first limitation concerns the sample. The sample contained many German students, and the number of participants for each of the other nationalities was low, limiting the possibilities of comparing different countries and investigating interaction effects. In addition, the large proportion of Germans students might have biased the results since it's possible that the transition from the

home country to the new country is not as difficult for German students as for students from countries further away. For example, the PCD is smaller, as is the physical distance, which might make it easier to stay in contact with the social network from home. Furthermore, the sample size was relatively small ($N = 134$), resulting in limited statistical power, which could explain the relatively large proportion of non-significant results. Research suggests that a sample of at least 191 participants is needed to detect small to moderate effects (Bender et al., 2019). A solution would be to conduct a study with a larger and more diverse sample.

Secondly, our design is cross-sectional of nature. This means that no causal conclusions can be drawn about our findings. In addition, no conclusions can be drawn about how friendship patterns and their relative importance change over time. A solution to this would be to conduct a research with a longitudinal design.

Thirdly, this research was conducted during the COVID pandemic. It is not unlikely that this has influenced the results. Education was taught online instead of on campus, resulting in fewer interactions (Elmer et al., 2020), potentially making it more difficult to build relationships with people. At the same time, online education resulted in some international students deciding to study at home from their home country (Wilczewski et al., 2021), also making it more difficult to meet other international students for those who decided to stay in the Netherlands. Social distancing measures also resulted in more online interactions in the private domain. Friends and family turned to online ways to keep in contact when meeting physically was not possible. This difference in contact might have influenced international students' experience and their relationships. All in all, the COVID pandemic has limited opportunities for contact and changed how people interact with each other, possibly influencing our results.

Directions for Future Research

Firstly, future research can investigate international students' friendship networks with a longitudinal design. By using a longitudinal design, causal conclusions can be drawn, and

changes over time can be investigated. Our results suggest that the frequency of contact for all the contact groups might change through time, as well as the support perceived from the three groups. A longitudinal design can test whether this is the case. Another suggestion would be to already measure SWB and social capital before the international student leaves the home country to study abroad and use this measure as a baseline. When participants are asked to answer questions about the contact frequency and support for the three contact groups multiple times throughout their stay abroad, the relative importance of the different groups and how this changes over time can be investigated. Longitudinal research could also look more closely at which types of support from whom are important in which stages of the studying abroad experience. Shu et al. (2020) found that emotional support is more important than instrumental support. Future research could investigate whether this is the case throughout the whole stay abroad or whether this changes from time to time. Possibly, when the international student has just arrived, instrumental support and practical help might be more important compared to when the international student has already lived in the new country for a while.

Secondly, research can look into the ways in which social interactions and international students' SWB changed during and after COVID and the ways in which technology and computer-mediated communication influenced friendships and friendship formation. Related to this, future research can investigate how (online) social capital from the home country influences international students' SWB, in addition to the social capital that international students build in the new country. Previous research suggests that support from the host country is important for the adjustment to the new culture (Nardon et al., 2015); however, how the two sources of support are related to and influence each other could be examined in more detail.

Thirdly, future research can dive more into the benefits of intercultural contact for host-nationals. As our study illustrates, friendships between international students and host-nationals are positively related to international students' SWB. More can be learned about the benefits of

these kinds of friendships for host-nationals and how to encourage host-nationals to build friendships with international students.

Conclusion

Globally, there are many students studying in another country than their home country. It is known that social capital is beneficial for SWB, and this research looked at the relationship between social capital and SWB in the context of international students in the Netherlands. In addition, the influence of PCD on international students' SWB was also assessed. Our results indicated that the most beneficial form of social capital for SWB is contact with host-nationals (in this case: with Dutch people). There was no evidence that contact with co-nationals or other internationals is associated with a higher SWB. With regard to contact with Dutch people, the quality of that contact (support) is most important. In addition, a higher PCD was associated with a lower SWB, meaning that students from countries with a culture much different from the Dutch culture experienced lower SWB. International students who had spent more time in the Netherlands also experienced a higher SWB. Our results are all correlational of nature, which means no conclusions can be drawn about the direction of the relations. Future research can test whether support from host-nationals improves SWB or whether it is the other way around. Future research should investigate further how multi-national friendships influence international students' acculturation and well-being.

References

Alavi, M., & Mansor, S. M. S. (2011). Categories of Problems among International Students in Universiti Teknologi Malaysia. *Procedia - Social and Behavioral Sciences*, *30*, 1581–1587. https://doi.org/10.1016/j.sbspro.2011.10.307

Ambrey, C., Ulichny, J., & Fleming, C. (2017). The Social Connectedness and Life Satisfaction Nexus: A Panel Data Analysis of Women in Australia. *Feminist Economics*, *23*(2), 1–32. https://doi.org/10.1080/13545701.2016.1222077

Atri, A., Sharma, M., & Cottrell, R. (2007). Role of Social Support, Hardiness, and Acculturation as Predictors of Mental Health among International Students of Asian Indian Origin. *International Quarterly of Community Health Education*, *27*(1), 59–73. https://doi.org/10.2190/IQ.27.1.e

Bender, M., van Osch, Y., Sleegers, W., & Ye, M. (2019). Social Support Benefits Psychological Adjustment of International Students: Evidence From a Meta-Analysis. *Journal of Cross-Cultural Psychology*, *50*(7), 827–847. https://doi.org/10.1177/0022022119861151

Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations*, *29*(6), 697–712. https://doi.org/10.1016/j.ijintrel.2005.07.013

Bian, Y., Hao, M., & Li, Y. (2018). Social Networks and Subjective Well-Being: A Comparison of Australia, Britain, and China. *Journal of Happiness Studies*, *19*(8), 2489–2508. https://doi.org/10.1007/s10902-017-9926-2

Bochner, S., McLeod, B. M., & Lin, A. (1977). Friendship patterns of overseas students: A functional model1. *International Journal of Psychology*, *12*(4), 277–294. https://doi.org/10.1080/00207597708247396

Bourdieu, P. (1986) 'The Forms of Capital'. in J. Richardson (ed.) Handbook of Theory and

    Research for the Sociology of Education. New York: Greenwood Press, pp. 241–258

Bruine de Bruin, W., Parker, A. M., & Strough, J. (2020). Age differences in reported social

    networks and well-being. *Psychology and Aging*, *35*(2), 159–168.

    https://doi.org/10.1037/pag0000415

Brunsting, N. C., Zachry, C., Liu, J., Bryant, R., Fang, X., Wu, S., & Luo, Z. (2021). Sources

    of Perceived Social Support, Social-Emotional Experiences, and Psychological Well-

    Being of International Students. *The Journal of Experimental Education*, *89*(1), 95–

    111. https://doi.org/10.1080/00220973.2019.1639598

Cetinkaya-Yildiz, E., Cakir, S. G., & Kondakci, Y. (2011). Psychological distress among

    international students in Turkey. *International Journal of Intercultural Relations*,

    35(5), 534–539. https://doi.org/10.1016/j.ijintrel.2011.04.001

Chirkov, V. I., Lynch, M., & Niwa, S. (2005). Application of the scenario questionnaire of

    horizontal and vertical individualism and collectivism to the assessment of cultural

    distance and cultural fit. *International Journal of Intercultural Relations*, *29*(4), 469–

    490. https://doi.org/10.1016/j.ijintrel.2005.05.014

Church, A. T. (1982). Sojourner adjustment. *Psychological Bulletin*, *91*(3), 540–572.

    https://doi.org/10.1037/0033-2909.91.3.540

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis.

    Psychological Bulletin, *98*(2), 310–357. https://doi.org/10.1037/0033-2909.98.2.310

Demes, K. A., & Geeraert, N. (2014). Measures Matter: Scales for Adaptation, Cultural

    Distance, and Acculturation Orientation Revisited. *Journal of Cross-Cultural

    Psychology*, *45*(1), 91–109. https://doi.org/10.1177/0022022113487590

Demir, M., Özdemir, M., & Weitekamp, L. A. (2007). Looking to happy tomorrows with friends: Best and close friendships as they predict happiness. *Journal of Happiness Studies*, *8*(2), 243–271. https://doi.org/10.1007/s10902-006-9025-2

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542–575. https://doi-org.proxy-ub.rug.nl/10.1037/0033-2909.95.3.542

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Elmer, T., Mepham, K., & Stadtfeld, C. (2020). Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *PLoS ONE*, *15*(7). https://doi-org.proxy-ub.rug.nl/10.1371/journal.pone.0236337

Festinger, L., Schachter, S., & Back, K. (1950). *Social pressures in informal groups; a study of human factors in housing*. Harper.

Furnham, A., & Alibhai, N. (1985). The Friendship Networks of Foreign Students: A Replication and Extension of the Functional Model. *International Journal of Psychology*, *20*(3–4), 709–722. https://doi.org/10.1080/00207598508247565

Galchenko, I., & van de Vijver, F. J. R. (2007). The role of perceived cultural distance in the acculturation of exchange students in Russia. *International Journal of Intercultural Relations*, *31*(2), 181–197. https://doi.org/10.1016/j.ijintrel.2006.03.004

Geeraert, N., Demoulin, S., & Demes, K. A. (2014). Choose your (international) contacts wisely: A multilevel analysis on the impact of intergroup contact while living abroad. *International Journal of Intercultural Relations*, *38*, 86–96. https://doi.org/10.1016/j.ijintrel.2013.08.001

Hashim, I. H., & Zhiliang, Y. (2003). Cultural and gender differences in perceiving stressors:

A cross-cultural investigation of African and Western students in Chinese colleges.

Stress and Health, *19*(4), 217–225. https://doi.org/10.1002/smi.978

Haslam, S. A., O'Brien, A., Jetten, J., Vormedal, K., & Penna, S. (2005). Taking the strain:

Social identity, social support, and the experience of stress. *British Journal of Social*

Psychology, *44*(3), 355–370. https://doi.org/10.1348/014466605X37468

Hasnain, A., & Hajek, J. (2022). Understanding international student connectedness.

International Journal of Intercultural Relations, *86*, 26–35.

https://doi.org/10.1016/j.ijintrel.2021.10.008

Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social

connectedness, homesickness, and satisfaction levels of international students.

International Journal of Intercultural Relations, *35*(3), 281–295.

https://doi.org/10.1016/j.ijintrel.2010.08.001

Huang, X., Western, M., Bian, Y., Li, Y., Côté, R., & Huang, Y. (2019). Social Networks and

Subjective Wellbeing in Australia: New Evidence from a National Survey. *Sociology*,

53(2), 401–421. https://doi.org/10.1177/0038038518760211

Kashima, E. S., & Loh, E. (2006). International students' acculturation: Effects of

international, conational, and local ties and need for closure. *International Journal of*

Intercultural Relations, *30*(4), 471–485. https://doi.org/10.1016/j.ijintrel.2005.12.003

Khosravi, R., Azman, A., Ayasreh, E. A. M., & Khosravi, S. (2019). Can a building social

capital intervention improve the mental health of international students? A non-

randomized quasi-experimental study. *International Social Work*, *62*(5), 1384–1403.

https://doi.org/10.1177/0020872818797996

Kim, Y. Y. (2001). Becoming intercultural: An integrative theory of communication and

cross-cultural adaptation. Thousand Oaks, California: Sage

Laerd Statistics (2015). Hierarchical multiple regression using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from https://statistics.laerd.com/

Liberman, K. (1994). Asian student perspectives on American university instruction. *International Journal of Intercultural Relations*, *18*(2), 173–192. https://doi.org/10.1016/0147-1767(94)90027-2

Lin, N. (2001) Social Capital: A Theory of Social Structure and Action. New York: Cambridge University Press

Mehl, M. R., Vazire, S., Holleran, S. E., & Clark, C. S. (2010). Eavesdropping on Happiness: Well-Being Is Related to Having Less Small Talk and More Substantive Conversations. *Psychological Science*, *21*(4), 539–541. https://doi.org/10.1177/0956797610362675

Mesidor, J. K., & Sly, K. F. (2016). Factors that Contribute to the Adjustment of International Students. *Journal of International Students*, *6*(1), 262–282. https://doi.org/10.32674/jis.v6i1.569

Millán-Franco, M., Gómez-Jacinto, L., Hombrados-Mendieta, I., García-Martín, M. A., & García-Cid, A. (2019). Influence of time of residence on the sense of community and satisfaction with life in immigrants in Spain: The moderating effects of sociodemographic characteristics. *Journal of Community Psychology*, *47*(5), 1078–1094. https://doi.org/10.1002/jcop.22172

Mori, S. C. (2000). Addressing the Mental Health Concerns of International Students. *Journal of Counseling & Development*, *78*(2), 137–144. https://doi.org/10.1002/j.1556-6676.2000.tb02571.x

Mukminin, A. (2019). Acculturative Experiences Among Indonesian Graduate Students in Dutch Higher Education. *Journal of International Students*, *9*(2), 488–510. https://doi.org/10.32674/jis.v0i0.265

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist*,

      55(1), 56–67. https://doi.org/10.1037/0003-066X.55.1.56

Nardon, L., Aten, K., & Gulanowski, D. (2015). Expatriate adjustment in the digital age: The

      co-creation of online social support resources through blogging. International Journal

      of Intercultural Relations, 47, 41–55. https://doi-org.proxy-

      ub.rug.nl/10.1016/j.ijintrel.2015.04.001

Neri, F., & Ville, S. (2008). Social capital renewal and the academic performance of

      international students in Australia. *The Journal of Socio-Economics*, *37*(4), 1515–

      1538. https://doi.org/10.1016/j.socec.2007.03.010

Ng, T. K., Wang, K. W. C., & Chan, W. (2017). Acculturation and cross-cultural adaptation:

      The moderating role of social support. *International Journal of Intercultural*

      Relations, *59*, 19–30. https://doi.org/10.1016/j.ijintrel.2017.04.012

Nuffic (2022). *How is it going with international students at Dutch higher education*

      institutions? https://www.nuffic.nl/sites/default/files/2022-03/how-is-it-going-with-

      international-students-at-dutch-higher-edcuation-institutions.pdf

OECD (2022). International student mobmyerility (indicator). doi: 10.1787/4bcf6fc3-en

      (Accessed on 06 March 2022)

Pekerti, A. A., van de Vijver, F. J. R., Moeller, M., & Okimoto, T. G. (2020). Intercultural

      contacts and acculturation resources among International students in Australia: A

      mixed-methods study. *International Journal of Intercultural Relations*, *75*, 56–81.

      https://doi.org/10.1016/j.ijintrel.2019.12.004

Phillips, S. L. (1981). Network Characteristics Related to the Well-being of Normals: A

      Comparative Base. *Schizophrenia Bulletin*, *7*(1), 117–124.

      https://doi.org/10.1093/schbul/7.1.117

Pilishvili, T. S. (2017). Time Perspective and the Psychological Well-Being of Chinese

  University Students adapting to Russia. *The Open Psychology Journal*, *10*(1), 11–18.

  https://doi.org/10.2174/1874350101710010011

Polek, E., Wöhrle, J., & Pieter van Oudenhoven, J. (2010). The Role of Attachment Styles,

  Perceived Discrimination, and Cultural Distance in Adjustment of German and

  Eastern European Immigrants in the Netherlands. *Cross-Cultural Research*, *44*(1), 60–

  88. https://doi.org/10.1177/1069397109352779

Putnam, R. D. (2000). *Bowling alone : the collapse and revival of american community*.

  Simon & Schuster.

Putnam, R., & Goss, K. A. (2002). Introduction. In R. Putnam (Ed.), Democracies in flux. The

  evolution of social Capital in Contemporary Society (pp. 1–19). Oxford: Oxford

  University Press

Ren, D., Stavrova, O., & Loh, W. W. (2021). Nonlinear effect of social interaction quantity on

  psychological well-being: Diminishing returns or inverted U? *Journal of Personality

  and Social Psychology*. https://doi.org/10.1037/pspi0000373

Richardson, J., Postmes, T., & Stroebe, K. (2022). Social capital, identification and support:

  Scope for integration. *PLOS ONE*, *17*(4), e0266499.

  https://doi.org/10.1371/journal.pone.0266499

Rojas, Y., & Carlson, P. (2006). The stratification of social capital and its consequences for

  self-rated health in Taganrog, Russia. *Social Science & Medicine*, *62*(11), 2732–2741.

  https://doi.org/10.1016/j.socscimed.2005.11.007

Sandstrom, G. M., & Dunn, E. W. (2014). Social Interactions and Well-Being: The Surprising

  Power of Weak Ties. *Personality and Social Psychology Bulletin*, *40*(7), 910–922.

  https://doi.org/10.1177/0146167214529799

Searle, W., & Ward, C. (1990). The prediction of psychological and sociocultural adjustment

    during cross-cultural transitions. *International Journal of Intercultural Relations*,

    14(4), 449–464. https://doi.org/10.1016/0147-1767(90)90030-Z

Shu, F., Ahmed, S. F., Pickett, M. L., Ayman, R., & McAbee, S. T. (2020). Social support

    perceptions, network characteristics, and international student adjustment.

    International Journal of Intercultural Relations, *74*, 136–148.

    https://doi.org/10.1016/j.ijintrel.2019.11.002

Smith, R. A., & Khawaja, N. G. (2011). A review of the acculturation experiences of

    international students. *International Journal of Intercultural Relations*, *35*(6), 699–

    713. https://doi.org/10.1016/j.ijintrel.2011.08.004

Suanet, I., & Van de Vijver, F. J. R. (2009). Perceived cultural distance and acculturation

    among exchange students in Russia. *Journal of Community & Applied Social

    Psychology*, *19*(3), 182–197. https://doi.org/10.1002/casp.989

Taušová, J., Bender, M., Dimitrova, R., & van de Vijver, F. (2019). The role of perceived

    cultural distance, personal growth initiative, language proficiencies, and

    tridimensional acculturation orientations for psychological adjustment among

    international students. *International Journal of Intercultural Relations*, *69*, 11–23.

    https://doi.org/10.1016/j.ijintrel.2018.11.004

Thompson, E. R. (2007). Development and Validation of an Internationally Reliable Short-

    Form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-

    Cultural Psychology*, *38*(2), 227–242. https://doi.org/10.1177/0022022106297301

Trice, A. G. (2003). Faculty Perceptions of Graduate International Students: The Benefits and

    Challenges. *Journal of Studies in International Education*, *7*(4), 379–403.

    https://doi.org/10.1177/1028315303257120

UNESCO Institute of Statistics (2022). http://uis.unesco.org/en/uis-student-flow

Vaccarino, F., Feekery, A., & Matanimeke, V. (2021). Birds of a feather end up flocking

together when studying abroad. Can a university bridge the cultural differences that

challenge friendships between Pacific Island students and New Zealand students?

International Journal of Intercultural Relations, *81*, 204–213.

https://doi.org/10.1016/j.ijintrel.2021.01.012

Walsworth, S., Somerville, K., & Robinson, O. (2021). The importance of weak friendships

for international student satisfaction: Empirical evidence from Canada. *International

Journal of Intercultural Relations*, *80*, 134–146.

https://doi.org/10.1016/j.ijintrel.2020.11.004

Ward, C., Okura, Y., Kennedy, A., & Kojima, T. (1998). The U-Curve on trial: A longitudinal

study of psychological and sociocultural adjustment during Cross-Cultural transition.

International Journal of Intercultural Relations, *22*(3), 277–291.

https://doi.org/10.1016/S0147-1767(98)00008-X

Ward, C., & Rana-Deuba, A. (2000). Home and host culture influences on sojourner

adjustment. *International Journal of Intercultural Relations*, *24*(3), 291–306.

https://doi.org/10.1016/S0147-1767(00)00002-X

Ward, C., & Searle, W. (1991). The impact of value discrepancies and cultural identity on

psychological and sociocultural adjustment of sojourners. *International Journal of

Intercultural Relations*, *15*(2), 209–224. https://doi.org/10.1016/0147-1767(91)90030-

K

Wilczewski, M., Gorbaniuk, O., & Giuri, P. (2021). The Psychological and Academic Effects

of Studying From the Home and Host Country During the COVID-19 Pandemic.

Frontiers in Psychology, *12*, 644096. https://doi.org/10.3389/fpsyg.2021.644096

Wilson, R. E., Harris, K., & Vazire, S. (2015). Personality and Friendship Satisfaction in

Daily Life: Do Everyday Social Interactions Account for Individual Differences in

Friendship Satisfaction? *European Journal of Personality*, *29*(2), 173–186.

https://doi.org/10.1002/per.1996

Yijälä, A., Lönnqvist, J.-E., Jasinskaja-Lahti, I., & Verkasalo, M. (2012). Values as Predictors

of Anticipated Socio-cultural Adaptation Among Potential Migrants from Russia to

Finland: Values and anticipated adaptation. *Journal of Community & Applied Social*

Psychology, *22*(2), 95–110. https://doi.org/10.1002/casp.1104

Zlobina, A., Basabe, N., Paez, D., & Furnham, A. (2006). Sociocultural adjustment of

immigrants: Universal and group-specific predictors. *International Journal of*

Intercultural Relations, *30*(2), 195–211. https://doi.org/10.1016/j.ijintrel.2005.07.005

Appendix A

Table A1

List of all countries of origin

Country	Frequency	Percentage
Albania	1	.75
Austria	1	.75
Brazil	2	1.50
Bulgaria	1	.75
Canada	2	1.50
Croatia	1	.75
Cyprus	1	.75
England	4	2.99
Finland	2	1.50
France	2	1.50
Germany	57	42.54
Greece	5	3.73
Hong Kong	1	.75
Hungary	2	1.50
India	2	1.50
Indonesia	3	2.24
Ireland	2	1.50
Italy	7	5.22
Jordan	1	.75
Latvia	1	.75

Lithuania	4	2.99
Moldova	1	.75
New Zealand	1	.75
Norway	1	.75
Poland	4	2.99
Romania	7	5.22
Russia	1	.75
Singapore	1	.75
Slovakia	3	2.24
Slovenia	1	.75
South Africa	1	.75
Suriname	1	.75
Sweden	3	2.24
Syria	1	.75
United States	3	2.24
No answer	1	.75

Note: This is the list of all the countries where the participants in the study were from.

Table A2

List of all cities of residence

City	Frequency	Percentage
Amsterdam	2	1.50
Ede-Wageningen	2	1.50
Enschede	2	1.50
Groningen	114	85.07
Leeuwarden	3	2.24
Leiden	1	.75
Lisbon	2	1.50
Netherlands (the participant did not tell which city in the Netherlands)	1	.75
Seoul	1	.75
Utrecht	5	3.73
No answer	1	.75

Note: This is a list of all the cities where the participants in the study lived.

Appendix B

Table B1

BPCDS

Item 1	Climate (temperature, rainfall, humidity)
Item 2	Natural environment (plants and animals, pollution, scenery)
Item 3	Social environment (size of the community, pace of life, noise)
Item 4	Living (hygiene, sleeping practices, how safe you feel)
Item 5	Practicalities (getting around, using public transport, shopping)
Item 6	Food and eating (what food is eaten, how food is eaten, time of meals)
Item 7	Family life (how close family members are, how much time family spend together)
Item 8	Social norms (how to behave in public, style of clothes, what people think is funny)
Item 9	Values and beliefs (what people think about religion and politics, what people think is right or wrong)
Item 10	People (how friendly people are, how stressed or relaxed people are, attitudes toward foreigners)
Item 11	Friends (making friends, amount of social interaction, what people do to have fun and relax)
Item 12	Language (learning the language, understanding people, making yourself understood)

Note: Names and descriptions of the items on the BPCDS.

Appendix C:

Assumption Checks for the Multiple Regression Predicting SWB from Support from Dutch People, Frequency of Contact with Dutch people and Actual Time in the Netherlands as Control Variable

In this section, we will shortly elaborate on why the assumption checks for multiple linear regression have been met.

Firstly, the assumption of independence of observations has been met, as the Durbin-Watson statistic is close to 2 (*Durbin-Watson* = 2.378), as can be seen in Table C1.

Secondly, there needs to be a linear relationship between SWB and the independent variables. Figures C1, C2 and C3 show the partial regression plots, where it can be seen that there does not seem to be a violation of the assumption of linearity. In addition, we tested whether there is a linear relationship between the dependent variable and the independent variables collectively by looking at the scatterplot of the residuals. As can be seen in Figure C4, there does not seem to be a violation of this assumption: the dots form a straight line.

Thirdly, the assumption of homoscedasticity was checked. When inspecting the scatterplot of the studentized residuals by unstandardized predicted values, the dots seem to make a horizontal line, meaning that this assumption is not violated (see Figure C4).

Fourthly, the assumption of multicollinearity needs not to be violated. As can be seen in Table C2, no correlation between the independent variables is higher than .7. In addition, the VIFs were all below 10, and the tolerance statistics were all above .1 (Table C3).

Fifthly, there should be no outliers. Inspection of the Cook's Distance showed that there are no outliers, as the Cook's Distance is not higher than 1 (see Table C4).

Finally, the errors need to be normally distributed. Inspection of the histogram of the residuals and the P-P Plot of the residuals shows that the residuals are approximately normally distributed. Hence, the results need to be interpreted with caution, but the analysis is still

acceptable to perform since regression is fairly robust against small deviations of normality.

See Figures C5 and C6 for the histogram and P-P Plot, respectively.

Table C1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.304[a]	.093	.071	.71077	2.378

Note: Model summary of the multiple regression model where support from

Dutch people, frequency of contact with Dutch people and actual time in the

Netherlands are included in the model.

a. Predictors: (Constant), Frequency of contact with Dutch people, Support

from Dutch people, Actual time in the Netherlands

b. Dependent Variable: SWB

Figure C1

Partial correlation plot SWB and Actual time in the Netherlands
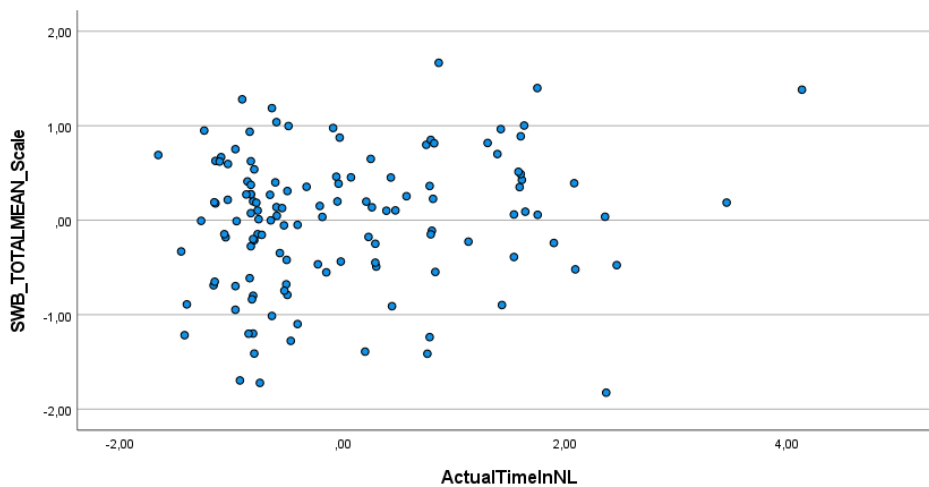
Note: This is the partial correlation plot of SWB and Actual Time in the Netherlands.

Figure C2

Partial correlation plot SWB and Support from Dutch people
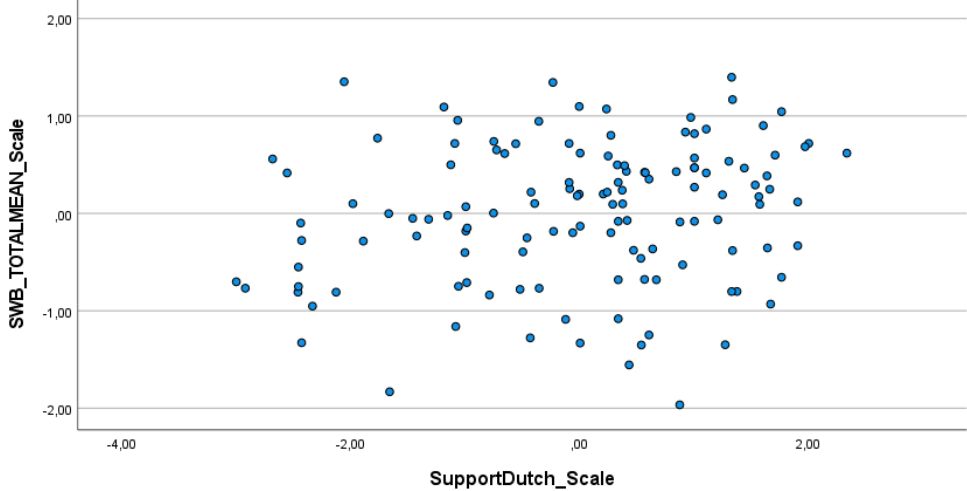
Note: This is the partial correlation plot of SWB and Support from Dutch people.
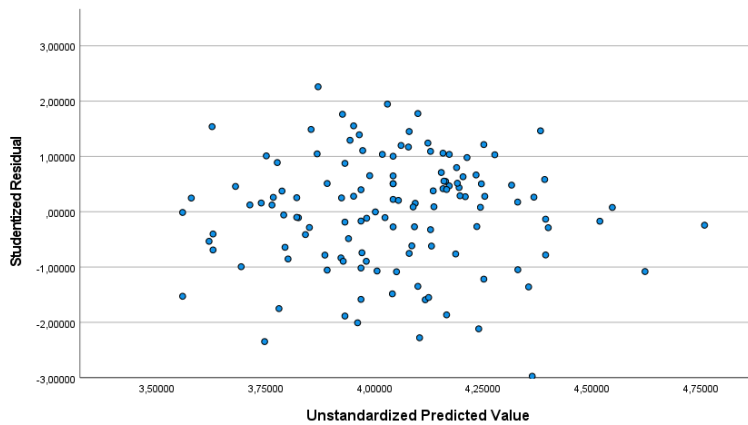
Figure C3

Partial correlation plot SWB and Frequency of contact with Dutch people
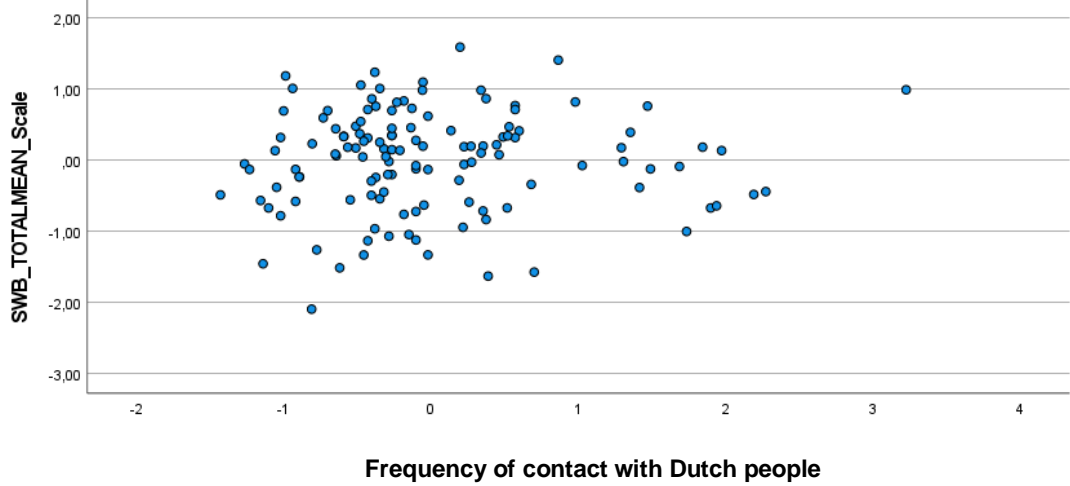
Note: This is the partial correlation plot of SWB and Frequency of contact with Dutch people.

Figure C4

Scatterplot of the Studentized Residuals by Unstandardized Predicted Values

Note: Scatterplot of the Studentized Residuals by Unstandardized Predicted Values

Table C2

Correlations of the independent variables

		Frequency of contact with Dutch	Support from Dutch	Actual time in the Netherlands
Frequency of contact with Dutch	Pearson Correlation	1	.429**	.241**
	Sig. (2-tailed)		<.001	.005
	N	134	134	131
Support from Dutch	Pearson Correlation	.429**	1	.128
	Sig. (2-tailed)	<.001		.146
	N	134	134	131
Actual time in the Netherlands	Pearson Correlation	.241**	.128	1

	Sig. (2-tailed)	.005		.146	
	N	131		131	131

Note: Correlation table of the correlations between the independent variables.

**. Correlation is significant at the 0.01 level (2-tailed).

Table C3

Coefficients of the multiple regression model, including Tolerance and VIF

							Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.327	.219		15.166	<.001					
	Actual time in the Netherlands	.100	.056	.157	1.774	.079	.198	.157	.152	.933	1.072
	Support from Dutch people	.111	.049	.209	2.253	.026	.250	.198	.193	.847	1.181
	Frequency of contact with Dutch	.041	.075	.052	.548	.585	.174	.049	.047	.805	1.242

Note: This table shows the coefficients, correlations and collinearity statistics of the

independent variables Actual time in the Netherlands, Support from Dutch people and

Frequency of contact with Dutch people.

a. Dependent Variable: SWB
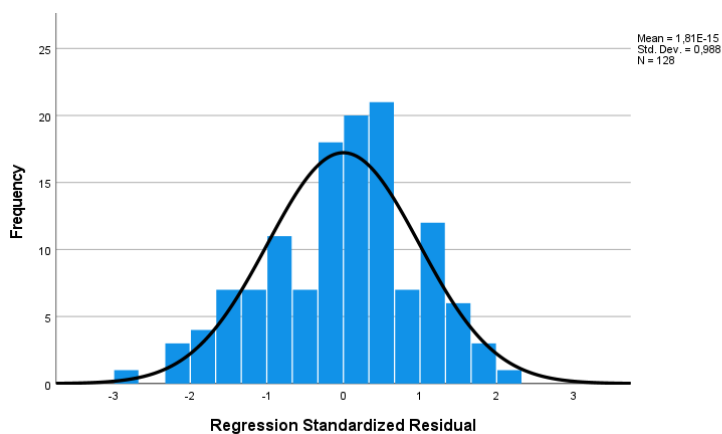
Table C4

Cook's Distance

	Minimum	Maximum	Mean	Std. Deviation	N
Cook's Distance	.000	.112	.008	.015	128

Note: This table shows the Cook's Distance for the dependent variable SWB.

a. Dependent Variable: SWB

Figure C5

Histogram of the residuals

Note: This is the histogram of the residuals where SWB is the dependent variable.

Figure C6

Normal P-P Plot of the residuals
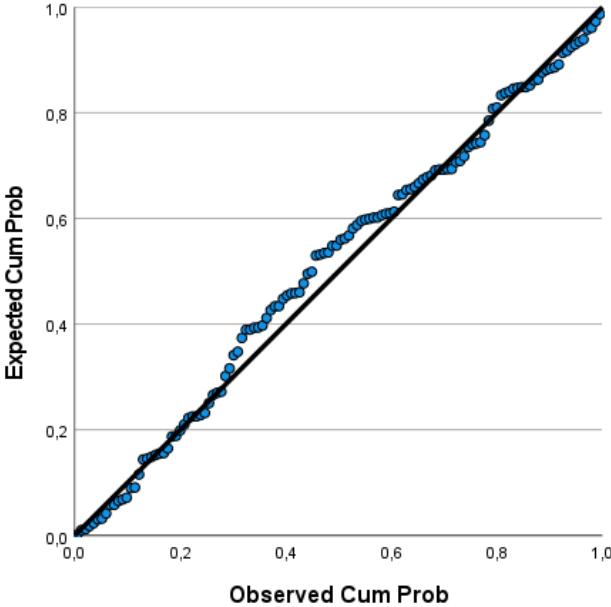
Note: This is the Normal P-P Plot of the standardized residual where SWB is the dependent

variable.

Appendix D:

Assumption Checks for the Multiple Regression Predicting SWB from Support from Dutch People, PCD and Actual Time in the Netherlands

In this section, we will shortly elaborate on why the assumption checks for multiple linear regression have been met.

`   Firstly, the assumption of independence of observations has been met, as the Durbin-Watson statistic is close to 2 (*Durbin-Watson* = 2.34), as can be seen in Table D1.

Secondly, there needs to be a linear relationship between SWB and the independent variables. Figures D1, D2 and D3 show the partial regression plots, where it can be seen that there does not seem to be a violation of the assumption of linearity. In addition, we tested whether there is a linear relationship between the dependent variable and the independent variables collectively by looking at the scatterplot of the residuals. As can be seen in Figure D4, there does not seem to be a violation of this assumption: the dots form a straight line.

Thirdly, the assumption of homoscedasticity was checked. When inspecting the scatterplot of the studentized residuals by unstandardized predicted values, the dots seem to make a horizontal line, meaning that this assumption is not violated (see Figure D4).

Fourthly, the assumption of multicollinearity needs not to be violated. As can be seen in Table D2, no correlation between the independent variables is higher than .7. In addition, the VIFs were all below 10, and the tolerance statistics were all above .1 (Table D3).

Fifthly, there should be no outliers. Inspection of the Cook's Distance showed that there are no outliers, as the Cook's Distance is not higher than 1 (see Table D4).

Finally, the errors need to be normally distributed. Inspection of the histogram of the residuals and the P-P Plot of the residuals shows that the residuals are approximately normally distributed. Hence, the results need to be interpreted with caution, but the analysis is still

acceptable to perform since regression is fairly robust against small deviations of normality.

See Figures D5 and D6 for the histogram and P-P Plot, respectively.

Table D1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.437[a]	.191	.169	.68583	2.340

Note: Model summary of the multiple regression model where support from

Dutch people, PCD and Actual time in the Netherlands are included in the

model.

   a. Predictors: (Constant), PCD, Actual time in the Netherlands, Support

       from Dutch people

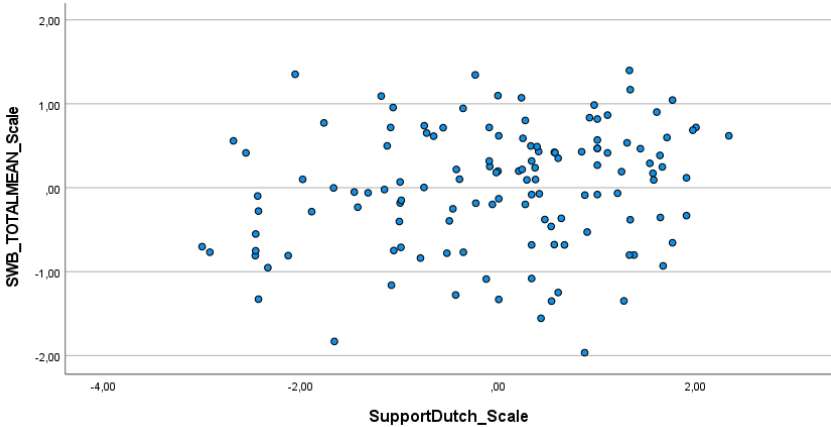   b. Dependent Variable: SWB

Figure D1

Partial correlation plot SWB and Actual time in the Netherlands
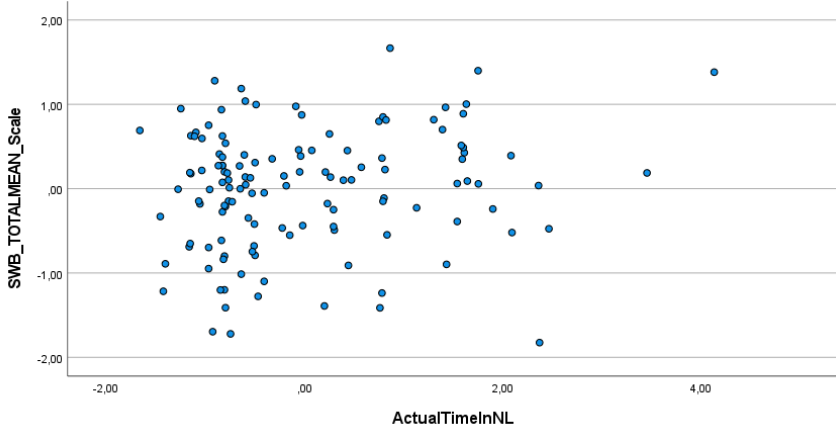
Note: This is the partial correlation plot of SWB and Actual Time in the Netherlands.
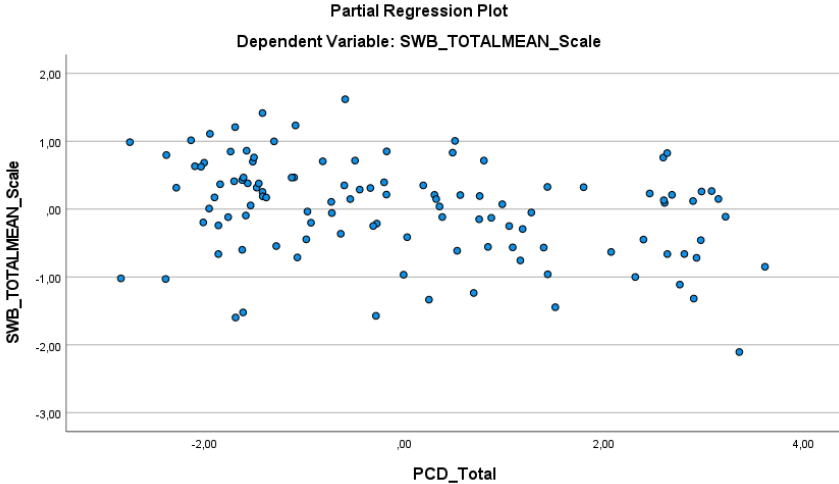
Figure D2

Partial correlation plot SWB and Support from Dutch people

Note: This is the partial correlation plot of SWB and Support from Dutch people.
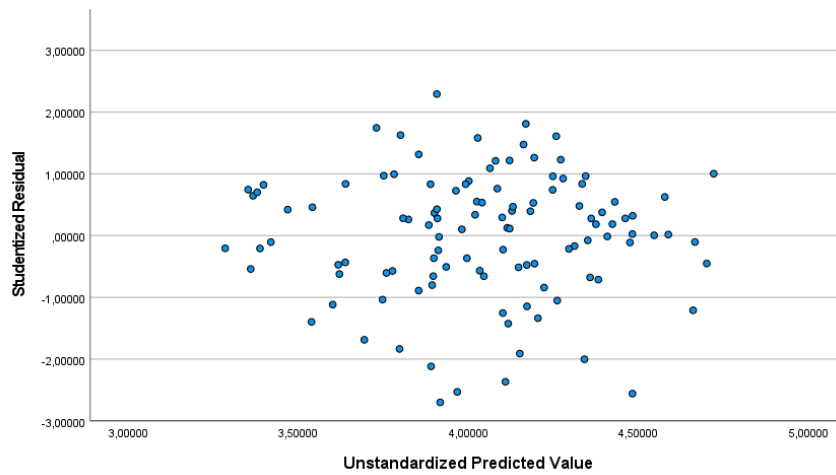
Figure D3

Partial correlation plot SWB and PCD

Note: This is the partial correlation plot of SWB and PCD.

Figure D4

Scatterplot of the Studentized Residuals by Unstandardized Predicted Values

Note: Scatterplot of the Studentized Residuals by Unstandardized Predicted Values

Table D2

Correlations of the independent variables

		Support from Dutch people	Actual time in the Netherlands	PCD
Support from Dutch people	Pearson Correlation	1	.128	-.172
	Sig. (2-tailed)		.146	.062
	N	134	131	119
Actual time in the Netherlands	Pearson Correlation	.128	1	.027
	Sig. (2-tailed)	.146		.777
	N	131	131	116
PCD	Pearson Correlation	-.172	.027	1
	Sig. (2-tailed)	.062	.777	

	N	119	116	119

Note: Correlation table of the correlations between the independent variables.

**. Correlation is significant at the 0.01 level (2-tailed).

Table D3

Coefficients of the multiple regression model, including Tolerance and VIF

Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
						Correlations			Collinearity Statistics	
1 (Constant)	3.867	.272		14.20	<.001					
Actual time in the Netherlands	.121	.056	.190	2.180	.031	.206	.204	.188	.980	1.021
Support from Dutch	.106	.048	.192	2.187	.031	.264	.205	.188	.958	1.044
PCD	-.130	.037	-.307	-3.518	<.001	-.330	-.319	-.303	.974	1.026

Note: This table shows the coefficients, correlations and collinearity statistics of the

independent variables Actual time in the Netherlands, Support from Dutch people and PCD.

a. Dependent Variable: SWB
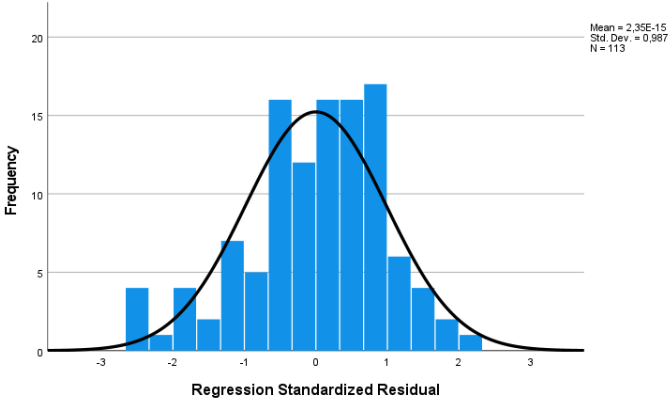
Table D4

Cook's Distance

	Minimum	Maximum	Mean	Std. Deviation	N
Cook's Distance	.000	.132	.009	.019	113

Note: This table shows the Cook's Distance for the dependent variable SWB.
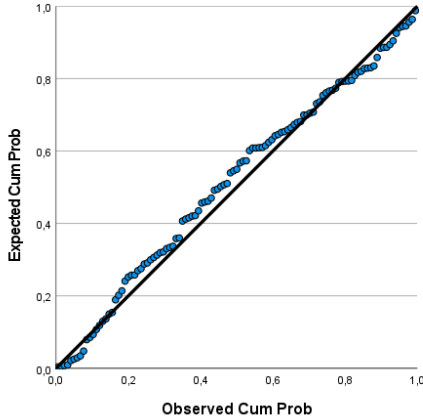
a. Dependent Variable: SWB

Figure D5

Histogram of the residuals

Note: This is the histogram of the residuals where SWB is the dependent variable.

Figure D6

Normal P-P Plot of the residuals

Note: This is the Normal P-P Plot of the standardized residual where SWB is the dependent variable.