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Friendship Formation and Satisfaction with Life of International Students in the Netherlands

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Friendship Formation and Satisfaction with Life of International Students in the Netherlands.

The aim of this research is to examine to what extent different types of social ties have an influence on life satisfaction of international students in the Netherlands. In the academic year 2017-2018 the most international students ever recorded (122.000) were studying in the Netherlands. The research question that will be investigated is: "*Is there a difference in life satisfaction of International Students in the Netherlands between different types of social ties?*" The research was conducted in the Netherlands among 53 international students. A survey was distributed questioning the participants' satisfaction with life, the type of friendships and the quality of these friendships. To analyze the data a Kruskall-Wallis test was performed among three groups; international students with relatively more home country friends, with relatively more international friends and with relatively more Dutch friends. The results show that there are significantly more international students who have the most international friends. However there was no significant difference found between the three groups and life satisfaction, this did not support the expectation. To gain more knowledge and understanding on this topic more research should be done on the quality of stable and unstable friendship relations and the idea of compressed time.

Keywords: International students; satisfaction with life; friendship relations; friendship quality; cultural adaption

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1.   Introduction

Each year, the number of international students is increasing worldwide (Hendrickson, Rosen, & Aune, 2011). In the academic year 2017-2018 there are at least 122.000 international students seeking higher education in the Netherlands, which is the highest number ever recorded and a growth of 9.3 % compared to the year before (Huberts & Vlek de Coningh, 2018). International students are important because they bring new knowledge and skills across many disciplines to the country, contributing to the intellectual capital. However, studying in a foreign country does not always come easy and students may experience acculturative stress and adjustment problems (Smith & Khawaja, 2011). Not only in the educational domain can it be stressful but also socially.

Many researchers try to investigate possibilities to make the experience of studying abroad more satisfying. Research has shown that social ties play an important role in the life satisfaction of international students (Hendrickson, Rosen, & Aune, 2011). The functional model of Bochner, McLeod & Lin (1977) suggests that international students can belong to three type of groups which all have a different function. Home country friends during their stay as well as contact with people from their home country can help them maintain cultural and ethnic values, local (Dutch) friends support them both academically as well as in the process of adaption to the new culture and other international students provide recreational and non-task related joy.

Satisfaction with life is a component of social wellbeing and measures the subjective wellbeing of a person or how happy a person is with their life in general (Andres & Withey, 1976). Research has been done on the effect of psychological adjustment on international students (Hendrickson, Rosen, & Aune, 2011) and the influences of different types of friendships on international students (Bochner, McLeod & Lin, 1977) but never on the role that different types of friendships play on the satisfaction with life of international students. This is relevant because students who experience a higher level of satisfaction are more likely to finish the programs they are following on time and also to be effective learners (Perrucci & Hu, 1995).

The aim of this research is to examine to what extent different types of social ties have an influence on life satisfaction of international students in the Netherlands. Friendship ratio, so the different social ties of international students, is the independent variable and satisfaction with life is the dependent variable.

2.   Theoretical Perspective

2.1   Types of Friendship

Important aspects in the study of international students cover friendship formation, unique friendship combinations and the role that it plays in this experience. International students can have three kinds of friends: friends from the home country, international friends from other countries and local friends from the host country (Bochner, McLeod & Lin, 1977). These friendships all have a different function (see table 1).

Table 1:
Friendship relations defined by Bochner, McLeod & Lin (1977)

Network	*Membership*	*Typical function*
Primary monocultural	Co-nationals	Provide close friendship (compatibility of cultural and ethnic values)
Secondary bicultural	Significant host nationals, such as academics, fellow students, advisors and officials.	Help the students succeed at university and adjust to the new culture.
Tertiary multicultural	Other friends and acquaintances	Provide companionship for recreational and non-task-oriented activities.

Furnham and Bochner state: "If sojourners are carefully introduced into a new society by close, sympathetic host-culture friends, the evidence indicates that they may encounter fewer problems than if they are left to fend for themselves" (1982, p. 171), this means that if local people help international students by introducing them to the new society that they find themselves in they will experience fewer problems in the process of adaption. Researchers often mention the link between adaption and the extent of contact between international students and people from the host country (Perrucci & Hu, 1995). Host country friends can help international students to learn the new language and to explain norms and habits of the country. When international students have more contact with host country students they seem

to have more positive feelings about the culture in general (Hendrickson, Rosen, & Aune, 2011). Not only do they learn about the new culture of the host country, they also gain more self-confidence because they learn how to communicate adaptively in the new culture, this enhances to a higher level of satisfaction (Hotta & Ting-Toomey, 2013).

Research has shown that many international students experience some kind of loneliness and/or isolation during their stay abroad (Smith & Khawaja, 2011). Especially in the first months of their stay, international students experience loneliness and they find it particularly hard to form friendships with locals (Smith & Khawaja, 2011). Friendship plays a very important role in satisfying individual's personal and emotional needs. In most cultures, friends and friendship relations can have a large impact on peoples' lives (Hendrickson, Rosen, & Aune, 2011).

Even though it seems more difficult, international students do wish for interaction with locals, and both these friendships and cross-cultural friendships are associated with psychological, social, and academic benefits (Williams & Johnson, 2011). Friendships with locals contribute to a better ability of understanding the host country environment, but the different environment also makes it harder to establish the relationship (Hendrickson, Rosen, & Aune, 2011). An explanation for the difficulty of international students to form relationships with locals is homophily. Homophily describes how people often have more contact with similar people. International students are often, in a different variety, not very similar to the host students (Dunne, 2009).

This also explains why it is easier to make friends with other international students. They have the same experience of being a stranger in a strange country (Hendrickson, Rosen, & Aune, 2011). Also, international students feel closer to their intercultural friends because they can openly share their past and unique cultural experiences with one another. Often, there are organized events for all the new international students where they have the ability to meet each other. This reduces the feeling of loneliness (Hotta & Ting-Toomey, 2013). A better cultural understanding between host country and international students together with interaction will achieve the best relationships between the two (Hendrickson, Rosen, & Aune, 2011).

2.2 Friendship Qualities

Friendship quality is an important aspect when measuring the influence of friendships on something because it determines how much a certain friendship can influence an individual.

An important aspect to consider when looking at friendship qualities of international students' friendship relations is the distinction between friendship quality and friendship stability (Bukowski et al., 1994). Friendships that are of a higher quality are more likely to be more stable than other friendships. However, personal time sense in intercultural friendship development can play an essential role in whether students are motivated to invest in stable relationships (Hotta & Ting-Toomey, 2013).

The idea of compressed time can play a crucial role in friendship qualities among international students. The amount of time invested in friendships from the home country seems to be very important to international students (Hotta & Ting-Toomey, 2013). Because international students often only stay in a country for a certain amount of time, time can play in important role in students' motivation to develop new high-quality friendships.

Having a history with someone or having a lot of shared memories are aspects of friendship that students consider as important to friendship relations (Hotta & Ting-Toomey, 2013). This makes it hard for international students to establish deeper intercultural friendship while studying in a foreign country for two reasons. The first reason is that they will probably compare the transitional and temporal nature of their new friendships to their friends at home who they share a long history with. Secondly, they know that even though they do not share a history with their new friends yet it is also hardly possible that this will happen due to their uncertain future together. They know that their new friends, like them, will eventually return to their home countries (Hotta & Ting-Toomey, 2013). This can result in the fact that international students do not invest in qualitative, stable friendships during their stay abroad because they know that their new friendships will most likely not last for a long time in the future.

2.3   Life Satisfaction

International students often have to create an entire new social network which also contributes to their sociocultural and psychological adaption (Smith & Khawaja, 2011), because a social network and having contacts helps in the process of adaption (Perrucci & Hu, 1995). Better psychological adjustment is linked to a higher satisfaction while studying abroad (Hendrickson, Rosen, & Aune, 2011). Research has shown that even though students mostly have friends from their home country there is a connection between having more host country friends and general satisfaction (Hendrickson et al., 2010). Also, in the study of
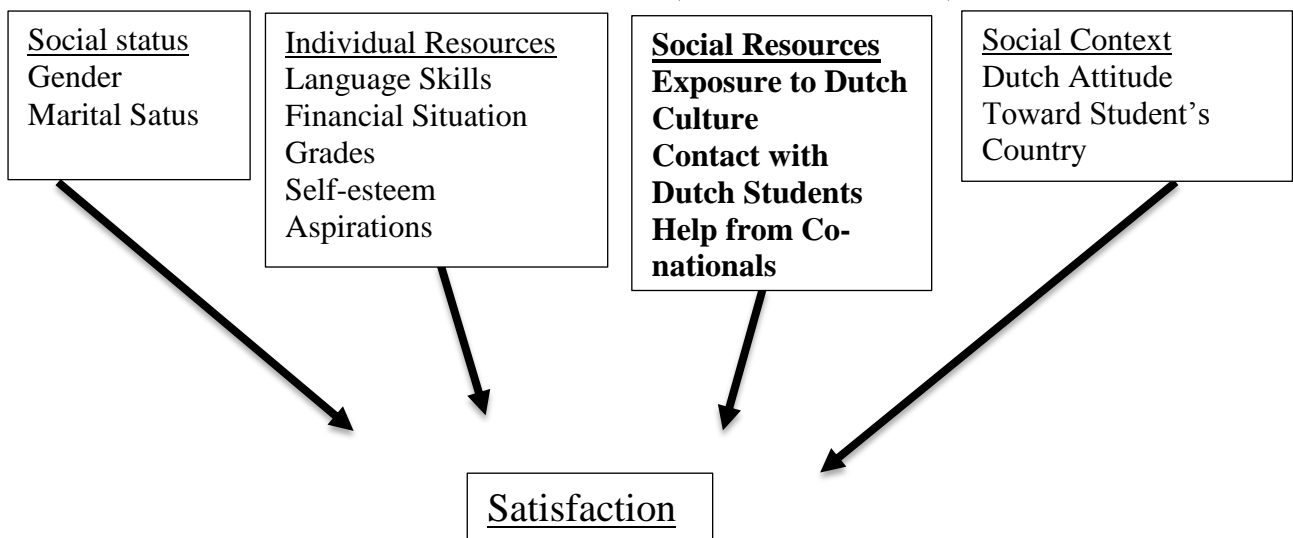
Hendrickson, Rosen, & Aune (2011), participants who had more variability in the type of friendships reported to be more satisfied, contend and more socially connected**.**

In their research Perrucci and Hu (1995) focus on satisfaction of international students according to four determinants: social status, individual resources, social resources, and social context. This research will focus on the social resources part of their research because this determinant focusses on satisfaction due to social contacts and exposure to the new culture. Moreover, this research does not really consider the other determinants of their research. Students who experience a higher level of satisfaction are more likely to finish the programs they are following in a timely manner and also to be effective learners (Perrucci & Hu, 1995).

Satisfaction as a result of social adaption due to social resources can be defined as: "the extent and success of social activities and functioning in general; involvement with other persons on campus; relocation away from home and significant persons there; and satisfaction with the social environment" (Glass, Gómez & Urzua, 2014, p. 107). In order to cope with living in a foreign country, international students use a wide range of both individual and social resources. The result of this process is the evaluation of their feelings of satisfaction. Social relationships can be both the source of pleasure or dissatisfaction (Perrucci & Hu, 1995). However, having friends when studying abroad seems to be one of the most important factors of life satisfaction while studying in foreign universities (Hendrickson, Rosen, & Aune, 2011). Satisfaction with studying abroad is closely related to whether the international students have the feeling they made good friends in the host country (Westwood & Barker, 1990).

Figure 1:
Theoretical model of determinants of satisfaction (Perrucci & Hu, 1995)

| Social status Gender Marital Satus | Individual Resources Language Skills Financial Situation Grades Self-esteem Aspirations | **Social Resources Exposure to Dutch Culture Contact with Dutch Students Help from Co-nationals** | Social Context Dutch Attitude Toward Student's Country |

Satisfaction

Social resources can function as sources of information and support. Students who are more motivated to achieve more in their career and social life will have more opportunities to feel that the time that they spent in a foreign country has been valuable and positive (Perrucci & Hu, 1995). In Figure 1 the theoretical model of Perrucci & Hu (1995) is shown, only the determinant 'social resources' will be considered in this research. 'U.S' in this model will be changed to 'Dutch'.
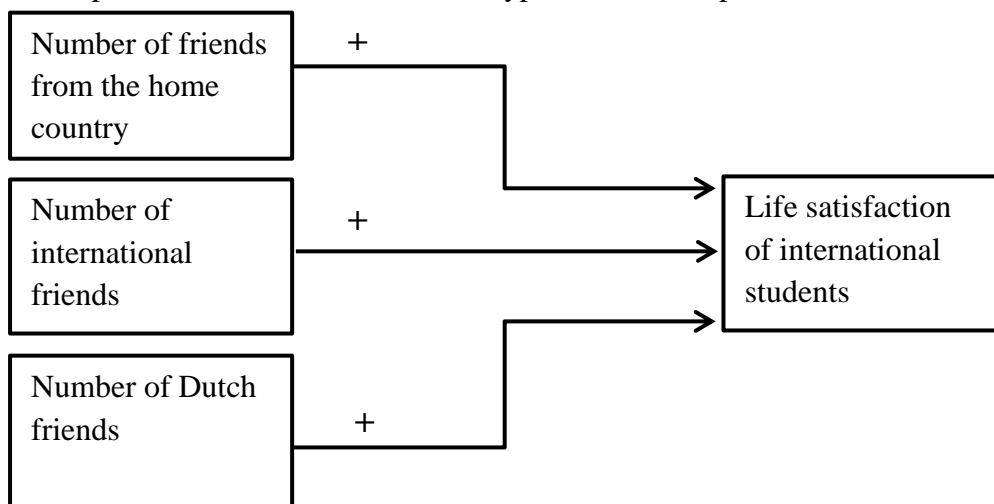
3.   Research Question and Hypotheses

The aim of this research is to examine to what extent different types of social ties have an influence on life satisfaction of international students in the Netherlands. This research examines the different kind of friendships that international students can form and what role they play in their satisfaction. More knowledge about the influence of these different types of friendships on life satisfaction can help both international student organizations as well as universities in developing policies to encourage certain types of friendships. The three kinds of friendship relations all offer support to international students in different ways. However, some kinds of friendships are easier to form and all three types of friendship can contribute to a higher satisfaction differently. Research has proved that there is a positive connection between friendship formation with locals and satisfaction, however it is not clear what that role specifically is (Hendrickson, Rosen, & Aune, 2011). Therefore, the research question is: "*Is there a difference in life satisfaction of International Students in the Netherlands between different types of social ties?*"

The conceptual model of this research is shown in figure 2 below. All types of friends are expected to have a positive relation with satisfaction. This means that having more friends results in a higher life satisfaction.

Figure 2:
Conceptual model of the influence of types of friendship on life satisfaction.

3.1 Hypotheses
There are two important hypotheses that need to be tested in order to give an answer to the research question.

H1: *International students have the same number of international friends as Dutch friends.*

H2: *There is no difference in satisfaction between international students who have relatively more home country friends, international students who have more international friends and international students who have relatively more Dutch friends.*

The expectation of the first hypothesis is that international students in the Netherlands will relatively have more international friends than Dutch friends. For the second hypothesis it is expected that international students in the Netherlands who have relatively more local friends (Dutch friends), than international friends or home country friends, experience a higher level of satisfaction. These hypotheses together allow us to give an answer to the research question.

4. Methods

Social connectedness and the way in which social networks, especially friendship formations, contribute to a higher satisfaction can be examined by looking at network ratios, the quality of the relations, the variability of the three kinds of friendships and the mean satisfaction of international students.

4.1 Participants and Procedure

This research uses a survey for international students in the Netherlands (N=53). Within this number there can be students with different ethical background and different personalities like introvert and extravert. This makes sure that there are different kinds of international students with different motivations to form new friendship relations while studying abroad. A total of 103 participants filled in the survey. A total of 52 participants is needed for this research. This number is calculated with a G*power calculated. To get this number a power of 0.8 was used with an alpha of 0.05 and a medium effect size (Cohen, 1992). For practical reasons this researh used convenience sampling together with a snowball effect.. After clearing up the dataset, 53 participants filled in the survey totally and these were used for the analysis. Participants were not compensated for filling in the survey.

The international students were approached through international offices, social media platforms for international students (facebook groups) and personally at the university library and University College Utrecht. In the survey the students reported their country of origin, age, gender and the time that they have been studying in the Netherlands. The expectation is that there are no differences in gender or country of origin. Gender does not play a role in quality and quantity of friendship relations (Williams & Johnson, 2011), so it is expected to not play a role on the influence on life satisfaction either.

4.2 Survey

To collect the data a survey was conducted measuring the number of friends in the three groups, the strength of these relationships, and feelings of satisfaction that the students experience.

The measurement scales that were used to measure these three things are:
- *Overall life satisfaction*: the Satisfaction with Life Scale by Diener, Emmons, Larsen & Griffin (1985).

- *Friendship ratios in the three groups:* The Functional Model of Bochner, McLeod & Lin (1977).

Each of the measurement instruments will be further explained in the next section.

4.2.1 Life Satisfaction:

When measuring life satisfaction there are several factors that should be taken into account in terms of validity. These are mainly the differences between nations in conditions that play a role, the differences between different groups living in different circumstances, correlations with measures that are not self-reported, genetic and physiological associations with life satisfaction, patterns of change when significant life events take place and the predictive ability of life satisfaction on future behaviours (Diener, Inglehart & Tay, 2013).

This survey uses the Satisfaction with Life Scale (SWLS) by Diener, Emmons, Larsen & Griffin (1985), which is a scale developed to measure the life satisfaction component of subjective well-being among general adult populations (See Appendix A, satisfaction with life scale). Despite the scale being developed for general adult population it has also been used particularly for young adults in the Netherlands (Arrindel, Heesink & Feij, 1999). The scale is originally a 5-item scale that focusses on life satisfaction as it being a cognitive judgmental evaluation of one's life as a whole, therefore it not only focusses on certain domains of life such a financial or health satisfaction. Review on the SWLS has shown it to have "a high temporal reliability" (0.83), a high alpha on internal consistency (0.93), and good convergence with other measures" and therefor to be "the most promising instrument for measuring life satisfaction" (Larsen, Diener, & Emmons 1985).

Arrindel, Heesink & Feij (1999) used the SWLS to test its applicability in a different cultural context. They used a large sample of young adults to do so. The measurement of life satisfaction can best be done by using bi-directional Likert scales with at least 7 choice points (Cummins, 2003). Research has shown that measuring satisfaction is highly dependent on the number of Likert Scale points. For this research a 7-point Likert scale will be used to examine the satisfaction of international students in the Netherlands. The Items are the ones that are used in the SWLS (Diener et al., 1985).

4.2.2 Friendship Ratios in the Three Groups:

The questions in this section of the survey covers the three different types of friendship. A network grid is used to indicate where the student's friends are from (see appendix A, functional model). Participant were asked to make a list of their friendship network and rank the quality of this friendship on a scale from 1 to 10. They were provided a list with different friendship definitions to use as reference points for the ranking in which 1 is a person they might know from class or work but who they will probably not have contact with after they leave and 10 is a friend that they really rely on and can count on at any time. The functional model of Bochner, McLeod & Lin (1977) is used to identify where each friend is from. This model has been proved to be reliable because several researchers have used it and gained similar results (Furnham & Alibhai, 1985).

4.3 Analysis

For the analysis the statistical program SPSS 22.0 was used. This software program is one of the most used program for data analysis in social and behavioral sciences. The first hypothesis, being that international in the Netherlands will have the same number of international friends as Dutch friends, can be seen in the descriptives of the data and was tested for a significant difference with a chi-square test. To analyze the outcomes for the SWLS a principal component analysis of the item correlations was done and to use this scale as the dependent variable of this research a scale was made by the mean of the outcomes.

To test the second hypotheses, stating that there is no difference in satisfaction between international students who have relatively more international friends and international students who have relatively more Dutch friends, the three groups were used in a Kruskall Wallis Test. These groups resulted from the second part of the survey where the type of friendship and the friendship quality were tested. The three groups are international students with relatively more home country friends, international students with relatively more international friends (cross-national friendships) and international students with relatively more host country friends (Dutch friends). By doing this we find out if the average satisfaction is different per group. The nulhypothesis is that there is no difference between the three groups and the alternative hypothesis is that there is a difference. The friendship ratio and the group to which the international students belong is the independent variable and satisfaction with life is the dependent variable. The results of this test also form an answer to the main research question.

4.4 Ethical aspects

Ethical aspects are always important when doing research (more ethical issues can be read in appendix C). In this research, the participants are asked some personal information for example their cultural background, their friendship relations and their life satisfaction. There is a psychological risk that participant may for example feel uncomfortable talking about their friendships, the cultural background of their friends and the quality of these friendships. Even though they can do so anonymously, themselves as well as for their friends, they do have to report the friendships that are important to them and the cultural background of their friends. Reporting this information anonymously makes sure that the respondents cannot be traced back by their information. To process this personal information the behavioural codes of the VSNU will be strictly followed. In the original Functional Model by Bochner, McLeod & Lin (1977) the survey offered 50 options to list their friends, but because international students may not have so many friendships after studying in the Netherlands for only a short period of time this list is shortened to 20 options. By doing this it is expected to not provoke any negative emotions among the respondents.

The data that is collected will be stored safely and guarantees privacy of the participants. Because the data is collected through an online survey the researcher does not have the possibility to identify any participants during the time of data collection neither during the analysis.

Before starting the online survey, a letter of informed consent was shown to the participants. After the participants have read both this as well as an introduction to the research they are asked to give their consent and to agree to participate in the sruvey by clicking the button "Next". The informed consent gives information about several things; an introduction to the research, the duration of the survey, a statement that the students participation is voluntarily and they can stop answering the wuestions in the survey at any time, the guarantee that the collected data will be confidential, guarantee that the survey is anonymous, and contact information from the researcher.

5. Results

5.1 participants

In total the data of 53 participants was used for the analysis. The particpants are all between the age of 18 and 30 with a mean age of 22. All participants have been studying in the Netherlands for less than 3 years varying between 1 month and 3 years with a mean of 11 months. 32 of the particpants are women and 21 are men. Most of the particpants (11) came from Germany, followed by Italy (7), Ireland (5) and Spain (5). The rest of the particpants were mostly from other countries in Europe (UK, France, Hungary, Romania, Cyprus, Lithuania, Norway, Slovania, Turkey, Portugal, Macedonia and Sweden) and from Brazil, Pakistan, Argentine, Canada, Surinam, South Africa, Egypt and the United States. The average satisfaction of the participants is 4.91 on a 7-point scale with the lowest satisfaction of 1 and the highest of 6.8 and a standarddeviation of 1.41.

5.2 Results Hypothesis 1
5.2.1 Descriptives

In order to give an answer to the first hypothesis, which is that international students in the Netherlands will have relatively more international friends, we have to look at the descriptives in the data. This can be seen in table 2. In total, the particpants reported 166 friends from their home country, 322 international friends and 187 Dutch friends. The particpants were divided in three groups. The first group are participants who relatively have more home country friends, the second are particpants who relatively have more international friends and the third are particpants who relatively have more Dutch friends. These groups were based on the number of friends the particpants reported from each group in the friendship ratio scale by Bochner, McLeod & Lin (1977). When people had the same number of friends in two groups the quality of the friendship was also considered. 50,9% of the particpants reported that most of their friends were other international students, this is almos twice as much as particpants who reported to have the most Dutch friends (22,6%). And 24,5% reported to have the most friends from their home country, these were mostly particpants from a country which there were more particpants from (e.g. Germany, Italy, Ireland).

Table 2:
Distribution of participants in the three groups

Where the person has te most friends

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Most friends from home country	13	24,5	25,0	25,0
	Most international friends	27	50,9	51,9	76,9
	Most Dutch friends	12	22,6	23,1	100,0
	Total	52	98,1	100,0	
Missing	System	1	1,9		
Total		53	100,0		

22,6% of the participants did not have any friends from their home country, but there were also people who reported to not have any Dutch friends (13,3%) or any international friends (11,1%). The frequencies of all the friendship reported can be seen in tables 3, 4 and 5 below.

Table 3:
Frequencies of home country friends.

Number of Home country friends

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	12	22,6	23,1	23,1
	1	8	15,1	15,4	38,5
	2	7	13,2	13,5	51,9
	3	9	17,0	17,3	69,2
	4	3	5,7	5,8	75,0
	5	3	5,7	5,8	80,8
	6	2	3,8	3,8	84,6
	7	1	1,9	1,9	86,5
	8	1	1,9	1,9	88,5
	9	1	1,9	1,9	90,4
	10	4	7,5	7,7	98,1
	12	1	1,9	1,9	100,0
	Total	52	98,1	100,0	
Missing	System	1	1,9		
Total		53	100,0		

Table 4:
Frequencies of international friends.

Number of International Friends

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	9,4	9,6	9,6
	1	7	13,2	13,5	23,1
	2	1	1,9	1,9	25,0
	3	5	9,4	9,6	34,6
	4	7	13,2	13,5	48,1
	5	2	3,8	3,8	51,9
	6	4	7,5	7,7	59,6
	7	2	3,8	3,8	63,5
	8	3	5,7	5,8	69,2
	9	3	5,7	5,8	75,0
	10	3	5,7	5,8	80,8
	11	4	7,5	7,7	88,5
	12	1	1,9	1,9	90,4
	13	2	3,8	3,8	94,2
	14	1	1,9	1,9	96,2
	15	1	1,9	1,9	98,1
	17	1	1,9	1,9	100,0
	Total	52	98,1	100,0	
Missing	System	1	1,9		
Total		53	100,0		

Table 5:
Frequencies of Dutch friends

Number of Dutch Friends

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	9	17,0	17,3	17,3
	1	4	7,5	7,7	25,0
	2	13	24,5	25,0	50,0
	3	6	11,3	11,5	61,5
	4	4	7,5	7,7	69,2
	5	4	7,5	7,7	76,9
	6	3	5,7	5,8	82,7
	7	3	5,7	5,8	88,5
	8	2	3,8	3,8	92,3
	9	1	1,9	1,9	94,2
	10	1	1,9	1,9	96,2
	11	1	1,9	1,9	98,1

	13	1	1,9	1,9	100,0
	Total	52	98,1	100,0	
Missing	System	1	1,9		
Total		53	100,0		

5.2.2 Chi-Square Test

To test if internationals students significantly have more international friends than Dutch friends a chi-square test of these two groups was performed. The difference between the number of international students with relatively more international friends and the number of students with relatively more Dutch friends was significant, X^2 (1, N=39) = 5.769, p<.05.

Table 6:
Chi-Square test results.

	Test Statistics
	Where the person has the most friends
Chi-Square	5,769[a]
df	1
Asymp. Sig.	,016

a. 0 cells (0,0%) have expected frequencies less than 5. The minimum expected cell frequency is 19,5.

5.3 Results Hypothesis 2

5.3.1 Principle Component Analysis and Reliability Analyis of the SWLS

To give an answer the the second hypothesis, whether international students who relatively have more Dutch friends have a higher satisfaction, there are a few steps to make. First a principal component analysis of the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) was done to see whether all the questions in the scale measure the same thing. In order to do a component analysis at least one correlation between the items should be higher than .3. As we can see in table 7 there is only one correlation that is not higher than .3 so that means that the data can be used for the analysis.

Table 7:
Item correlation matrix

Correlation Matrix[a]

		[In most ways my life is close to my ideal]	[The conditions of my life are excellent]	[I am satisfied with my life]	[So far, I have gotten the important things I want in life]	[If I could live my life over, I would change almost nothing]
Correlation	[In most ways my life is close to my ideal]	1,000	,729	,862	,458	,619
	[The conditions of my life are excellent]	,729	1,000	,627	,401	,485
	[I am satisfied with my life]	,862	,627	1,000	,542	,588
	[So far, I have gotten the important things I want in life]	,458	,401	,542	1,000	,266
	[If I could live my life over, I would change almost nothing]	,619	,485	,588	,266	1,000

a. Determinant = ,050

According to the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) (Kaiser, 1970) and the Bartlett's test the data of this scale is also usefull. The KMO test has a score of .791 and the Bartlett's test is significant (p<.001).

Table 8:
KMO and Bartlett's test results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,791
Bartlett's Test of Sphericity	Approx. Chi-Square	142,241
	df	10
	Sig.	,000

The result of the principal component analysis is that all items weigh on one factor, and all absolute factor weights are higher than .4 and 65.685% of the variance is explained by this factor, these results can be seen in table 9 below.

Table 9:
Principal component analysis of satisfaction with life scale

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,284	65,685	65,685	3,284	65,685	65,685
2	,752	15,050	80,735			
3	,497	9,931	90,666			
4	,350	7,004	97,671			
5	,116	2,329	100,000			

Extraction Method: Principal Component Analysis.

Furthermore, the reliability of the Satisfaction with Life Scale was tested with a Cronbach's Alpha of .861, which is close to the alpha of 0.93 which was found by Larsen, Diener & Emmons (1985).

Table 10:
Reliability analysis of satisfaction with life scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,861	,863	5

The next step is to make a satisfaction scale which can be used as the dependent variable. This scale is the mean of all the scores in the scale. The scores on the variable 'satisfaction' can be seen in the following table. The mean satisfaction of all international students is 4.91 on a 7-point Likert scale with a standard deviation of 1.41.

Table 11:
Mean satisfaction of international students.

Mean satisfaction of international students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	2	3,8	3,8	3,8
	2,40	1	1,9	1,9	5,7
	2,80	2	3,8	3,8	9,4
	3,00	1	1,9	1,9	11,3
	3,20	2	3,8	3,8	15,1
	3,60	1	1,9	1,9	17,0
	3,75	1	1,9	1,9	18,9
	3,80	3	5,7	5,7	24,5
	4,00	1	1,9	1,9	26,4
	4,20	2	3,8	3,8	30,2
	4,60	3	5,7	5,7	35,8
	4,80	4	7,5	7,5	43,4
	5,00	1	1,9	1,9	45,3
	5,20	1	1,9	1,9	47,2
	5,40	4	7,5	7,5	54,7
	5,60	2	3,8	3,8	58,5
	5,80	8	15,1	15,1	73,6
	6,00	7	13,2	13,2	86,8
	6,20	1	1,9	1,9	88,7
	6,50	1	1,9	1,9	90,6

6,60	4	7,5	7,5	98,1
6,80	1	1,9	1,9	100,0
Total	53	100,0	100,0	

5.3.2. Kruskall-Wallis Test

By looking at the means of th e three different groups some small differences are shown. The satisfaction of people with relatively more home country friends (5.361, SD = 1.06) is slightly higher than people with relatively more international (4.835, SD = 1.53) or Dutch friends (4.717, SD = 1.405).An important condition for an Anova is the normality distribution of the dependent variable, in this case satisfaction. However, because this variable is not normally distributed (see figure 3) this condition is not met. This would not be a problem in bigger sample sizes of at least 30 people per group, but because this research uses a smaller sample size it makes it difficult to use an Anova.

Figure 3:
Histogram of satisfaction scale
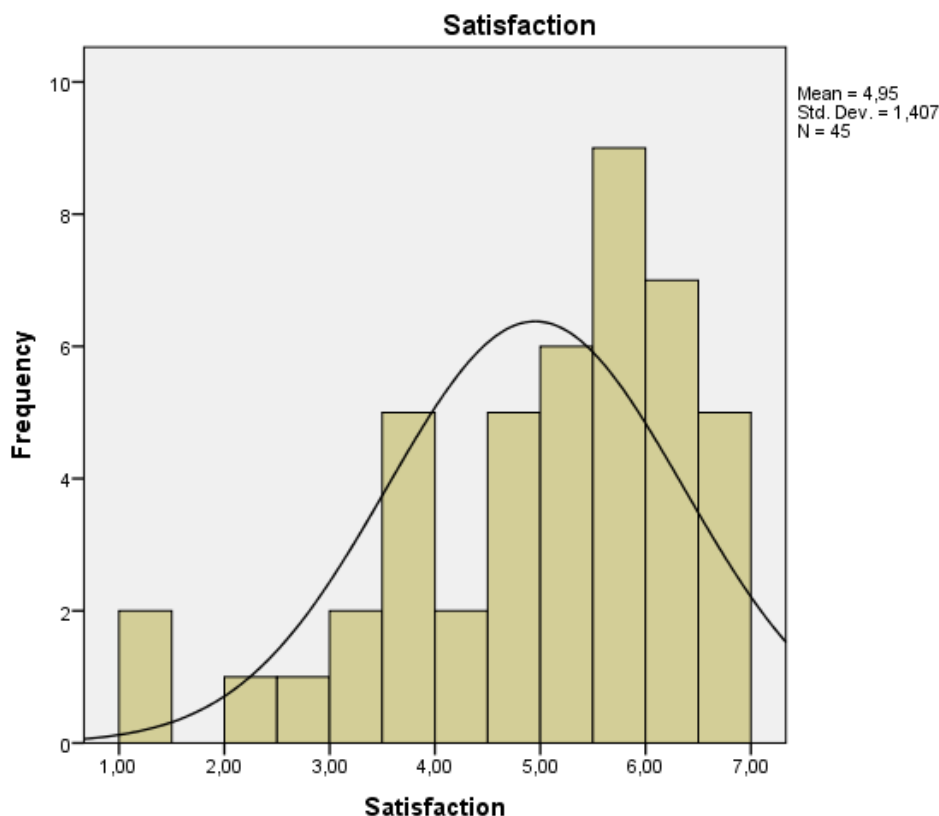
Instead of an Anova a Kruskal-Wallis Test is done because it measures the same thing. It assesses the hypothesis that multiple independent groups come from different populations

and tests these populations for differences between groups of scores when it does not meet the assumptions of an Anova (Field, 2013). The results of this test can be found in the table below. The Chi-Square is .8.838. The test is not significant with p = .658.

Table 12:
Kruskall-Wallis test results

Test Statistics[a,b,c]

	Mean satisfaction of international students
Chi-Square	,838
df	2
Asymp. Sig.	,658

a. Kruskal Wallis Test

b. Grouping Variable: Where the person has te most friends

c. Some or all exact significances cannot be computed because there is insufficient memory.

6.   Conclusion

In this section of the research the results of the performed tests will be explained by different theories and the relation between the hypotheses and the literature will be examined. Furthermore, several implications and limitations are mentioned and suggestions for further research are made.

The current research has tried to formulate an answer to the research question: "*Is there a difference in life satisfaction of International Students in the Netherlands between different types of social ties?".* In order to do this, two hypotheses were tested. The first one states that international students have the same number of Dutch friends as international friends. This hypothesis is rejected because the results show that there are significantly more international students who have more international friends than international students who have more Dutch friends. An explanation for this is the theory of homophily that is mentioned earlier in this research. This theory describes how people often have more contact with similar people. International students are often, in a different variety, not very similar to the host students (Dunne, 2009). This explains why it is easier for international students to have more international friends. They have the same experience of being a stranger in a strange country (Hendrickson, Rosen, & Aune, 2011).

To test the second hypothesis which stated that there is no difference in satisfaction between the three groups of international students a Kruskall-Wallis test was performed. According to this test this research did not demonstrate any significant effect of different types of friendships on life satisfaction of international students $\chi^2(2) = .838\ p = .658$. The low Chi-Square of .838 means that the difference between the groups is not very large. The significance of this test is .658, taken in consideration that the test would be signitificant if $p<.05$ the influence of friendship on satisfaction is not significant at all. This also means that there is a 65.8% chance of finding the exact same result if the type of friendship does not have any effect on satisfacion at all. So the nulhypothesis that there is no difference in satisfaction between the three groups of international students is accepted. Even though a lot of studies suggests that there is a positive relation between having local (Dutch) friends and the level of life satisfaction (Bochner, McLeod & Lin, 1977; Furnham & Bochner, 1982; Perrucci & Hu, 1995; Hotta & Ting-Toomey, 2013; Williams & Johnson, 2011) this research did not find a significant difference in life satisfaction between international students in the three different groups. An explanation for this will be described in the limitation section further below.

6.1   Discussion

A difficulty in this research is that the friends and acquaintances can be interpreted differently in different cultures so the survey needs to be very clear about what types of friends the students are asked. This also makes it more difficult to compare and interpret the results of the survey. Another thing that it is important to consider is the association between friendship stability and friendship quality. High quality friendships are easily more stable than other friendships (Bukowski et al., 1994). This can be an influence for people who have a hard time establishing high quality friendships as well as for people who are not able to experience stable friendship relations. Therefore, a distinction should be made between the quality of stable and unstable friendship relations. Friendship relations between international students and friends from the home country are for example, probably more stable and therefore have a higher quality than friendship relations between international students and locals from Utrecht. The idea of compressed time plays in important role in the establishment of stable friendship. Further research can be done on the motivations of international students and their decisions the establish certain friendships. This idea can influence the result of this research because friendships with local students are automatically perceived as being lower quality friendships.

6.2   Limitations

No significant difference was found in satisfaction between the three groups of international students. One limitation of this research is that even though the satisfaction with life scale that was used shows a high reliability more research should be done on the scale. Research should consider if using 5 items to test satisfaction is enough for this research or comparing groups in general. A scale with such few items results in the fact that a lot of answers and satisfaction means were relatively close to each other. A bigger and more comprehensive scale would probably give a more accurate and detailed insight in the satisfaction of international students and would make it easier to determine the differences between international students in the three different categories.

Another way in which a significant result might be obtained is by using bigger sample sizes. When the three groups are bigger and maybe more equally distributed the differences between groups are probably easier to compare and analyze. In this research the number of people in each group was not equal, there were many more participants who reported to have relatively more international friends than more Dutch or home country friends.

It was rather difficult to find enough participants. It was both hard to locate international students and to have them fill in the survey. Moreover, a shorter survey attracts more participants than a longer survey and makes it easier to find enough participants. Only about 50% (53 out of 103) of the people who started filling in the survey finished it, so for future research this problem can be avoided by using a shorter survey. The experience for this research is that the friendship ratio table from the functional model (Bochner, McLeod & Lin, 1977) can be shortened even more from 20 friends to 10 friends. Even though Bochner, McLeod & Lin (1977) initially used the scale with 50 friend options a lot of international students that participated in this research did not report the total of 20 friends so shortening it to 10 would both make the data more compact and the survey more attractive to complete.

Even though this research did not find a significant difference in life satisfaction between the three groups of international students, it does contribute to the existing research and creates a better comprehension of life satisfaction among international students in the Netherlands.

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Appendix A: Survey

Satisfaction with Life Scale:

Below are 5 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in you responding. The 7-point scale is:

1= strongly disagree

2= disagree

3 = slightly disagree

4 = neither agree nor disagree

5 = slightly agree

6 = agree

7 = strongly agree

1. In most ways my life is close to my ideal
2. The conditions of my life are excellent
3. I am satisfied with my life
4. So far, I have gotten the important things I want in life
5. If I could live my life over, I would change almost nothing

Functional Model:

"For this section think about the individuals that you consider to be your friend in Utrecht. First you will indicate where your friend comes from.

1 = a friend from your own country.

2 = a friend from another country (that is not the Netherlands).

3 = a friend from the Netherlands or who has lived here for a long time and considers themselves as a local.

Also for each friend rank them on a scale from one to ten. You can use anything to help remember your friends if needed (e.g. cell phone, address book, social media). You can use these points as a reference for your ranking.

10. You could count on this person for anything at any time. Activities are more enjoyable when spent with this person. You share intimate information with this person. You accept and appreciate this person for who they are. This person understands you and you have a great deal of respect for them. You are comfortable being together through interactions in multiple social contexts. There is a sense of mutuality in the relationship, with each partner's needs known and supported. You will for sure remain in contact with them after your stay in Utrecht.

9.

8.

7.

6.

5. If you pass each other at the university, you would stop to say hello. You may or may not have their phone number and would consider inviting them over if you were having a big party. They know very little about you interpersonally but you definitely have a friendly relationship with them. You enjoy having a conversation with them. They are more than a mere acquaintance from class, work, or housing. It is possible that you will remain in contact with them after you leave Utrecht but not certain.

4.

3.

2.

1. Individuals that you know from class, work, housing, or other mutual groups. If you needed basic information about class assignments, job duties, or housing issues you could go to them. Unless the relationship changes in some major way you will not see them after you leave.

Based on these definitions list the name of your friend, marking the number indicating where they are from and rank them on the scale. Then, delete names of friends to ensure anonymity.

Remember: 1 = *from own country* 2 = *another international student* 3 = *local*

Name of Friend	Where friend is from	Friendship ranking
1	1 2 3	0 1 2 3 4 5 6 7 8 9 10
2	1 2 3	0 1 2 3 4 5 6 7 8 9 10
3	1 2 3	0 1 2 3 4 5 6 7 8 9 10
4	1 2 3	0 1 2 3 4 5 6 7 8 9 10
5	1 2 3	0 1 2 3 4 5 6 7 8 9 10
6	1 2 3	0 1 2 3 4 5 6 7 8 9 10
7	1 2 3	0 1 2 3 4 5 6 7 8 9 10
8	1 2 3	0 1 2 3 4 5 6 7 8 9 10
9	1 2 3	0 1 2 3 4 5 6 7 8 9 10
10	1 2 3	0 1 2 3 4 5 6 7 8 9 10
11	1 2 3	0 1 2 3 4 5 6 7 8 9 10
12	1 2 3	0 1 2 3 4 5 6 7 8 9 10
13	1 2 3	0 1 2 3 4 5 6 7 8 9 10
14	1 2 3	0 1 2 3 4 5 6 7 8 9 10
15	1 2 3	0 1 2 3 4 5 6 7 8 9 10
16	1 2 3	0 1 2 3 4 5 6 7 8 9 10
17	1 2 3	0 1 2 3 4 5 6 7 8 9 10
18	1 2 3	0 1 2 3 4 5 6 7 8 9 10
19	1 2 3	0 1 2 3 4 5 6 7 8 9 10
20	1 2 3	0 1 2 3 4 5 6 7 8 9 10

Appendix B: Interdisciplinary

This research addresses issues from different social scientific disciplines. The topic of subjective well-being, and within this satisfaction, is a popular research area in psychology (Diener et al., 1985). "Happiness" and "Satisfaction" only became interesting research topics in psychology since 1973. Furthermore, there is a culture component in this research addressed by the origins of international students and host students where international students have to adapt themselves to the new culture of the host country. This component is both anthropological and sociological because it has to do with cultural identities and relationships. The friendship relationship component of this research is also both cultural and sociological because relationships are a part of the sociological discipline but it is linked to anthropological aspects because there can be cross-cultural relationships. This research can be considered interdisciplinary because of the various disciplines that are addressed.

Appendix C: Ethical Aspects

Research design:

To answer the research question a quantitative research method was used to collect data from international students. Social connectedness and the way in which social networks contribute to a higher satisfaction can be examined by looking at network ratios, strength, and the variability of the three kinds of friendships. An online survey was conducted anonymously. This survey consists of two sets of question to test friendship ratio's, the quality of the friendship and the life satisfaction of the international students that will participate (see Appendix A). Both parts of the survey are validated research skills that have been thoroughly examined by other researchers. To measure friendship ratios and the quality of these friendships the Functional Model of Bochner, McLeod & Lin (1977) is used and to measure overall life satisfaction the Satisfaction with Life Scale is used (Diener et al., 1985). The survey starts with questions of demographic information covering age, gender, country of origin and the time that they have been studying in the Netherlands. Gender was not taken into account.

The collected data was analysed using SPSS® statistical analysis software. To answer the research question Kruskall-Wallis test was performed where the dependent variable is life

satisfaction and the independent variable consists of international students who relatively have the most friends in the three types of friendship categories.

Population recruitment:

Potential participant were identified through the ways that they were approached, for example location or platform. There are several platforms that are mainly directed at international students and by using those for recruitment the potential participants were idenitified. To know if they are international students they will have to fill in their country of origin.

For practical reasons this researh uses convenience sampling. International students will be approached by the researcher at Utrecht University as well as through online platforms such as Facebook. This will be done in the University Library (both at the Uithof and Drift), Educatorium, Langeveld, Ruppert, and the Drift.

To spread the research more easily flyers with QR-codes were developed and handed out to potential participants to give them easy acces to the survey. In addition, a link to the survey was posted in facebook groups for international students in Utrecht and on the researcher's Facebook profile. Only finished surveys are used for the analysis.

Before starting the survey there is an introduction to the research and a letter of informed consent. Through this introduction of the research participants should be informed about the objectives and the design of the research. Before answering questions in the survey they had to agree to participate in this research by clicking a button. If participants did not want to participate they could leave the survey. This option is not only given before starting the survey but they could stop at any time they want.

Participants' permission:

A letter of informed consent was shown before starting the online survey. After the participants have read this and an introduction to the research they were asked to give their consents by clicking the button "next". The informed consent gave information about several things; an introduction to the research, the duration of the survey, a statement that the students participation is voluntarily and they can stop answering the survey at any time, the guarantee that the data collected will be confidential, guarantee that the survey will be anonymous, tand contact information from the researcher.

The participants were informed about the objectives and the design of this research and because it is an online survey they are given the possibilty to withdraw from the survey at any time they want. They can just leave the survey by closing the screen.

Potential risks and limitation of these risks:

The participants are asked some personal information for example their cultural background, their friendship and their life satisfaction. There is a psychological risk that participants may for example feel uncomfortable talking about their friendships, the cultural background of their friends and the quality of these friendships. Even though they can do so anonymously (for themselves as well as their friend), they did have to report the friendships that are important to them and the cultural background of their friends. Reporting this information anonymously makes sure that the respondents cannot be traced back by their information. To process this personal information the behavioural codes of the VSNU will be strictly followed. In the original Functional Model by Bochner, McLeod & Lin (1977) the survey offered 50 options to list their friendship, but because international students may not have so many friendships after studying in the Netherlands for only a short period of time this list is shortened to 20 options. This will be enough for the purpose of this research and it is expected to not provoke any negative emotions among the respondents. Another way to minimise the psychological risks is the informed consent, by reading this, participants should have an idea about what subjects are covered in the survey and if they do not feel comfortable answering questions on these subjects they can choose to not proceed to the survey. If they do decide to proceed to the survey and still feel uncomfortable talking about their friendship or life satisfaction they can still decide to withdraw halfway through the survey.

However, the risks do not outhweigh the benefits of the research for the participants. In this research the risks are mainly discomforts and negative emotions. The participants know beforehand what subjects will be covered in the survey and to minimise the provocation of negative emotion they are supported to leave the survey whenever they want to.

Even though the participant did receive any material reward for participating in this research the researcher believes that they will do so based on good will. After the research is finished participant can inquire the research results using the contact information provieded in the consent form.

The most important measure that will be taken to limit the risks for the particpants is shortening the Functional Model from 50 answering options to 20 answering options. This will prevent the participants feeling discomfortable about their friendships. Other measures are informing the particpants of their rights, offering as much information about the research as possible (informed consent). They are not obliged to finish the survey or to answer all the

question in the survey. However if there are 2 or more answers missing the survey will not be used for analysis.

Privacy:

The data that is collected will be stored safely and guarantees privacy of the participants. No personal data will be linked with the individual participants and by answering the survey anonymously they cannot be traced back to their information. Because the data is collected through an online survey the researcher does not have the possibility to identify any participant during the time of data collection neither during the analysis.