The Effects of Cultural Preferences and Network Diversity on Education Bias

Katharina Paula Hildebrandt

S3659216

University of Groningen

PSB3E-BT15: Bachelor Thesis

2122_1a_34

Dr. Toon Kuppens

Prof. Dr. Ernestine Gordijn

In collaboration with: Ella Geelink, Thies Gehringhoff, Marieke Gödecke, Nynke Hielkema, Valeria Osorio.

January, 28, 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

The education bias, negative attitudes towards a person based on their educational level, is an under researched phenomenon. To understand it further we developed two research questions. First, we examine to what extent differences in cultural preferences explain the education bias between higher and less educated people. Second, we explore how a high or low diversity in the social network of a person effects their education bias. We used a 2x2 experimental design and recruited a sample of high educated people. The education bias was measured by presenting four profiles of fictional individuals to evaluate in terms of the likelihood of befriending them. These profiles represent the different combinations of the levels of the two independent variables, educational level, and cultural preferences. For assessing the diversity of network variables, we used survey questions. The results indicate that education level and cultural preferences significantly influence the profiles' evaluation, but no significant interaction effect between these variables occurred. Network diversity seemed to reduce education bias significantly. There is evidence for the existence of an education bias but that cultural preferences do not moderate this bias. Those participants with higher diversity in their social network showed a lower education bias.

Keywords: Cultural preferences, similarity attraction theory, education bias, contact theory, network diversity.

The Effects of Cultural Preferences and Network Diversity on the Education Bias

Based on empirical evidence found by Kuppens et al. (2018), people with a high education level hold an education-based intergroup bias against people with a low education status, called education bias. Currently the education bias is still an under researched phenomenon in social science and is therefore in the focus of this experimental study. In this case, education refers to the highest level of formal education a person obtained. This bias leads to prejudice of high educated individuals towards less educated individuals. Prejudice refers to negative attitudes towards someone because they belong to a certain group (Dover et al., 2020). An example of education bias would be that someone with a university degree evaluates someone with a similar or higher education level as more likable than someone who did not attend university. Cultural preferences are closely connected to a person's social and therefore also educational background (Bourdieu, 1986). According to Bourdieu (1986), growing up in a high-status academic environment in society gives not just often financial but also cultural capital. This cultural capital is gained by a person from the reference behavior and knowledge experienced and imparted while growing up. Therefore, a person who comes from an academic household has implicit knowledge about which behavior and which cultural preferences are valued in such an environment. Cultural capital makes academic institutions more accessible to individuals that have it. This shows that our social environment, cultural preferences and education level are intertwined. So, there might be a connection between the observed evidence for the education bias and cultural preferences.

A formal education has become very important in determining people's life chances in many societies. Research shows that education is not only a predictor for their life outcomes in terms of social status, income, and employment (The Economic and Social Research Council, 2014), but it is also a predictor for well-being and health (Easterbrook et al., 2016; Eikemo et al., 2008). The education bias might partly explain these disadvantages or at least adds to the

struggles people with lower education levels experience. Further, research on other forms of prejudice, like gender-, weight- and race-based prejudice, might lead us to suspect that the prejudice resulting from the education bias could also correlate with multiple adverse effects for individuals with a lower education level (Dover et al. 2020).

Moreover, we would like to answer the question, does the prejudice towards lower education status really stem solely from the knowledge about the education level? Or, taking its connection to cultural preferences into account, can information about specific cultural preferences reduce the prejudice? Further, does a more diverse social network growing up might lead to a reduced education bias? Additionally we will explore possible moderation effects on the education bias in our research. A moderation effect occurs when a factor reduces or enhances an observed effect. This study aims to examine the impact of cultural preferences and diversity of social network on education bias.

Previous Findings about the Education Bias

The following section will discuss the previous findings regarding the education bias. A study by Kuppens et al. (2018) was the first to examine whether if there is an intergroup bias between education groups. While showing evidence for a negative bias towards less educated people, it explored the phenomenon of education bias in three studies. Two of them used a direct self-report thermometer measure that asked directly about their attitudes towards less educated people. In the third one, they applied a less direct method in which they provided the participants with minimal information about a person including their education status, which they had to evaluate. Their results showed that higher educated participants exhibited a negative bias towards less educated people.

Further studies included in the paper indicated that people with lower levels of education seem to be an especially vulnerable target for prejudice. This vulnerability is shown in two findings of the study by Kuppens et al. (2018). Based on their data, the researchers stated that

negatively evaluating someone based on their education level is more acceptable than their income or class. Secondly, their findings indicate that the bias only goes one way. They only found evidence for a negative bias held by higher educated people towards less educated people, but this bias was not found *vice versa*. The researchers explained this as a manner of responsibility. People with a lower education status are viewed as responsible for their own lower standing since education is often regarded as something in control of an individual (Kuppens et al., 2018). Research shows that when people are considered responsible for their own stigma, they are often perceived as less positive (Weiner et al., 1998). This underlines the importance of researching the education bias.

Onderstijn (2020) provided further evidence on the existence of the education bias. They measured the attitudes with a feeling thermometer, similar to the first two studies in the paper by Kuppens et al. (2018).

This study aims to replicate these findings by using a different indirect measure for education bias. We will present our participants with four profiles of fictional people that indicate information about different preferences and education status. Further, the participants have to indicate how likely they would befriend this person.

The factors cultural preferences and diversity of social network and their possible moderation effect on education bias will be discussed in the following

Similarity attraction theory and cultural preferences

The first moderation we will explore is the impact of cultural preferences on education bias. This research is built on the similarity attraction theory (Byrne & Nelson, 1965), which states that people are more attracted to those with similar personal characteristics, like attitudes and behavior. There is evidence that similarity in terms of personality, behavior and attitudes is essential for friendship formation (Selfhout et al., 2010; Kandel 1978).

In addition, we will focus on similarity in cultural preferences, such as preferences of film, music, hobbies and sports, which are based on taste. By 'taste' we mean topics where there is no clear wrong or right (Spears et al., 2009). Spears provided evidence that those preferences are often used to distinct the minority in group form the general majority. They argued that a distinction from the majority in music preference does not have further consequences on an individual (Spears et al., 2009). Therefore, this kind of preference is a relatively neutral indicator for the own minority to distinguish themselves positively from other groups. Elchardus and Siongers (2007) showed further evidence for the separation of groups based on cultural preferences. Their findings indicated that adolescents might use tastes (cultural preferences) and attitudes in the process of identity formation. Adolescents seemed to use taste, to draw symbolic boundaries between their own group and other groups that have different attitudes. They choose their group identify in terms of the attributes that connected them to closest peers, like their school tracks and gender. Therefore, the preferences not just represent attitudes but are also connected to groups our society separates us in based on factors, like academic success (Elchardus & Siongers, 2007). Thus, the cultural activities we enjoy and the media we consume are likely be indicators, for us and others, to which social group we belong to and consequently influence how we evaluate people around us. According to this, people with similar cultural preferences do evaluate each other more positively.

Education status as Marker of Cultural Preferences

But how does similarity in cultural preferences relate to education level? Again, according to Bourdieu (1986), the cultural preferences we will look at are also part of the cultural capital and therefore are closely connected to a person's social and educational background. The study by Elchardus and Siongers (2007) shows evidence that the differences in identity emerge when children are divided into different tracks in school. This separation of people on bases of their academic achievements continuous into adulthood. For example,

Hellerstein and Neumark (2008) found evidence that there is a segregation by education at the workplace in the United States. This division in society makes it likely that the education level is used as a way to choose which people to identify and develop similar cultural preferences.

In our study will use two different levels of cultural preferences, highbrow and lowbrow preferences (Bourdieu, 1986). These preferences distinguish people with high social status, therefore also often high education, from low status people. The first level are highbrow preferences, which are commonly associated with high-status people. The second level are lowbrow preferences, which are expected for low-status individuals. For example, a person from a high-status environment may be more likely to listen to classical music, which counts as a highbrow preference, than one from a working-class family that might prefer popular music, which is viewed as lowbrow.

Since, the information about a lower education level indicates a specific environment growing up it could be used as a marker for lowbrow preferences and therefore also for an outgroup member. We suggest that this explains partly the negative attitudes observed by Kuppens et al. (2018) of higher educated people towards lower educated people. Further, it also has been argued that people with highbrow preferences feel superior over people with lowbrow preferences (Bourdieu & Richardson, 1986). Consequently, if information on cultural preferences indicating similarity is provided, this should reduce negative attitudes due to lower educational status. The education bias would be reduced.

The education bias in people with higher education status is weaker when the individual they evaluate has highbrow preferences. This will be tested through the four profiles presented that will entail highbrow and lowbrow preferences in all possible combinations with high and low educated. We expect the education bias to be reduced when the profiles give information about highbrow preferences. (See Figure 1)

Figure 1

Example for a moderation effect of highbrow preferences on the education bias
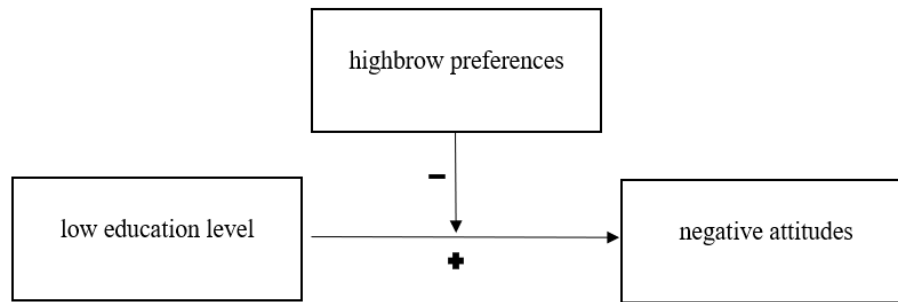
Contact theory: Reduction of intergroup biases through a diverse social network

The second possible moderator we will examine is diversity of social network. Those people that seem to be similar are more likely to be befriended by the individual. If a person has a more diverse network in terms of social and education status it is likely that they also adapted some kind of similarities with this people. Therefore, we argue that a more diverse social network possibly leads to less negative attitudes towards lower educated people. This assumption is based on the contact hypothesis proposed by Allport et al. (1954). According to their contact theory, an individual's bias towards an outgroup can be reduced if they are in contact with a member of their outgroup. This phenomenon was investigated a lot and it has been shown that outgroup contact is an efficient method to improve intergroup attitudes (Zhou, 2020).

Onderstijn (2021) had the goal to study if contact with lower educated people impacts negative attitudes towards them. They studied this by measuring the participants quality of contact to lower educated people, the socioeconomic status of their social network and the social status of their parents. As dependent variable they measured feelings towards lower educated people and the perceived social distance of the participants. Their results indicated that only quality of contact had an impact on feelings towards lower educated (Onderstijn, 2021). Further, only quality of contact and socioeconomic status of social network were

associated with the social distance measure. The researcher stated that the actual impact of intergroup contact would be bigger than they measured, and the insignificant outcomes are due to weak measurements used for it. Knowledge about reducing the education bias is valuable to understand its origin better and possibly lay the groundwork for interventions against it. Therefore, we will contribute to this knowledge by exploring the effect of social network diversity on education bias.

This study aims to show the effect of social network diversity on education bias predicting that a high diversity in social network leads to a significant reduction of the negative attitudes towards a person with a low education level (see Figure 2). If this is the case, it could be an indicator that high network diversity is associated with more intergroup contact between education-based groups and, therefore, a reduced educational bias.

Figure 2

Visualization of a moderation effect of high diversity in social network on the education bias
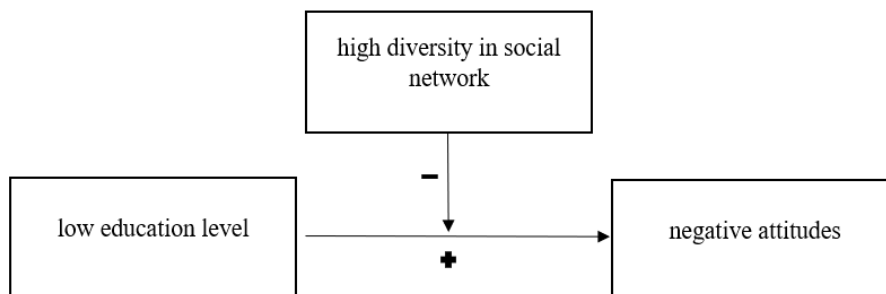
Hypothesis of the current study

The current study explores the effects of cultural preferences and diversity of a social network on the education bias. We use an indirect measurement by asking participants to evaluate four profiles of individuals as potential friends. The four profiles differing in their cultural preferences, with either highbrow or lowbrow preferences, and education status, with

either low or high. We applied a measurement with three statements to reflect the diversity of the participant's social network.

For our hypothesis one, we expect that our results will replicate the findings by Kuppens et al. (2018) of an education bias. Therefore, we assume:

Hypothesis 1 (H1): Higher educated individuals evaluate the profiles of less-educated people more negatively than those profiles of people with higher education status.

Futhermore, assume that cultural preferences will influence the evaluation of the profiles. To be precise we predict:

Hypothesis 2(H2): Those profiles with highbrow preferences will lead to a more positive evaluation of a profile compared the profiles with lowbrow preferences.

Moreover, based on previously reviewed studies, we expect that the participants evaluation of the profiles will be largely influenced by the given cultural preferences and the education level will be less important, which means the education bias will be moderated by the cultural preferences. According to the similarity attraction theory, we expect:

Hypothesis 3 (H3): Profiles with highbrow preferences will be preferred over the lowbrow preferences profiles independent from education level, therefore the highbrow preferences have a reducing effect on the education bias.

Yet, based on the contact theory, we predict that our data will show that:

Hypothesis 4 (H4): people with a more diverse network, in terms of more contact with less educated individuals, have a lower education bias than those with a less diverse network.

Methods

Participants

A purposive sample ($n = 229$, $M_{age} = 22.28$, $SD_{age} = 10.62$) was recruited. Part of the participants were psychology students from the University of Groningen ($n = 96$), recruited through the use of the SONA participant pool in exchange for course credits. The rest of the

respondents were recruited by the researchers ($n = 133$). In order to increase the sample size participants were encouraged to share the questionnaire with people they knew, this is called "snowball technique". 14 participants had to be excluded due to the reasons of not filling out the informed consent, not completed surveys or not classifying as highly educated. Therefore, 215 responses were taken into account for the final analysis. 182 of the subsampled participants are still studying and 45 already graduated and had a higher formal degree. Other demographics of the subsample that were considered during the analysis are shown in table 1.

Table 1

Socio-Demographics of Participants, considered in the Analysis

	Subsample	
	n	%
Gender		
Male	61	26.6
Female	165	72.1
Other	3	1.3
Nationality		
Dutch	81	35.4
German	90	39.3
British		
Other European	36	15.7
Non-European	22	9.6

Design

We use a 2x2 experimental design with the independent variables *cultural preference* (highbrow vs lowbrow) x *education level* (high education vs low education). As dependent variables we are using *the evaluation of the four profiles*. The covariate of the study is *diversity of network*.

Procedure and Materials

The online platform Qualtrics^{XM} (www.qualtrics.com) was used to carry out the survey. The online questionnaire was created in English as it would allow us to reach out to a bigger target population. A questionnaire consisting of 42 items (36 items of interest and 6 general

questions regarding demographics) was used to collect the data. Participants could access the questionnaire via an online link or via the SONA website, a research platform provided by the University of Groningen. The data was collected from the 27th of November to the 7th of December. Before the start of the survey, participants gave informed consent. Every participant was presented with the same set of questions. All the items that were used can be found in Appendix A. The questions were presented in the following order.

General information.

Participant education level and other demographics. Focusing on questions regarding age, gender, nationality, employment status, their highest level of education achieved and the level of education they are currently following.

Attitudes towards high and less educated and highbrow and lowbrow preferences

Before the participant was presented with the four profiles, they were presented with a cover story, which stated that the research goal was measuring choosing friends independent nationality, to distract the participant from the actual goal of the study. After reading the story they were presented the four different profiles, profiles varied in education and cultural preferences in a 2 (Education: low versus high) by 2 (cultural preferences: lowbrow versus highbrow) within-subject design. For high education we used "Final stage of their Bachelor in the faculty of Economics and Business" and "Working on their Bachelor thesis in the faculty of Law ", and for low education we used "Recently finished their sales Employee training" and "Working on their final project for their carpenter apprenticeship".

Cultural preferences were chosen using a presurvey to determine which preferences would qualify for highbrow and which ones would work for lowbrow. The manipulation of cultural preferences involved music, hobbies and film preferences. The full description of the cultural preferences can be seen in table 2.

Table 2

Manipulation of cultural preferences (means indicate how typical each preference was judged to be for those with high education and low education in a pilot study)

Themes	Average Score
Profile A (highbrow)	
Jazz	1.3
Indie	0.4
Playing a Musical Instrument (Piano)	1.3
Tennis	1.2
Profile B (highbrow)	
Documentaries	1.8
Independent Movies	1.2
Reading a Book	1.7
Visit a Museum	1.8
Sailing	1.4
Profile C (lowbrow)	
Adventure Films	-0.4
Rap	-0.9
Doing TikTok Videos	-1.2
Going to Local Sports Bar	-0.9
Profile D (lowbrow)	
Play Online Games (Fortnite)	-0.6
Football	-0.5
Romcom	-0.5
Watch a Football Match	-0.5

Note: The numbers refer to the average score on a scale from -3 to 3 in which -3 is considered typical for lower educated and 3 is typical for higher educated.

To measure the participants' attitudes towards these profiles, 3 items were used. Three of those items were measured on a seven-point Likert scale (0= Not likely at all, 6= Highly likely). The questions aimed at assessing liking, befriending and identification. (All 3 questions shown together after seeing/reading each profile). They were averaged into a single score of profile evaluation (a = .577 and. for the four profiles). A final question asked participants to rank the four profiles from most likely to befriend to least likely to befriend using a ranking scale. The profiles in the survey were presented as the following:

Profile A – High Education Low Brow

Education: Working on their Bachelor thesis in the faculty of Law

Career outlook: Would like to end up working for the government as a legal specialist

Likes playing online games like Fortnite

Plays football in the local team and occasionally likes to visit matches in the stadium

Loves watching Romcoms (romantic comedies) like Friends with Benefits

Life motto: "Every day is a day you have never seen before"

For the other three profiles see Appendix A.

Diversity of social network

Participants were measured on the diversity of their social network with three items about the characteristics of their social network, using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Statements were for instance, "I have friends and family from different socioeconomic backgrounds", "My acquaintances (Bekannte, Kennissen) come from a variety of different socioeconomic backgrounds". Moreover, quantity of contact with lower educated people , using a 7-point Likert scale (1 = none, 7 = all) was assessed. Using the statement: "Please take a guess as to how many people in your network are lower educated", participants were asked to indicate quantity of contact for their family and close friends and for less close contacts.

The Ethical Committee of Psychology (ECP) from the faculty of Behavioral and Social Sciences at the Rijksuniversiteit Groningen approved this study design.

Results

Analysis Plan

This study has four primary purposes. First, it aims to replicate the findings by Kuppens et al. (2018) of an education bias (H1). Second, to find evidence that cultural preferences influence the attitudes of higher educated people towards people with a lower education status (H2). Third, it explores if the influence of cultural preferences has a reducing moderating effect

on education bias (H3). Fourth, it examines if a higher diversity in a participant's network has a reducing, moderating effect on education bias (H4).

For our model, two independent variables are used: education level (high and low) and cultural preferences (highbrow and lowbrow). Further, For the dependent variable, we use the evaluation of the four individuals' profiles, which is used to calculate an education bias variable. We compared the friend preferences shown by the profiles' evaluation.

A repeated-measures Analysis of variance (rm ANOVA) is used to analyze our obtained data, with the two independent variables with two levels and the one covariate. Therefore, the rm ANOVA includes an education level main effect, a cultural preferences main effect, and an interaction between education level and cultural preferences.

Assumption check and tests

Assumptions for the rm ANOVA of independence, homogeneity of variance and normality were tested and approved (see Appendix B). To analyze the data, we used the statistical software IBM SPSS Statistic 26. For significance testing we used an alpha level of 0.05 ($p < 0.05$).

Replication of the education bias

Our first hypothesis (H1) states that people with a higher education status show an education bias against people with a lower education level. To test this hypothesis, we calculated the education bias based on the evaluation of the four profiles. We ran the analysis by using the education level of the profiles as the independent variable and the education bias as the dependent variable. First, the results of the rm ANOVA showed that there is a significant education level main effect with a medium effect size, which indicated that the education level of the profile explained 8% of the evaluation of the profiles ($F(1, 220) = 20,296$, $MSE = 17.207$, $p < .001$, $\eta^2 = 0.08$). Indeed, the data shows that, on average, higher educated participants rated

the higher educated profiles ($M = 4.3$, $SD = 1.2$) more positive compared to the lower educated profiles ($M = 4$, $SD = 1$) (see Figure 3). These outcomes are in line with our prediction. We found that high education level seems to positively influence the evaluation of the participants; evidence for the existence of education bias in higher educated people against people with lower education levels was therefore replicated.

Figure 3

Mean distribution of the evaluation of low compared to high educated profiles
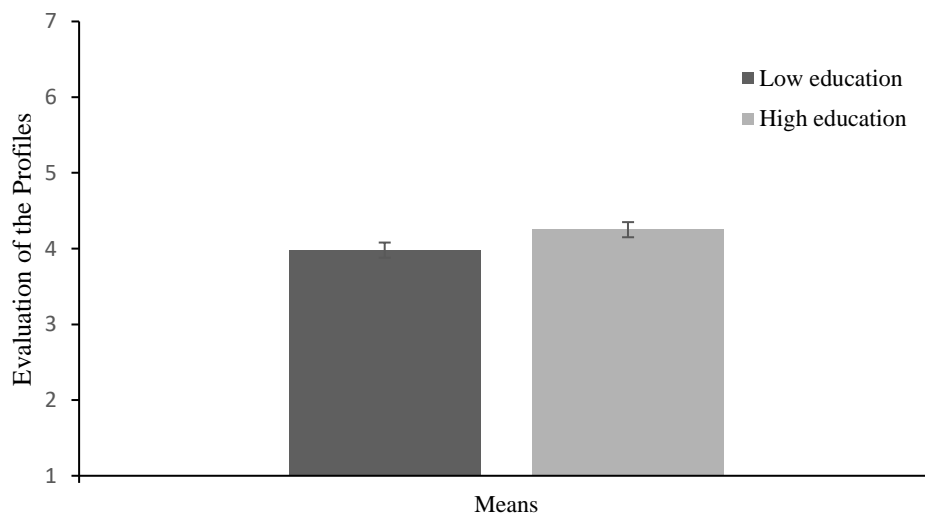
Notes: n = 220

Cultural preferences

For our second hypothesis (H2) we predicted that the higher educated participants will evaluate more positive profiles that indicate highbrow preferences than those with lowbrow preferences. First, to examine if cultural preferences affect the evaluation of the profiles, we used cultural preferences as the independent and the evaluations of the four profiles as the dependent variable. The rm ANOVA outcomes indicated that there is a significant cultural preference main effect, but only with a medium effect size of $\eta^2 = .08$, which indicates that the

cultural preferences of the profiles explain 8% of the variance in evaluation of the profiles ($F(1, 220) = 84.18$, $MSE = 96.452$, $p < .001$). Also, the means showed that lowbrow profiles ($M = 3.8$, $SD = 1.1$) were on average evaluated more negatively than highbrow profiles ($M = 4.5$, $SD = 1.1$) (see Figure 4). Accordingly, there is a significant difference between the evaluation of the profiles with lowbrow and highbrow preferences. It can be concluded that highbrow preferences positively affect the participant's evaluation of the profiles, which is in line with our second hypothesis.

Figure 4

Means of the evaluation of lowbrow compared to highbrow preferences profile
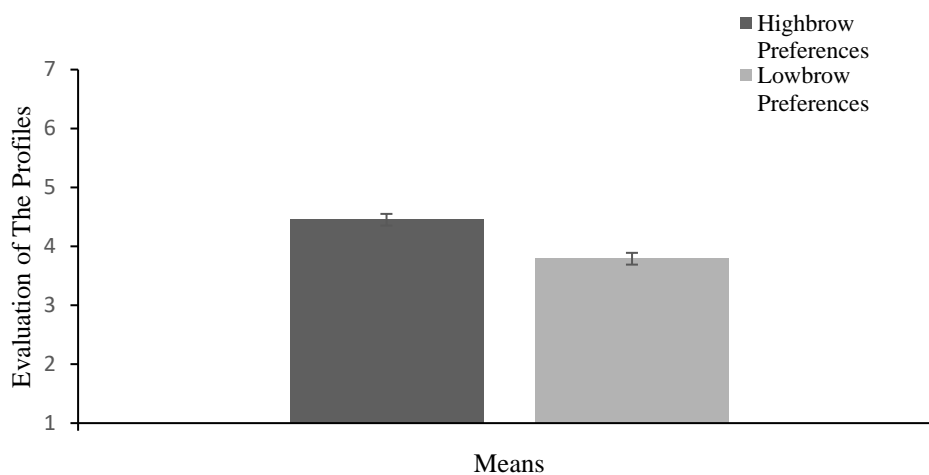
Our third hypothesis (H3) predicted a reducing moderating effect of highbrow preferences on the education bias. In order to see if our third hypothesis holds, we looked for an interaction effect of the rm ANOVA. Moreover, the results indicated no significant interaction effect ($F(1, 219) = 1,028$, $MSE = 0.765$, $p = .312$, $\eta^2 = 0.01$), which means the combined effect of cultural preferences and education level is not different than the sum of both effects on their own on the evaluation of the profiles. Consequently, there is no significant
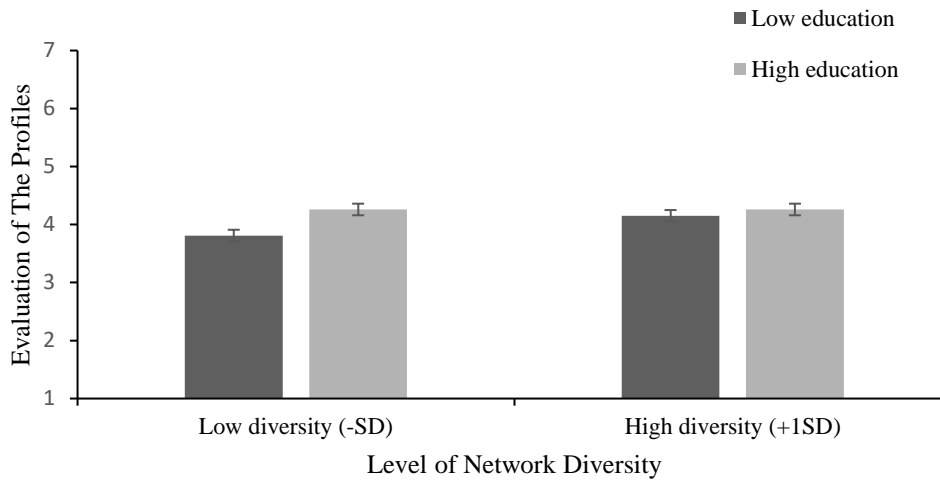
impact of cultural preferences on the education bias, therefore, we cannot assume a moderating effect. These findings were not in line with our predictions.

Network diversity

Lastly, our fourth hypothesis (H4) predicts that a more diverse network has a reducing, moderating effect on the education bias. We calculated the simple effects at one standard deviation above and one standard deviation below the means of diversity to evaluate this hypothesis. The results are shown in Figure 5. We look at the education bias as the dependent variable and the diversity of the network as the independent variable. The relationship between higher network diversity and reduced education bias is shown to be significant by the interaction effect between education bias and diversity in an rm ANOVA but only with a small effect size of $\eta^2 = 0.03$, which indicated that diversity of network explains 3% of the variance in the evaluation of the profiles ($F(1,219) = 7,364$, $MSE = 6,068$ $p= .007$). Thus, we found as predicted evidence that network diversity is a possible moderator of education bias. Further, we looked at the simple effects of high and low network diversity on education bias. The effect of high diversity on the education bias shows that the mean difference between low education level ($M = 4.1$, $SD =0.1$) and high education level ($M = 4.3$, $SD = 0.1$), is not significant ($p = .196$), with an effect size of $\eta^2 = 0.01$. On the other hand, the simple effect of low diversity in network on education levels of the profiles shows that the profiles with lower education levels ($M = 4.3$, $SD = 0.1$) were evaluated significantly ($p < .001$) less positive than the higher educated profiles ($M = 3.8$, $SD = 0.1$). Therefore, the education level does not affect the evaluation of those with high diversity in their network, but those with low diversity. Participants who report a diverse network do not significantly evaluate the higher educated profiles more positively than lower educated profiles. For participants with low diversity in their network, education bias is still present. These results support our fourth hypothesis.

Figure 5

Compared Means of evaluation of low and high education Profiles of participants with high and low diversity

Discussion

This study aims to answer the three following research questions. First, can we replicate the evidence for an education bias found by Kuppens et al. (2018)? Second, do cultural preferences have a moderating reducing effect on the relationship of the negative attitudes of a higher educated person towards a lower educated person? Third, can high network diversity reduce the moderating effect on the education bias?

To answer our first research question, we propose the hypothesis that higher educated profiles would be evaluated more positively than lower educated profiles (H1). Our data supports our prediction, and therefore Kuppens et al.'s (2018) findings were replicated. Indeed, the results show that a high education level leads to a more positive evaluation than a low education level. These findings further support the existence of education bias. The previous studies by Kuppens et al. (2018) and Onderstijn (2020) used direct measures to identify the bias. Our study used an indirect measure. Validate the education bias with a different kind of measurement makes the evidence for its existence even more robust. We hope that the repeated

evidence for the education bias will encourage the scientific community to no longer neglect this issue.

In order to answer the second research question, we stated two hypotheses to prove. The first we expected profiles that indicate highbrow preferences will be preferred over those with lowbrow preferences (H2). Our research findings are consistent with this hypothesis. We found that there is a significant difference in the more positive evaluation of the highbrow preferences profiles compared to those with lowbrow preferences. Since we assumed that a higher educated sample has highbrow preferences, this aligns with the similarity attraction theory (Byrne & Nelson, 1965). To fully answer our research question, we explored if this preference for people with similar preferences would influence the education bias (H3). For that, if a profile had highbrow preferences, the education bias was reduced, therefore a moderating effect of highbrow preferences on the education bias. Looking at our data, this fourth hypothesis did not hold. Cultural preferences did not affect the impact of education level on the profile's evaluation (see Figure 6). Therefore, we could not support the idea that adding the information of highbrow preferences would reduce the education bias. These findings indicate that similar preferences might be a marker for similarity in attitudes and, therefore, a more positive evaluation. According to our findings, the information about education level is an independent factor that influences the attitudes towards a person. The two factors were in our sample equally important for the evaluation of the individual.

Figure 6

Visualization of the independent effects of highbrow preference and low education level on profile evaluation
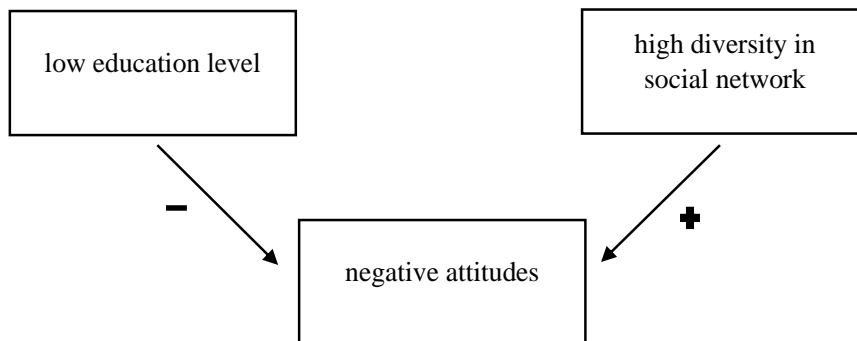
Lastly, to answer the third research question, we state that social network diversity can reduce education bias of higher educated people (H4). Indeed, our data showed evidence that network diversity is an effective moderator to reduce education bias. Participants with higher diversity in their social network showed a significantly reduced education bias compared to those with low diversity in their social network. By using indirect measurements, we find the significant effect that was not provided in Onderstijn's study (2021). We might observe this evidence for this effect because the individuals with a more diverse network tend to have more connections to lower educated people. The contact hypothesis could explain the reduced negative attitudes (Allport et al., 1954), which states that contact with outgroup members reduces intergroup bias towards that outgroup. These findings are having important implications for future research. The contact hypothesis has shown to be effective with direct contact and indirect contact, so observing an ingroup member and an outgroup member interact (Vezzali et al. 2014). Therefore, this theory provides a wide range of possibilities for future research to develop possible interventions to reduce education bias.

Limitations

There are some limitations to our study regarding the sample. The first limitation is that our sample mainly consisted out of a homogenous group of undergraduate students, which means we were primarily able to observe effects in students who have not yet received a bachelor's degree. Since these participants are likely to have a similar upbringing to highly educated people and probably already identify with this group, we can say that these findings apply to general, highly educated individuals. Still, there should be some awareness that this reduces the study's external validity. Further women in the sample were over represented. Adding to that, a larger sample is always favorable. For a more representative, a larger and more diverse sample in gender, age and education should be used in future research.

Further, the study could be approved by using people in a controlled environment to present to the participant instead of profiles. This change would have brought the setting closer to a real-life scenario and enhanced the external validity. Additionally, our internal validity might be reduced because our participants had to fill in the questionnaire at home in an uncontrolled environment due to the COVID-19-pandemic.

More future research could include a low educated sample as a control group for the highly educated sample. Also, our network diversity variable, the three items asked for people from different socio-economic backgrounds, the items about contact were not included in this variable. Future research should use indirect items that measure diversity in varying education levels.

Practical Implications and Future Research

Looking at the evidence at hand, it is clear that the phenomenon of education bias should be explored further by future research. However, further studies could explore how possible interventions could reduce the bias and therefore the prejudice against lower educated. In our society, high and low educated individuals seem to be separated which starts in school by the

tracking system, which separates students according to their abilities into different tracks (Elchardus &Siongers, 2007), continues in the further academic education of a person and their later work life (Hellerstein & Neumark, 2008). Additionally, considering our findings of the reducing effect of network diversity on the bias into account, the lack of contact between the different education groups might play a crucial part in the origin of the education bias. Since our study did not directly researched contact between these two groups, exploring contact between different education groups should be considered in future research. Already existing environments for these contacts could be investigated in their effect on education bias, for example, comprehensive schools, which are schools that do not have selection procedures and therefore are open for students from all different kinds of social backgrounds. Boliver and Swift (2011) conducted a study to compare the comprehensive school system to the system of grammar and secondary modern schools. This study showed that comprehensive school seems not to improve social mobility, so people from a low-income, working-class background are still as likely to come out of their social background as before. Still, this research does not tell us anything about how this school system's education might be affected.

Also, previous research found evidence that indirect contact might also be an effective tool to reduce other negative intergroup biases. Tercan et al. (2021) examined how vicarious contact influences prejudice against an outgroup. Their findings indicated a relationship between the reduction of Turkish elementary school students' negative attitudes and reading stories about positive contact between Syrian children and Turkish children. Future research is encouraged to conduct similar research with children from a high and low education background since this kind of indirect contact would be a convenient option to design interventions that diminish the education bias.

We also suggest practical interventions to reduce the separation of educational groups in society. One could be a year of social service, similar to military service that was and is still

mandatory in many countries. This service would also be required to complete by every person no matter their social background. Another option would be dual courses of study. A combination of practical training in companies where the student works with others with a lower education level and a theoretical part where a bachelor's degree is obtained, but the student gets diverse contact during their study. Of course, the utility of these interventions should be examined in experimental studies.

As the last point, we want to appeal to the scientific community that should acknowledge its responsibility to research the education bias. As Kuppens et al. (2018) already pointed out in their study, university scholars are naturally highly educated. Therefore, people with a lower education level cannot defend themselves in the academic conversation about the bias against themselves. Consequently, the higher educated group has to recognize their own bias to reduce the effects this bias has on the lower educated group.

Conclusion:

Our finding provided additional evidence that the education bias exists. Therefore, this topic should no longer be neglected from social science research. Moreover, the study could not provide evidence that highbrow preferences in a lower educated individual reduce this bias toward them. Still, similarity in cultural preferences also seems to be an essential factor for evaluating people. The findings with a critical implication are that a higher network diversity might reduce the moderating effect on education bias. This finding might be explained by the contact hypothesis (Allport et al., 1954) and be explored in future research. There is a gap between higher-educated and lower-educated individuals in our society. This gap is not just literally caused by the school system and the later work life, it is also reinforced by intergroup processes that lead to prejudice towards the lower educated people. This study provides

knowledge about this process, however, further research and intervention to reduce this bias are

necessary to close this gap.

References

Allport, G. W., Clark, K., & Pettigrew, T. (1954). The nature of prejudice.

Bourdieu, P. (2011). The forms of capital. (1986). *Cultural theory: An anthology*,*1*, 81-93.

Bourdieu, P., & Richardson, J. E. (1986) Handbook of Theory of Research for the Sociology

of. *Education Greenword Press*, 241-58.

Boliver, V., & Swift, A. (2011). Do comprehensive schools reduce social mobility?1. *The

British journal of sociology*, *62*(1),

89110.https://doi.org/10.1111/j.14684446.2010.01346.x

Byrne, D., & Nelson, D. (1965). Attraction as a linear function of proportion of positive

reinforcements. *Journal of Personality and Social Psychology*, 1, 659–663.

https://doi.org/10.1037/h0022073

Dover, T. L., Hunger, J. M., & Major, B. (2020). Health Consequences of Prejudice and

Discrimination. *The Wiley encyclopedia of health psychology*, 231-238.

https://doi.org/10.1002/9781119057840.ch71

Easterbrook, M. J., Kuppens, T., & Manstead, A. S. (2016). The education effect: Higher

educational qualifications are robustly associated with beneficial personal and socio-

political outcomes. *Social Indicators Research*, *126*(3), 1261-1298.

https://doi.org/10.1007/s11205-015-0946-1

Eikemo, T. A., Huisman, M., Bambra, C., & Kunst, A. E. (2008). Health inequalities

according to educational level in different welfare regimes: A comparison of 23

European countries. *Sociology of Health & Illness, 30,* 565–582.

https://doi.org/10.1111/j.1467-9566.2007.01073

Elchardus, M., & Siongers, J. (2007). Ethnocentrism, taste and symbolic boundaries. *Poetics*,

35(4-5), 215-238. https://doi.org/10.1016/j.poetic.2007.09.002

Hellerstein, J. K., & Neumark, D. (2008). Workplace segregation in the United States: Race, ethnicity, and skill. *The review of economics and statistics*, *90*(3), 459-477. https://doi.org/10.1162/rest.90.3.459

Kandel, D. B. (1978). Homophily, selection, and socialization in adolescent friendships. *American journal of Sociology*, *84*(2), 427-436. https://doi.org/10.1086/226792

Kuppens, T., Spears, R., Manstead, A. S. R., Spruyt, B., & Easterbrook, M. J. (2018). Educationism and the irony of meritocracy: negative attitudes of higher educated people towards the less educated. *Journal of Experimental Social Psychology*, *76*, 429–447. https://doi.org/10.1016/j.jesp.2017.11.001

Montoya, R. M., Horton, R. S., & Kirchner, J. (2008). Is actual similarity necessary for attraction? A meta-analysis of actual and perceived similarity. *Journal of Social and Personal Relationships*, *25*(6), 889-922. https://doi.org/10.1177/0265407508096700

Onderstijn, T. (2021). Using the intergroup contact theory to explain attitudes against people with lower levels of education. *Unpublished bachelor's thesis, University of Groningen.*

Selfhout, M., Burk, W., Branje, S., Denissen, J., Van Aken, M., & Meeus, W. (2010). Emerging late adolescent friendship networks and Big Five personality traits: A social network approach. *Journal of personality*, *78(2)*, 509 538. https://doi.org/10.1111/j.1467-6494.2010.00625.x

Spears, R., Ellemers, N., & Doosje, B. (2009). Strength in numbers or less is more? A matter of opinion and a question of taste. *Personality and Social Psychology Bulletin*, *35(8),* 1099-1111. https://doi.org/10.1177/0146167209336681

Tercan, M., Bisagno, E., Cocco, V. M., Kaçmaz, T., Turnuklu, A., Stathi, S., & Vezzali, L. (2021). Reducing prejudice toward Syrian refugee children: A vicarious contact intervention among Turkish elementary school children. *Journal of Community Psychology*, *49*(2), 564-587. https://doi.org/10.1002/jcop.22480

Ter Bogt, T. F., Delsing, M. J., Van Zalk, M., Christenson, P. G., & Meeus, W. H. (2011).

Intergenerational continuity of taste: Parental and adolescent music preferences. *Social

forces*, *90*(1), 297-319. https://doi.org/10.1093/sf/90.1.297

The Economic and Social Research Council. (2014, juli). *The wellbeing effect of education.*

https://esrc.ukri.org/files/news-events-and-publications/evidence-briefings/the-

wellbeing-effect-of-education/

Vezzali, L., Hewstone, M., Capozza, D., Giovannini, D., & Wölfer, R. (2014). Improving

intergroup relations with extended and vicarious forms of indirect contact. *European

review of social psychology*, *25*(1), 314-389.

https://doi.org/10.1080/10463283.2014.982948

Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to

stigmas. *Journal of Personality and Social Psychology*, 55(5), 738–748. https://doi-

org.proxy-ub.rug.nl/10.1037/0022-3514.55.5.738

Zhou, S. (2020). Intergroup Contact Theory in a Nutshell: A Meta-Meta-Analytic

Examination of Intergroup Contact Theory and the Contact Space *(Doctoral

dissertation, University of Toronto (Canada).*

Appendix A

Items Used in the Questionnaire

Demographics

How old are you?

What is your gender?

- Male

- Female

- None of the above

What is your nationality?

- Dutch

- German

- British

- Other European

- Non-European

Which of the following describes best what you have been doing for the last two weeks?

- In paid work (or away temporarily, employee, self-employed, working for family

  business)

- In education (not paid by employer) even if on vacation

- Unemployed

- Permanently sick or disabled

- Retired

- Doing housework, looking after children or other persons

- Other *(please specify)*

What level of education are you currently following?

- Upper secondary diploma or equivalent *(general or vocational; e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination)*

- Short-cycle or vocational tertiary education *(e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist Vocational Qualification, merkonomi, Higher national certificate/diploma, or equivalent)*

- Bachelor's degree or equivalent *(University, Applied Sciences, Fachhochschule (FH), WO, HBO)*

- Master's degree or equivalent

- Doctoral degree or equivalent

- Other *(please specify)*

What level of education are you currently following?

- Upper secondary diploma or equivalent *(general or vocational; e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination)*

- Short-cycle or vocational tertiary education *(e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist Vocational Qualification, merkonomi, Higher national certificate/diploma, or equivalent)*

- Bachelor's degree or equivalent *(University, Applied Sciences, Fachhochschule (FH), WO, HBO)*

- Master's degree or equivalent

- Doctoral degree or equivalent

- Other *(please specify)*

Parental Education

What is the highest level of education completed by your father?

- No qualification

- Less than an upper secondary diploma

- Upper secondary diploma or equivalent *(general or vocational; e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination)*

- Short-cycle or vocational tertiary education *(e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist Vocational Qualification, Higher national certificate/diploma, or equivalent)*

- Bachelor's degree or equivalent *(University, Applied Sciences, Polytechnics, Fachhochschule (FH), WO, HBO)*

- Master's degree, or equivalent

- Ph.D. or equivalent

- I don't know

- Other *(please specify)*

What is the highest level of education completed by your father?

- No qualification

- Less than an upper secondary diploma

- Upper secondary diploma or equivalent *(general or vocational; e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination)*

- Short-cycle or vocational tertiary education *(e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist Vocational Qualification, Higher national certificate/diploma, or equivalent)*

- Bachelor's degree or equivalent *(University, Applied Sciences, Polytechnics, Fachhochschule (FH), WO, HBO)*

- Master's degree, or equivalent

- Ph.D. or equivalent

- I don't know

- Other *(please specify)*

Profile Evaluation

Choosing friend's introduction

Groningen is an international city where various nationalities come together. However, knowledge about the nationality or solely hearing an accent leads to the automatic activation of stereotypes. In this study we want to focus on the process of choosing friends, independently of their nationality but based on who that person really is. In the following part of the study descriptions of four individuals will be presented. You will be asked to indicate how much you like each of them.

Profile A – High Education Low Brow

Education: Working on their Bachelor thesis in the faculty of Law

Career outlook: Would like to end up working for the government as a legal specialist

Likes playing online games like Fortnite

Plays football in the local team and occasionally likes to visit matches in the stadium

Loves watching Romcoms (romantic comedies) like Friends with Benefits

Life motto: "Every day is a day you have never seen before"

- How much do you like this person? (0 = Not at All – 6 =Very Much)

- How likely is it that you would choose this person as your friend? (0 = Not at All – 6 =Very Much)

- How much do you identify with this person? (0 = Not at All – 6 =Very Much)

Profile B – Low Education Low Brow

Education: Working on their final project for their carpenter's apprenticeship

Career outlook: Wants to work as part of a larger building company or contractor

Likes rap music a lot especially Drake and Eminem

Enjoys doing TikTok videos and going to the local sports bar

Watches lots of films, with a preference for adventure films like Indiana Jones

Life motto: "If you need something to believe in, start with yourself"

- How much do you like this person? (0 = Not at All – 6 =Very Much)

- How likely is it that you would choose this person as your friend? (0 = Not at All – 6 =Very Much)

- How much do you identify with this person? (0 = Not at All – 6 =Very Much)

Profile C – High Education High Brow

Education: Final stage of their Bachelor in the faculty of Economics and Business

Career outlook: Currently deciding on whether to enroll for a master's programme or take a gap year first

Enjoys watching movies, mostly documentaries like Our Planet and independent movies like Pulp Fiction

Likes reading books in the evening, and occasionally visiting a museum in the weekend

Goes sailing during summer

Life motto: "Every day is an opportunity for joy"

- How much do you like this person? (0 = Not at All – 6 =Very Much)

- How likely is it that you would choose this person as your friend? (0 = Not at All – 6 =Very Much)

- How much do you identify with this person? (0 = Not at All – 6 =Very Much)

Profile D – low Education High Brow

Education: Recently finished their Sales Employee training

Career outlook: Applying to work in a store in the city centre

Listens to jazz and indie music like Miles Davis and Arctic Monkeys

Plays the piano

Plays tennis twice a week

Life motto: "Always be yourself, no matter what others think"

- How much do you like this person? (0 = Not at All – 6 =Very Much)

- How likely is it that you would choose this person as your friend? (0 = Not at All – 6 =Very Much)

- How much do you identify with this person? (0 = Not at All – 6 =Very Much)

Profil evaluation Questions

- Question 1: How much do you like this person? (Do not like at all -Like very much)

- Question 2: How likely is it that you would choose this person as your friend? (Do not like at all -Like very much)

- Question 3: How much do you identify with this person? (Do not like at all -Like very much)

Diversity of Network

Diversity

Now we would like to know about the characteristics of your social network. Please indicate how much you agree with the following statements.

- I have friends and family from different socioeconomic backgrounds (strongly disagree -Strongly agree)

- My acquaintances (Bekannte, Kennissen) come from a variety of different socioeconomic backgrounds (strongly disagree -Strongly agree)

- When I was growing up, I had contact with people from different socioeconomic backgrounds (strongly disagree -Strongly agree)

Contact

Please take a guess as to how many people in your network are **lower educated**.

Now we would like to ask you a few questions about your contact with people who have lower levels of formal education. Lower educated people are those who dropped out or stopped studying after secondary school (high school).

Please take a guess as to how many people in your network are lower educated. (None – All)

- Among your family and close friends

- Among less close contacts such as neighbors, colleagues, acquaintances

Quality

Now we would like to know how would you describe the quality of your contacts with lower educated people. If you do not have any contact, you can leave the question blank. 0 indicates very negative contacts, and 100 very positive contacts. To select your choice, use the cursor to move the slider to the right.

People with lower education among family and close friends

People with lower education among less close contacts such as neighbours and acquaintances

People with lower education you meet professionally, through their job (e.g., delivery driver, waiter, cleaner, hairdresser, etc.)

Educationism

The following questions are about your attitude towards people with different educational backgrounds. (Not at all true of me – Very much true of me)

- I evaluate less and higher educated people in the same way

- When judging people, I ignore their level of education

- I tend to judge people more positively if they have a college degree compared to when they do not have a college degree

- I think less of someone when they haven't finished their education

End of the Study:

You have reached the end of the study, thanks for taking part!

If you have any comments for the researchers, you can leave them here

<div align="center">**Appendix B**</div>

Assumptions

Independents

For the first assumption for independents of the observation, we assume it is not violated because we instructed our participants to conduct the survey each by themselves.

Normality

Further, the second assumption of normality of the distribution in the population was check by an q-q plot and normal distribution plot of the data (see figure 7-15). Since the q-q plot shows a roughly straight line and data shows to be distributed in a bell shape around the mean, both shows us that the assumption of normality is met in our data.

Figure 7

Q-Q-plot of Evaluation of LELP
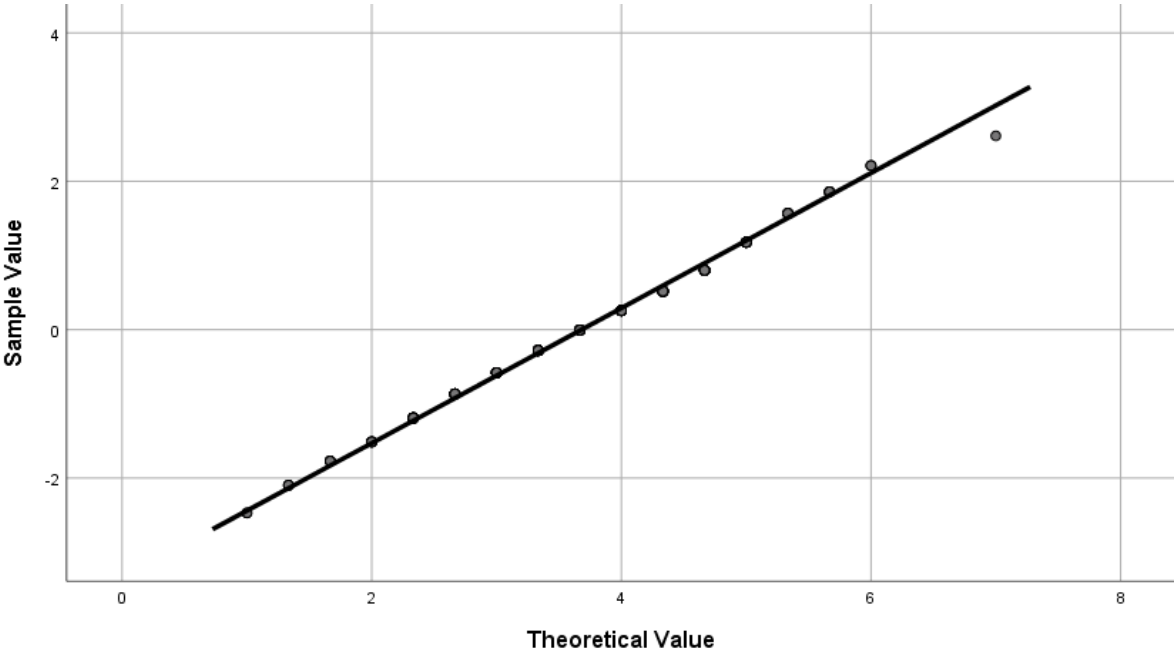
Figure 8

Histogram of distribution of Evaluation of LELP
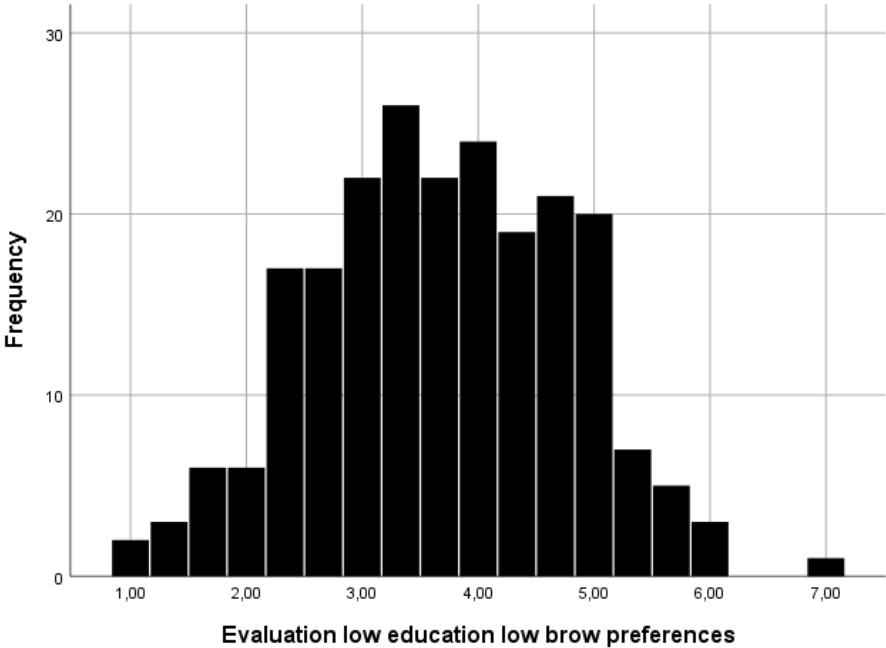
Figure 9

Q-Q-Plot of Evaluation LEHP
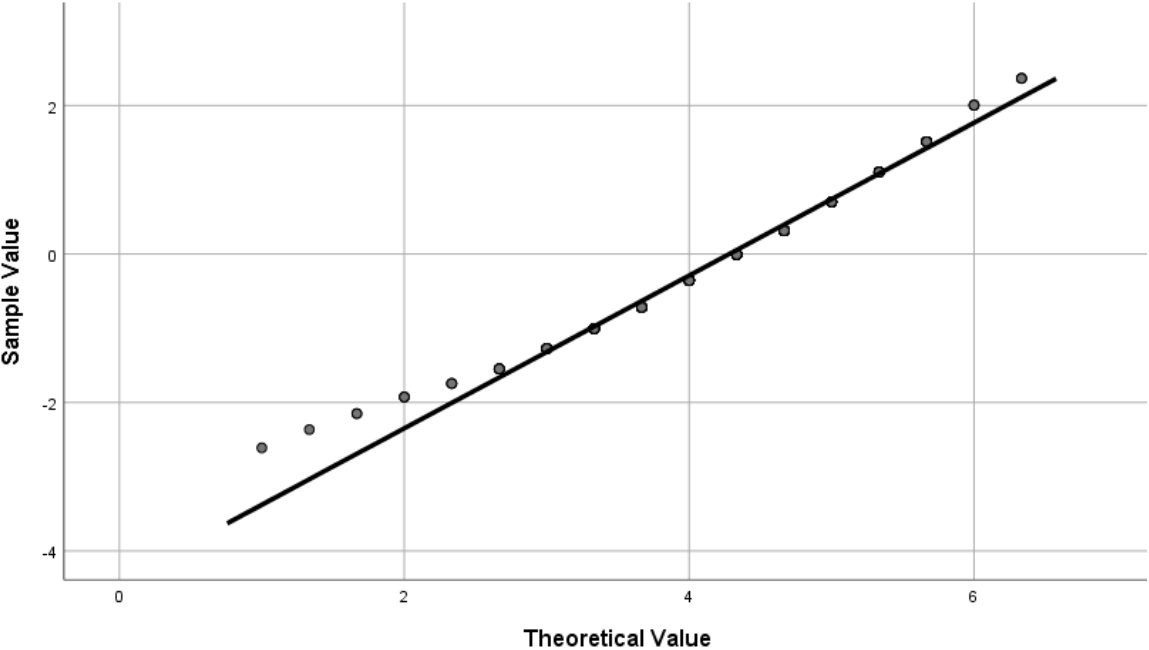
Figure 10

Histogram Evaluation of LEHP
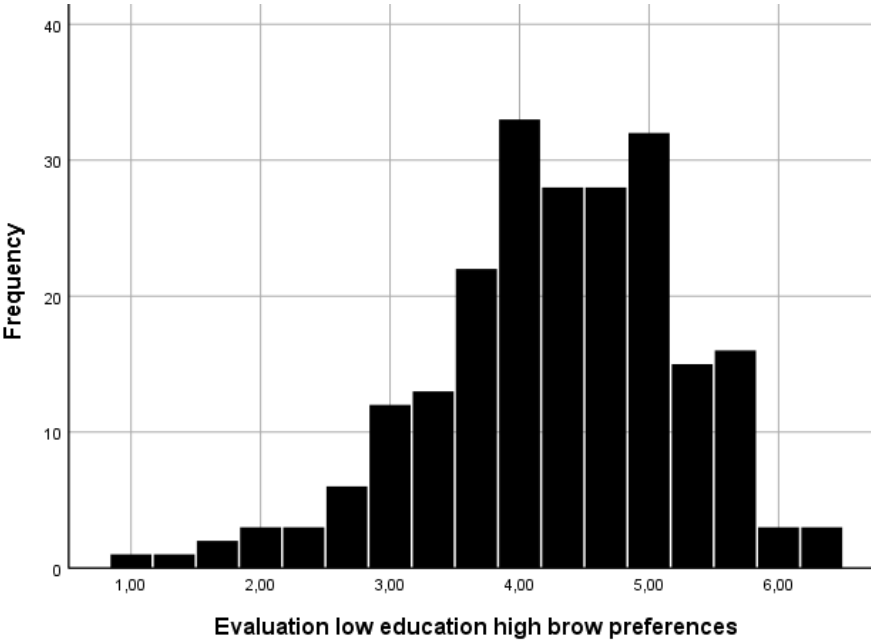
Figure 11

Q-Q plot of Evaluation of HELP
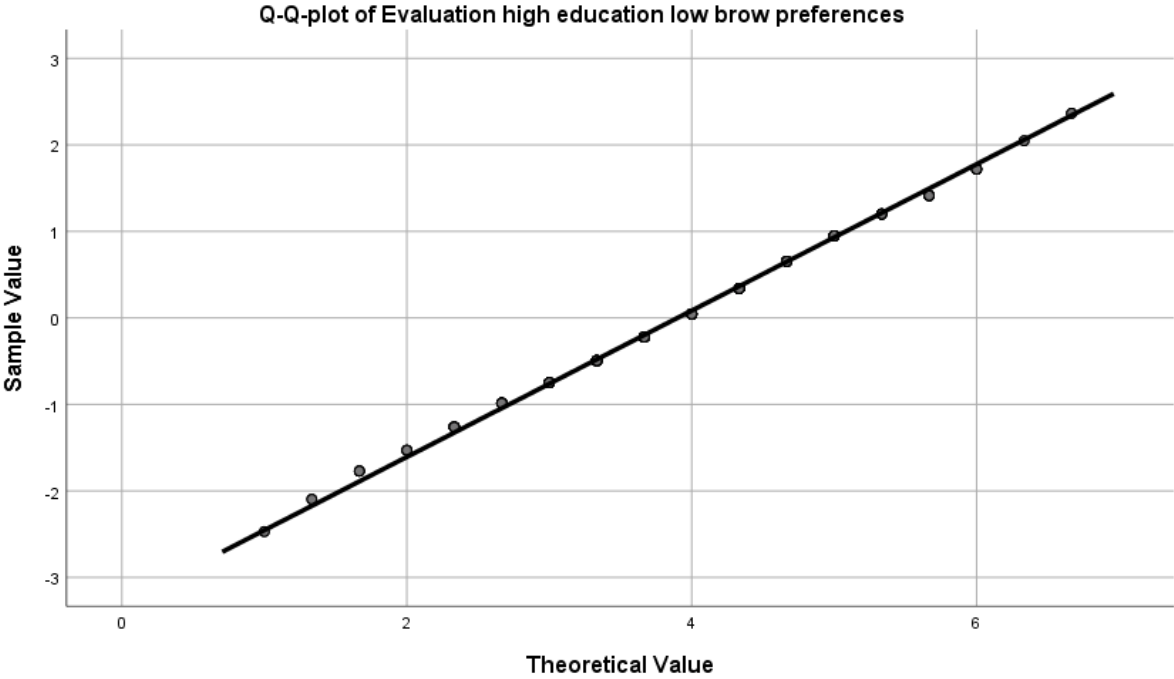
Figure 12
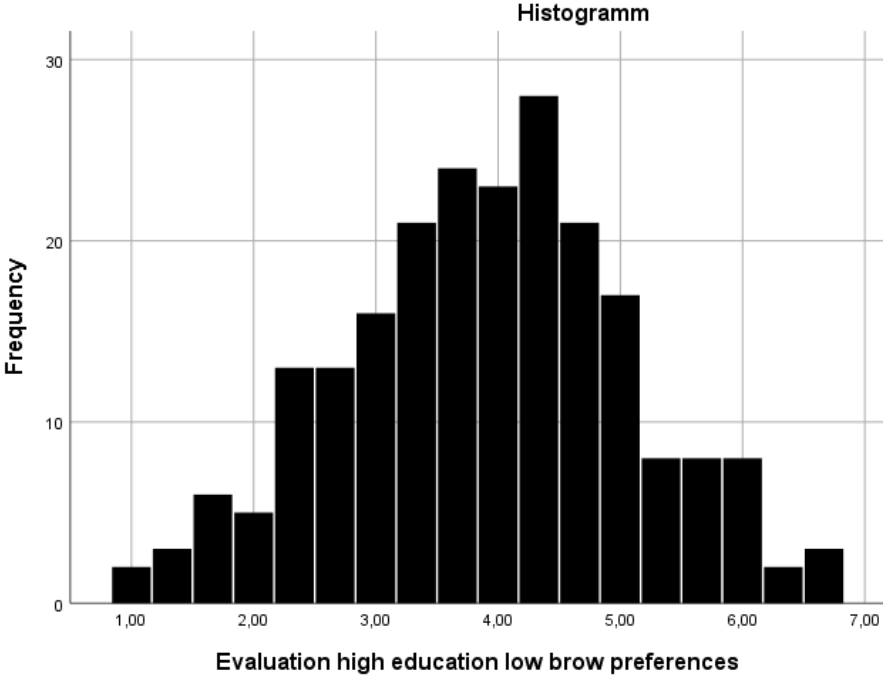
Histogram of Evaluation of HELP
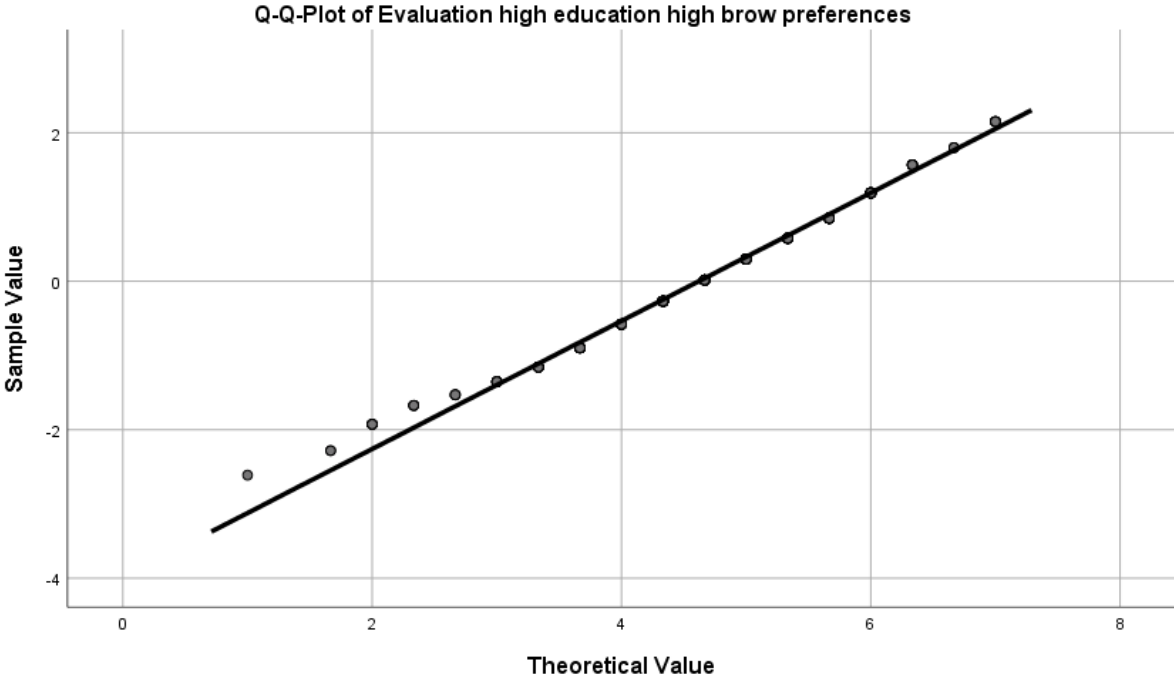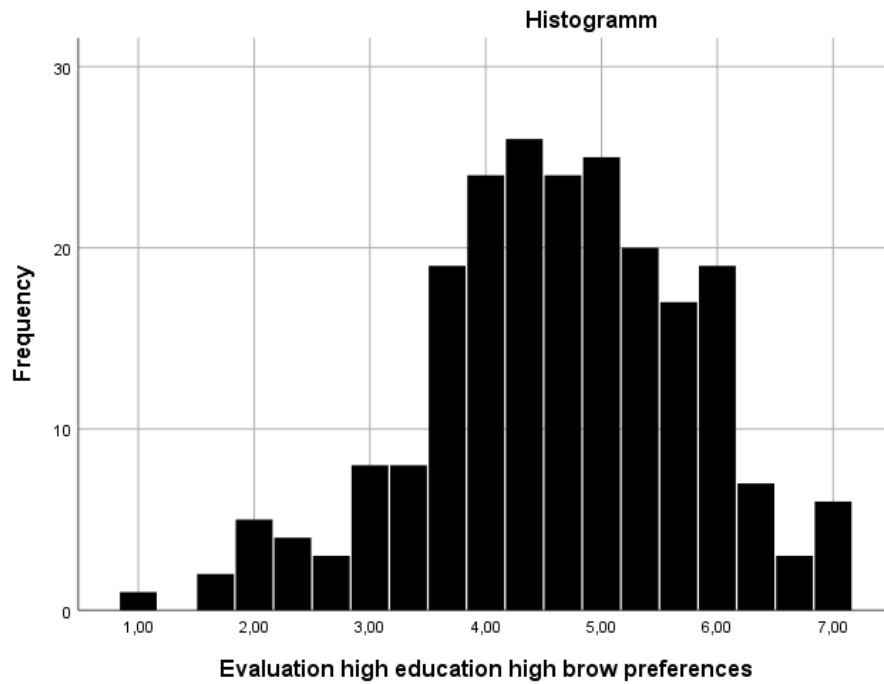
Figure 14

Q-Q-Plot of Evaluation of HEHP

Figure 15

Histogram of Evaluation of HEHP

Homogeneity of variance

Lastly, for checking homogeneity of variance, the differences of variance between all groups is equal. As the scatterplots of the residuals show, this is the case.

Figure 16

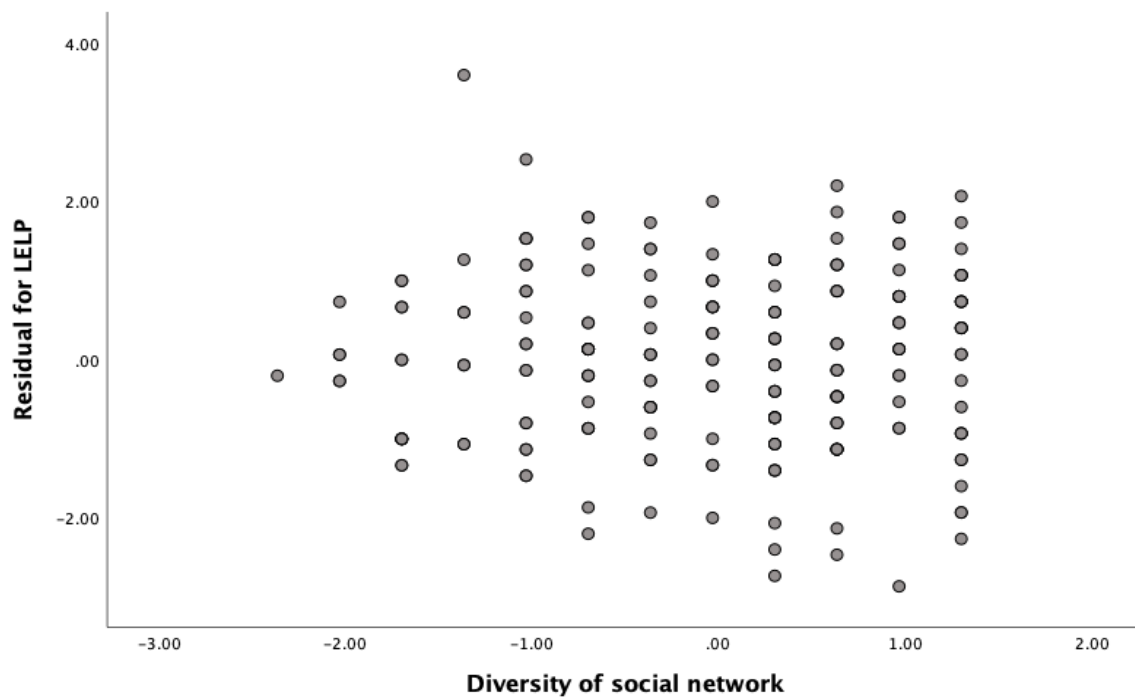*Scatterplot of Residuals of LELP on diversity of social network*

Figure 17

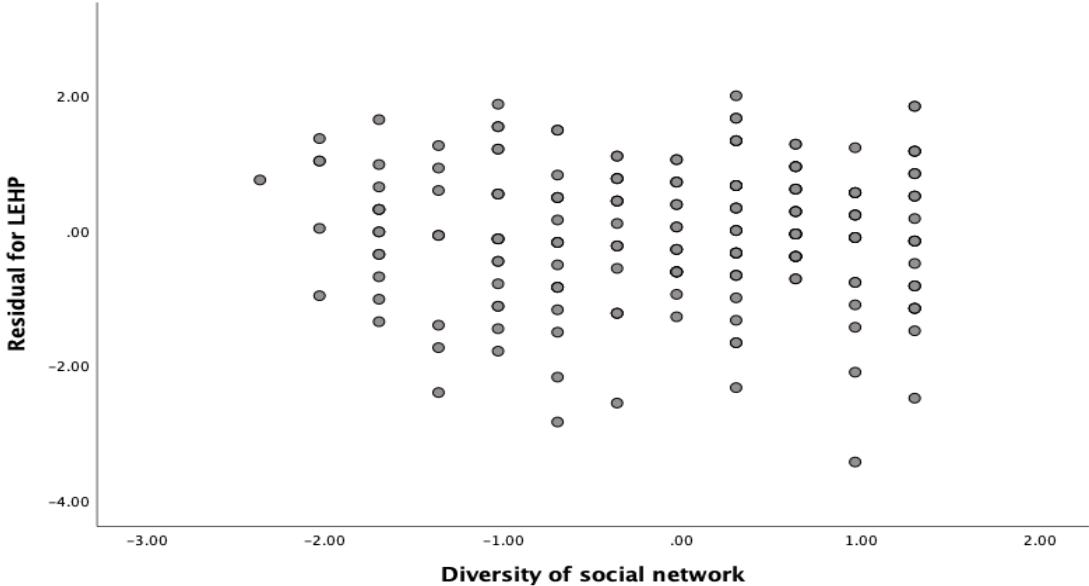*Scatterplot of Residuals of LEHP on diversity of social network*

Figure 18

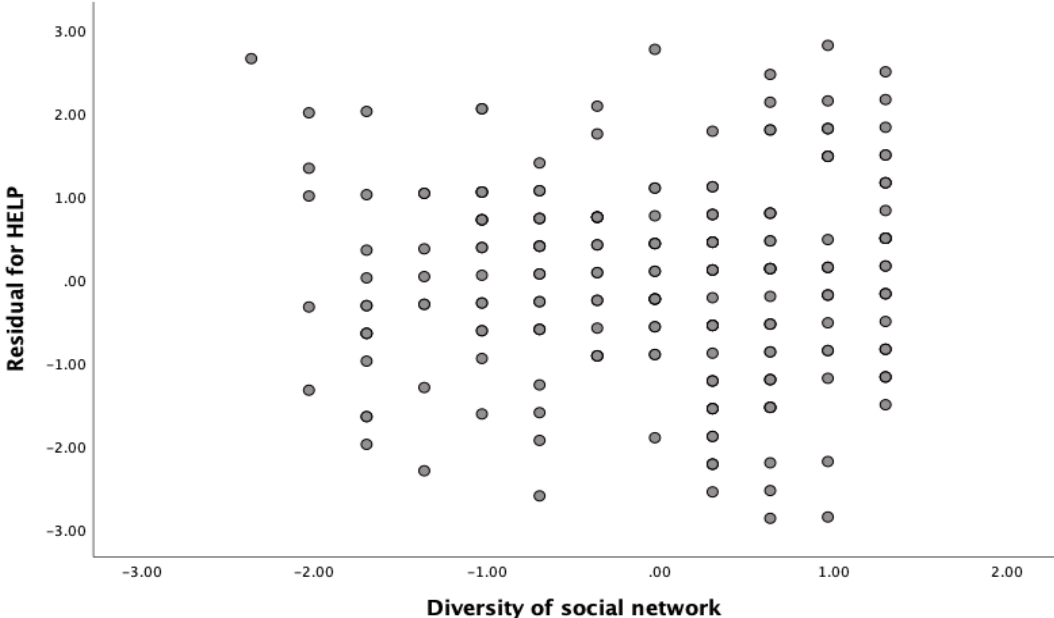*Scatterplot of Residuals of HELP on diversity of social network*

Figure 19

Scatterplot of Residuals of HEHP on diversity of social network