Effects of Ingroup Favoritism and Ability of Assessment on Hiring Likelihood Stella Barenholz 666160 2000280 Tilburg University

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Abstract

Group formation and social identification form a fundament for human behavior like ingroup favoritism, racism or ethnocentrism. The perception that certain individuals are seen as better than others based on only their group membership, has consequences in different areas. An important sector is the workplace, where favoring certain individuals creates an unequal workforce. In this experiment, the influences of ingroup favoritism and shared knowledge with an applicant are tested as causes of hiring likelihood for a student assistant-position. Participants (N = 133) who were studying either Psychology in the English or Dutch track, were offered an online questionnaire in which applicants were shown accompanied by their cv with relevant information. A 2 (Group categorization: Ingroup or Outgroup) x 2 (Knowledge: High or Low) ANOVA between-subjects design was used and hiring likelihood was measured. Hypothesis 1 expected a positive effect of Group categorization, meaning that applicants who were perceived to be part of the ingroup would be given a higher score. Hypothesis 2 expected the same for Knowledge, namely that participants would give higher scores to the applicants they shared more knowledge with. Hypothesis 3 expected an interaction effect, namely that high knowledge assessment would significantly influence outgroup members. No significant results were found, thus no support was found for the hypotheses. There were slight differences between only English or Dutch bachelor students, generating support for the hypothesis, but not significant. The differences between the groups were very small, so more research is needed as ingroup favoritism is one of the most prevalent tendencies in human behavior.

Keywords: group formation, ingroup favoritism, social identity theory, hiring likelihood

Effects of ingroup favoritism and knowledge on hiring likelihood

Humans are known as social creatures. We all have the basic social need to affiliate with others and form groups (Baumeister & Leary, 1995; Hogg, Hohman & Rivera, 2008). The importance of groups has been shown in various areas like sports, politics, education, but also friends and family. When forming groups, individuals make distinctions between us and them (Turner, 2010). This distinction can create negative intergroup relations and behavior such as racism or ethnocentrism, and may contribute to negative behavior like bullying or ostracism. This can also happen in the work environment, where preferring to select people based on own group membership creates a situation which may lead to hiring discrimination. Greenwald and Pettigrew (2014) showed that the fact that individuals are part of a group that they identify with, lays the basis for discrimination in recruitment of new employees. This view is supported by Fiske and Lee (2008). Employees and the workforce are fundamental to the functioning of an organization (Levinson, 1965; Mowday, Porter & Steers, 2013). Actively selecting, favoring, or hiring applicants may cause inequality in the workforce. It is difficult to assess whether it really is a concept of ingroup favoritism which stands at the basis of such actions. Besides the fact that individuals may favor others who share a group membership and therefore are considered as more positive (e.g., racism), one can also be more positive towards someone with whom they share more experience with. If people feel like they share some kind of connection, they may be more certain about their accuracy of perceptions of the other (Shkurko, 2015). The importance of an equal workforce (whether it being for the board of a company or a committee in a small student association) has been shown in contemporary problems – problems with gender (Barreto, Ryan & Schmitt, 2009) or diversity (Özbilgin, 2009) equality have been investigated widely. This study therefore investigates the influence of favoring individuals when forming or being in groups. To both include the influences derived from group membership, it is important to investigate both ingroup favoritism and the factor of shared experiences. Specifically, we try to answer the following research question: What is the effect of ingroup favoritism and shared knowledge on hiring decisions?

Relevant literature

Plenty of research done on the formation of groups shows the importance of group membership, group identity and collective feelings connected with being part of a group (for a review,

see Hewstone, Rubin & Willis, 2002). Baumeister and Leary (1995) suggested that much of group formation is motivated by the need to belong. This has also been shown in human evolution: Not only did the hominoids constantly hunt and function in groups, this continued when our ancestors entered the 'hunter-gatherer' phase in agricultural societies.

For this research, the most important theory is **social identity theory** (e.g., Tajfel & Turner, 1985), stating that "groups influence their members' self-concepts and self-esteem, particularly when individuals categorize themselves as group members and identify with the group" (see Forsyth pp. 83, 2012; Ashforth & Mael, 1989). Tajfel and Turner (1979) proposed that the groups to which people belonged are an important source of psychologically important factors like pride, self-esteem, and selfconfidence (McLeod, 2008; Hogg & Turner, 1985; Tajfel, 1978). Using social categorization (e.g., Hogg & Abrams, 1988), people assign themselves and others to be members of certain groups, using this as a heuristic to simplify the world. The group where an individual has its membership is called the **ingroup** (Giles & Giles, 2013) – termed as we and us. An individual can belong to multiple groups at the same time and consider them as ingroups (Turner & Tajfel, 1986; Allen, Wilder & Atkinson, 1983; Brewer, 1999). Individuals often employ a group identification, namely the importance given to identifying with the group. People engage in **social internalization** by not only adopting the identity of the group they have categorized themselves into, but making the group psychologically more relevant (Stryker & Serpe, 1982; Turner, 1982). One can regard themselves as being a member of a group (e.g., a group of Psychology students), but when this is more internalized the group becomes salient and important. The higher the identification and internalization of a group, the more important the group becomes for an individual (Branscombe & Wann, 1994). Therefore, members of the ingroup are considered higher in identification, internalization, closeness, and similarity (Tropp & Wright, 2001; Doosje, Ellemers, & Spears, 1995). This similarity creates a situation in which group members share experiences and knowledge when being a member of the group. Rimé (2007) showed that most group members experience synchrony through establishing similar responses because they experience the same situations with their group. Additionally, shared experiences create a basis for positive group dynamics, such as increased cooperation and decreased conflict within a group (Barsade, 2002). This again leads to a positive attitude towards the own group members in which

individuals have better accuracy of the perception of the capabilities and qualities of other group members, creating stronger ties within the group (Shkurko, 2015). Group members often share affective states through these ties, facilitating communication and intragroup bonding (von Scheve and Salmella, 2014). Eventually, they will feel closer connected to each other (Turner & Reynolds, 2001). These shared experiences thus establish a basis for collective feelings of well-being, as well as fundamentals for communication and sharing information. This information- and experience-sharing consequently has a reciprocal relationship with internalizing a group, and identifying with the group when it is considered one's ingroup (Tropp & Wright, 2001).

The identification with certain groups thus influences individuals' perceptions, feelings, and behaviors (Stets & Burke, 2000). People attach their self-esteem to that of their group, its products, achievements, and status in comparison to the environment. If the group fails, its members will form negative attitudes toward being a member of the group. But if it succeeds, if the group does well, then members will feel the benefits of membership. Ingroup members therefore have the tendency to overestimate group membership and its value, and enhance own self-image (Forsyth, 2012). This is shown in social comparison where people constantly compare their group and its characteristics to other groups (Stets & Burke, 2000). Ingroup members try to see the ingroup more positively than the outgroup (Rudman, Feinberg & Fairchild, 2002). This view is called the ingroup-outgroup bias, or ingroup favoritism. It is defined as "the tendency to view the ingroup and its members more positively than other groups" (Forsyth, 2012). Telzer, Ichien, and Ou (2015) show that just being a member of a group lays the mental correlates for this tendency. This subjective sense of ingroup superiority can stimulate a dislike of one's outgroup, for example seeing the others as denigrating (Brewer, 1999: Hewstone, Rubin, & Willis, 2002). This behavior can be connected to the absence of stronger ties with group members of the outgroup, where there is less communication facilitated and less positive attitudes will be felt towards these groups. Not only do ingroup members strengthen their own group ties, they often also try to lessen ties with outgroups (e.g., see Nelson, 1989). This contributes to intergroup conflict and triggers a rejection of others, solely based on group membership (e.g., see Allport, 1954; Dovidio & Gaertner, 1986). Ingroup favoritism has been studied in laboratory experiments (e.g., Brewer, 1999) which have shown that simply assigning an individual to an

experimental group is enough to generate ingroup biases. One of the best examples is the minimal group paradigm (Billig & Tajfel, 1973). Furthermore, experiments and research between groups showed that intergroup conflict is based on the absence of contact between in- and outgroup members, so that they will form judgements based on their own assumptions due to the lack of sharing information or experiences with other groups (Alderfer & Smith, 1982; Amir, 1969; Amir, 1975).

This research showed that individuals exhibit cognitive (stereotyping), affective (prejudice), and behavioral (discriminating) actions as a consequence of solely group membership (Mackie & Smith, 1998; Wilder & Simon, 2001). Following social identity theory, social categorization and identification, these are logical consequences because being part of a group is shown to be important for people's self-esteem (Ashforth & Mael, 1989; Hogg & Turner, 1985), social ties (Doosje, Ellemers, & Spears, 1995; Turner & Reynolds, 2001), and attitudes towards other groups and its members (Brewer, 1999). Because connections between ingroup members are strong, they form positive attitudes towards one another through their shared membership and experiences (Tropp & Wright, 2001). Ingroup favoritism further contributes to an ingroup bias in which the attitudes towards outgroups are negative (Hewstone, Rubin, & Willis, 2002). These factors don't only contribute to problems like racism or ethnocentrism, but can influence decisions as well where individuals have to select others, for example when hiring someone.

Own contribution

In this research, we question if preferring individuals when making hiring decisions is simply driven by ingroup preference, or if by sharing knowledge, individuals are better able to assess the value of potential group members. Shared group membership has wide implications through ingroup favoritism and shared experiences, both in social interactions as in the workplace when forming groups, departments, or hiring new applicants. Our knowledge of group ingroup and outgroup stereotypes determines whether we see an individual as ingroup or outgroup because the perception of individual characteristics is often matched to existing group stereotypes (Hogg & Abrams, 1988). The attitude towards another group member, based on perceived similarity, can decide if someone can be accepted as a valuable member for the ingroup (Shkurko, 2015). This then has consequences for the formation of groups based on prejudice and stereotypes. Arthur Brief (2008) has given an extensive

overview of how prejudice on the workplace is formed and can be dealt with. Elaborating on this subject gives more insight into the psychological side of group formation and ingroup bias, creating a basis for interventions and better intergroup processes. There is already some information on age bias (Finkelstein & Farell, 2007) and minority bias (Rudman, Feinberg & Fairchild, 2002), and attention has been given on creating discrimination scales and interventions for inappropriate behavior (e.g., Gaertner & Dovidio, 2000).

The goal of this research is to investigate the effects on ingroup favoritism (thus ingroup bias) and shared experience following group membership, on hiring decisions among students using a 2 (Group categorization: Ingroup or Outgroup) x 2 (Knowledge: High or Low) between subjects-design, thus both the influence of ingroup/outgroup and having or sharing knowledge. This will be measured by using a pool of international and Dutch first-year bachelor Psychology students, who will be asked to fill in an online survey in which a cv is presented to them. This applicant can either be categorized as ingroup or outgroup, and be judged on their ability with either high or low knowledge by the participant. Consistent with ingroup favoritism and outgroup prejudice research, applicants that are perceived to be in the ingroup will be expected to be judged more positively than applicants perceived as outgroup members (Turner & Tajfel, 1986; Tropp & Wright, 2001). Subsequently, they will be expected to have a higher likelihood to be hired for a simple assistant job than applicants from the outgroup (Forsyth, 2012). Consequently, *hypothesis 1* states that the personal hiring likelihood will be highest for ingroup applicants.

It might be useful to also look at the reasons why individuals judge people to be in the ingroup. We question if group membership and formation is solely based on ingroup favoritism, because the existing experiments done with favoritism and bias don't distinguish ingroup preference from the knowledge of the group enough. This knowledge might enable individuals to increase hiring possible ingroup candidates because they are expected to share more experience and knowledge, through which an individual can better assess what a good ingroup member looks like, thus feeling more accurate to assess their quality. The literature shows that the amount of knowledge and experience group members share when being in the ingroup is high through the common identity and strong intra-group ties (Shkurko, 2015; Doosje, Ellemers, & Spears, 1995). Moreover, Reagans (2011)

showed that social similarity contributes to stronger connections, more emotional attachment and knowledge sharing, and positive attitudes. Thus, the ability of the participant to assess the quality of an applicant could also determine the hiring likelihood. *Hypothesis 2* expects applicants that are judged with higher knowledge of the participant, will be hired more easily.

Because it is clear that both ingroup favoritism and shared knowledge and experience have an effect on possible group membership, we also expect an interaction effect. Ingroup applicants are expected to have a higher hiring likelihood, but this can be influences by the participant having high or low knowledge of the applicant. An individual is more able to judge the ability of an applicant perceived to be part of the ingroup because the shared amount of knowledge and experience is higher than with the outgroup. This is not true for outgroup members, therefore *hypothesis 3* states that high knowledge influences outgroup assessments more than ingroup assessments. Because there is less similarity and connection shared with someone from the outgroup, there is less certainty in the accuracy of perceiving the ability of this applicant. Having high knowledge should therefore result in significantly more hiring potential than low knowledge.

Methods

Participants and design

An experimental 2 (Group categorization: Ingroup or Outgroup) x 2 (Knowledge: High or Low) between-subjects design was used with random allocation of participants. Participants were collected by contacting the SP-lab of Tilburg University, to offer the questionnaire to first-year students as part of their mandatory lab-hours. They received 0.5 lab hours to complete this questionnaire. All the participants were either first-year Dutch (55.3%) or English (42.3%) bachelor Psychology students, or second year students who still did not complete their hours (2.4%). In total, 206 participants took the test. Before any analyses were performed, participants who did not fill in more than 60% of the questionnaire or all of the hiring likelihood-items, and who did not answer the manipulation checks correctly, were excluded from the analyses. After generating a boxplot for the hiring likelihood-variable, two outliers were also deleted. This left with a final sample of 133 participants with a mean age of 20.13 (M = 20.13, SD = 2.61), of whom 77.4% female ($N_{male} = 29$, $N_{female} = 103$). 91 of the participants indicated they had a Dutch identity (68.4%). Furthermore, there were 17 German (12.8%) and 3 Turkish and Belgian participants (2.3%). 16 participants reported another nationality (12%). The participants were given an online questionnaire with 63 questions to fill in. Before the start of the study, participants were given a consent form.

Procedure and manipulations

Participants completed the study individually and online. On average it took 7 minutes to complete. In the questionnaire, participants were asked to select an applicant for a student assistant job after being given a 1 page cv from one student containing personal information (e.g., date of birth, address, and a short introduction text in which the applicant described herself as a social, competent student who looking for a job). Furthermore, it showed educational information (e.g., which bachelor program the applicant was following, and four completed courses with grades). Other information included work background (Bartender at 'Cappu Cino' and Sales person at Hudson Bay), language proficiency (Dutch and English) and computer abilities (Word, SPSS, Power Point, Excel).

The *Group categorization* variable was manipulated by varying whether the applicant could be considered as ingroup or outgroup. This was operationalized by manipulating the information given about the applicant. The cv reported that the applicant was either from the Dutch-taught bachelor program of Psychology or from the English-taught bachelor program. Applicants who indicated to be following the same bachelor program as the participant, were considered as ingroup, and the other bachelor program as outgroup. A variable for 'group categorization' was constructed by using the scores of the participants indicating they were studying either a Dutch or English bachelor, and if they received a cv about a Dutch or international applicant.

Second, the *Knowledge* variable was manipulated by changing the courses the applicant listed as having taken. For the high-knowledge condition, the courses listed were courses that the participant should have taken as well (i.e., courses from the previous block). The low-knowledge condition showed courses that the participant had not yet taken (i.e., courses from the next block). Four courses were listed with their corresponding grades. Thus, participants in the high-knowledge condition knew the courses that were listed on the cv, meaning they were better able to judge the ability of the applicant. In the low-knowledge condition, participants were more unsure about the ability of the first variable, a second variable for 'knowledge' was constructed by using the information given by the participants where they indicated if they already completed the courses which were also listed by the applicant was used.

After reviewing the cv, participants completed three manipulation checks to measure if the participant understood the cv's ('Which bachelor program was the applicant following?', 'Which courses did the applicant reported on her cv?', and 'Where does the applicant report that she has previous work experience?'). The latter question was included to conceal the focus of the study. Following this, participants completed the main questionnaire including all dependent variables and demographic measures. Although various psychological constructs were measured in this questionnaire (for a full list, see Appendix), we only report the hiring likelihood items relevant to this study. Finally, participants were debriefed and told the goal of the study, namely how individuals make hiring decisions.

Measures

All items were asked on a 7-point Likert scale (from 1= Strongly disagree, to 7 = Strongly agree) unless otherwise stated. The *hiring likelihood* of the applicant was measured by three items: 'I would recommend that the committee hires this applicant', 'This applicant is the right person for this position', and 'If it were my choice, I would hire this applicant'. These three items showed a Cronbach's alpha inter-item correlation of r = .7.

Results

Manipulation check

To investigate how successful the manipulation was, the three manipulation check items were analyzed. Out of the 206 participants, 73 (35.4%) did not completed the manipulation checks and thus were excluded. Furthermore, items were analyzed that asked participants about the realism of the cv, and the realism of the situation with a hiring committee (for the full list, see Appendix). Participants reported that they found the presented cv more realistic (M = 4.96, SD = 1.29) than being part of the hiring committee (M = 4.41, SD = 1.37). Overall, they reported a mean score of M = 4.66 (SD = 1.10). Overall, the situation can be seen as realistic enough since answers were given on a scale from 1 (Strongly disagree) to 7 (Strongly agree).

Assumption checks

Before a two-way ANOVA could be performed, we checked the assumptions. The first assumption assumes that the observations and residuals are independent. One can never know for sure that this assumption is not violated, but each participant was randomly distributed for one of the conditions (Ingroup or Outgroup and High or Low Knowledge). This can be an indication that this assumption is not violated. The second assumption says that residuals should be normally distributed. To check this, histograms were constructed in which it was clear that the residuals showed a normal distribution. To control this assumption, a test of normality was performed and showed that the statistics for both Kolmogorov-Smirnov ($D(133) = .147, p < .001^{1}$) and Shapiro-Wilk were significant (D(133) = .941, p < .001), meaning that the distribution was not normal. But, the analysis also showed a degrees of freedom for the error of 133, meaning that the ANOVA was robust for this violation. The third assumption states that the variance should show homogeneity, meaning that all variances of the residuals are equal. This is tested by executing a Levene's test at the beginning of the ANOVA. The analysis showed that Levene's was not significant (F(3,129) = .972, p = .408), which means this assumption is also not violated. The ANOVA would be robust if the biggest group was less than 1.5 as big as the size as the smallest group. Thus, all assumptions were satisfied and the ANOVA could be performed.

Main analysis

A 2 (Group categorization: Ingroup or Outgroup) x 2 (Knowledge: High or Low) ANOVA was performed with hiring likelihood as dependent variable, and group categorization and knowledge as fixed factors to test the three hypotheses. See Table 1 for the means and standard deviations. The overall mean for hiring likelihood was M = 4.86 (SD = .95). Thus, the applicants had a fairly good chance of being hired. The test of between-subjects effects showed no significant effects (See Table 2). Hypothesis 1 expected a higher hiring likelihood for ingroup applicants, but this effect was not

¹ All statistical tests will be performed with an $\alpha = .05$, unless otherwise stated

significant (F(3,129) = .039, p = .844, $\eta^2 = 0.000$). Counter to expectations, hiring likelihood was actually slightly lower for applicants who are perceived to be part of the ingroup (M = 4.84, SD = .91) than for applicants who are perceived to be part of the outgroup (M = 4.88, SD = .99).

Hypothesis 2 expected that applicants who were judged with more knowledge of the participant, would have a higher hiring likelihood, but this effect was also not significant (F(3,129) = 0.177, p = .674, $\eta^2 = 0.001$). Furthermore, the means were again not consistent with the expectations: If the participant had higher knowledge, the hiring likelihood was slightly lower (M = 4.82, SD = .93) than if the participant had lower knowledge of the applicant (M = 4.90, SD = .97). These results are also shown in a very small *R*-squared value of only .004, meaning that only a very small percentage of variance of the answers on hiring likelihood, can be explained by the scores on the independent variables.

Lastly, hypothesis 3 expected an interaction effect, namely that high knowledge influences hiring likelihood, but is dependent on the distinction of group categorization. There was also no significant interaction on hiring likelihood (F(3,129) = .216, p = .643, $\eta^2 = 0.002$), meaning that hypothesis 3 was also not supported. Because an interaction was expected, an independent samples *t*tests was performed for only outgroup members with hiring likelihood, determined by either high or low knowledge. The Levene's test showed that equal variances were assumed (p = .597). Similarly to the main effect, there was no significant effect of knowledge when group categorization was specified into outgroup members, on the hiring likelihood of an applicant (t(59) = -.156, p = .723). The fact that the *t*-value is slightly negative can be explained by the fact that the hiring likelihood-scores given for outgroup members when judging them with low knowledge, were slightly higher than when judging them with high knowledge. Due to abbreviation, this difference is not showed in Table 1.

These results show no support for the hypotheses. If anything, the analyses suggest opposite effects of the expectations, and also no significant differences are found. This opposite result can be found for both the separate effects of group categorization and knowledge. For the interaction effect, there is no support found that high knowledge will result in higher hiring likelihood for outgroup assessments. Although the differences between the means are small for all hypotheses, there seems no support for ingroup favoritism nor knowledge in this sample.

Explorative analyses

To explore if the opposite effects could be further explained by other factors (e.g., differences between the two bachelor groups), an explorative ANOVA was performed first only for English bachelor participants² and then for only the Dutch bachelor participants³. For the English bachelor group, Levene's test was not significant (F(3,54) = 2.036, p = .120). Ingroup applicants were rated higher (M = 4.94, SD = .88) than outgroup applicants (M = 4.78, SD = .92) for hiring likelihood. These results do support hypothesis 1 which states that ingroup applicants are hired more easily, but can't be interpreted due to no significance. Second, the main effect showed no significant effect of group categorization (F(3,54) = .661, p = .420). Moving to the second factor, if participants had higher knowledge, the hiring likelihood of the applicant was lower (M = 4.77, SD = 1.00) than with lower knowledge (M = 5.00, SD = .73). Hypothesis 2 which says that high knowledge will create a higher score on hiring likelihood, is therefore also not supported. Again, the effect of knowledge is also not significant (F(3,54) = .589, p = .443) – nor the interaction (F(3,54) = 1.352, p = .250) was. Besides the non-significant effects for the main hypotheses, there was thus also no interaction found, thus hypothesis 3 is also not supported. Because an interaction was expected, follow-up tests were performed. These showed no significant effects (all p's > .05).

The same ANOVA was performed for only the Dutch bachelor participants. Levene's was not significant (F(3,71) = .867, p = .463). Ingroup applicants were hired less (M = 4.72, SD = .94) than outgroup applicants (M = 4.93, SD = 1.10). Again, hypothesis 1 was not supported as no significant effect was found (F(3,71) = .900, p = .346). The effect of knowledge differed from the effects of group categorization, as higher knowledge (M = 4.87, SD = .89) lead to higher hiring likelihood (M = 4.82, SD = 1.11). But, this difference of only 0.05 can be seen as negligible as it is very small. Although we would say this result is in line with hypothesis 2, the effect was not strong enough. Furthermore, no support was found for hypothesis 2 (F(3,71) = .110, p = .741). There was also no significant interaction effect (F(3,71) = .218, p = .642). Follow up tests revealed no significant effects (all p's > .05).

² See Table 3a for the means and standard deviations, and Table 3b for the test of between-subjects.

³ See Table 4a for the means and standard deviations, and Table 4b for the test of between-subjects.

It thus seemed that English bachelor participants rated ingroup applicants more positive than Dutch participants. This would be in line with hypothesis 1. But, they indicated a lower hiring likelihood when judging the applicant with higher knowledge – this result was opposite with the Dutch participant group. The Dutch participant group shows effects in line with hypothesis 2. No sample showed an interaction effect, thus hypothesis 3 had no support. These groups therefore show similar results for the interaction effect, but they differ for the effects of ingroup favoritism and knowledge.

Discussion

In this experiment, we investigated the effect of ingroup favoritism and sharing knowledge and experience from group membership, on hiring likelihood. The central question was how the perception of group categorization and ability of assessment of an applicant, influenced their hiring likelihood judged by the participant. Specifically, we looked if hiring likelihood was influenced if the applicant was judged to be either part of the ingroup or outgroup, and judged with higher or lower knowledge of the participant. The results showed that none of the hypotheses were supported. Counter to hypothesis 1, we did not find any evidence of ingroup favoritism. The total effect was even found to be slightly negative, meaning that ingroup applicants had a slightly lower chance being hired, considering the whole sample. Hypothesis 2 said that participants would give a higher score on hiring likelihood, if they judged the applicant with more accuracy of their ability. This meant they felt like they shared more with the applicant, thus had more knowledge about this applicant. Again this effect was opposite from our expectations, as the scores given with more knowledge of the applicants were lower than when participants had less knowledge. Finally, hypothesis 3 predicted that hiring likelihood would differ if the applicant was judged with high knowledge, and especially for outgroup applicants. No interaction effects were found, so the effect of ingroup favoritism does not seem to depend on the amount of knowledge someone has.

Further explorative analyses were done for subgroups of the sample (students following the Dutch or English bachelor), and showed that the two participants groups differ somewhat in their responses, but the difference was not very big. The English participant group showed non-significant effects which were consistent with hypothesis 1, but not with hypothesis 2 nor 3. The Dutch participant group showed effects in line with hypothesis 2, but not with hypothesis 1 or 3.

No hypotheses were supported, meaning that in this sample there was no evidence found that ingroup favoritism or knowledge and accuracy of perception of the abilities, influence the hiring likelihood. The opposite results for hypothesis 1 about ingroup favoritism and hypothesis 2 about knowledge were not significant, besides the differences were also very small. Although we would expect a positive result from both ingroup and high knowledge, both effects were negative. Following the explanatory analyses, it seems that the subgroups of Dutch and English bachelor group students slightly differ in their preferences considering both variables. Where English bachelor participants were in line with hypothesis 1 (thus showed ingroup favoritism more), the Dutch bachelor participants were in line with hypothesis 2 (thus scored applicants higher which were judged with more knowledge). It may mean that English bachelor students show greater ingroup favoritism than Dutch students, and that Dutch students encounter more influence of sharing more experiences due to group membership.

Theoretical implications

Main analyses. In this experiment, we can conclude that ingroup favoritism was not supported, as the effects of hypothesis 1 were contrary to our expectations. This means that ingroup applicants did not have a higher chance of getting hired for the job than outgroup applicants. Hiring likelihood therefore seems not dependent on whether an applicant is being perceived as being part of the ingroup or outgroup, at least in the case of psychology students recommending candidates for a student assistant position. The participants who participated in this study thus did not make the distinction that was expected between an ingroup and an outgroup, may perceive the applicants from both groups as less belonging to a specific in- or outgroup. This could mean that the distinction between the in- and outgroup was not salient enough – in such case the participants regarded applicants from the ingroup as less important to pick out for only a student position. This specific group of students may therefore be more egalitarian than samples in other experiments where effects were found for ingroup favoritism – Biernat, Vescio, and Theno (1996) showed that people who hold more equal values for different groups show less ingroup favoritism. Research has shown that categorizing individuals is a fundamental tendency of humans (Forsyth, 2012; Hogg & Abrams, 1988), and ingroup favoritism and outgroup bias can be created through experimental manipulation (e.g., minimal group paradigm by

Billig & Tajfel, 1973; the Robbers Cave experiment done by Sherif et al., 1961). In this case, the favoritism-variable does not seem to have any effect on a hiring decision, but this does not mean that literature is wrong. As said, a simple assistant job may not be important enough to consciously and immediately make the distinction between an ingroup and outgroup, and actively select candidates based on the stereotypes which accompany this view. Mullen (2004) additionally showed that if the cognitive representation of one's in- or outgroup is not strong enough, the group is not experienced as being very salient – thus not consciously holding an ingroup bias. Wellen, Hogg, and Terry (1988) similarly showed that the experience of an ingroup only had effect if the comparison between the ingroup and outgroup was made salient enough. The distinction between the ingroup and outgroup therefore was not clear enough in this sample. The fact that ingroup favoritism was not experienced enough by the participants, means that this factor may not be operationalized in an optimal way.

The effects for hypothesis 2 were not significant either. People who judge an applicant with more accurate information, don't score these individuals higher on hiring likelihood. We would expect the group of applicants which were perceived as sharing more experiences with, were also judged with more knowledge. Participants would experience more connection with these applicants, thus have the feeling that they had a better view of their capabilities and could better imagine what this person would be like when being in the ingroup. This creates a more positive attitude towards the candidate, thus a higher hiring likelihood-score. In this sample it seems that more information does not lead to having more knowledge, and sharing a group membership does not mean participants experience this as having a stronger connection with the applicant. The participants don't experience that sharing more knowledge means they have a better accuracy about the qualities of the applicant, thus are not more certain about their decision to hire this applicant – in this case even less certain. Although Stroebe, Lodewijkx and Spears (2005) showed that social identification creates a sense of reciprocity where knowledge is shared, the participants in this sample don't experience this collective sense of shared connections enough. They did not have the expected perception about having more things in common with the applicant. Therefore a more positive attitude towards this individual was clearly not created, and also not shown in the hiring likelihood scores, which were lower for applicants who were judged with more knowledge. The fact that this hypothesis is not supported can be further explained by the

absence of strong network ties which are usually created within groups and function as fundaments for positive ingroup behavior (Nelson, 1989). Because the group of both Dutch and English bachelor psychology students is big, strong connections are more difficult to form. Usually these ties are easily formed within smaller groups (Oh, Chung & Labianca, 2017). The lack of contact between possible ingroup members thus hinders the formation of intragroup connections (Amir, 1969), thus the positive feeling associated with possible ingroup members. It is again a logical consequence to doubt the manipulation used to operationalize the knowledge variable, because we find opposite results than we expected in hypothesis 2.

Next to the opposing results of hypothesis 1 and 2, there were no interaction effects found for this sample. We expected that both factors interact with each other to influence hiring likelihood, specifically that higher knowledge influences outgroup applicants more. This expectation is not confirmed due to non-significant results, and follow-up tests also showed that hiring likelihood for outgroup members was slightly higher when judged with lower knowledge. Participants in this sample are not more certain about their choice when sharing more experiences with the applicant. They don't feel more accurate in their judging abilities for possible ingroup members, so this effect is therefore also not seen for outgroup members and being uncertain. This result does not imply that the knowledge factor does not interact with ingroup favoritism at all, because differences between the means of hiring likelihood were very small (see Table 1). The lack of support for the separate effects of knowledge and ingroup favoritism also reflects the fact that no support is found for the interaction of these effects.

Explorative analyses. Furthermore, analyses for both Dutch and English/international participants showed differences in opinions about hiring likelihood based on group categorization and knowledge. Ingroup favoritism seemed to hold for the English bachelor group, as their hiring likelihood was slightly higher for ingroup applicants. This result follows the literature of Mullen (1992), who showed that groups in a numerical minority express more intergroup bias than those in a numerical majority. Therefore, English bachelor students may experience more ingroup favoritism and preferences for possible ingroup members – the scores reveal this is true. But, this effect was not significant so we cannot conclude that English bachelor participants have higher ingroup favoritism.

Furthermore, scores on hiring likelihood were higher amongst Dutch bachelor participants when they had higher knowledge. Again, this effect was not significant, so having a more accurate perception of the qualities of the applicant cannot be seen as a cause of hiring likelihood. These results then suggests that ingroup favoritism and the effect of knowledge may both be found more easily when groups are already divided into clear subgroups where in- and outgroup have a more salient distinction (i.e., an English bachelor group and a Dutch bachelor group). The theory therefore is not wrong, although the results from the main analyses may suggest this because we only found opposite results to what we expected. This is another reason to question the manipulation itself, and the design used to operationalize both concepts.

Conclusion. In conclusion, no hypothesis was supported for the whole sample and the distinct samples consisting of only Dutch or English bachelor program students. We cannot conclude that ingroup favoritism or sharing or having more knowledge with or of an applicant, are causes of hiring likelihood – nor do these factors influence this factor significantly. It seems that it doesn't matter if people have higher knowledge about the applicant when judging this person, or if this applicant is perceived as being part of the ingroup. As said, the manipulation for both variables can be questioned, especially the salience between both groups and their distinction between in- and outgroup. The importance of the ingroup and its membership (and consequences for judging someone with more knowledge due to shared experiences) is not made clear enough in this experiment, so that the participants did not experience enough that their own group would be more important than the members of the possible outgroup. Fu et al. (2012) showed that ingroup favoritism can be substantially reduced if people perceive a task as a more cooperative target instead of a competitive target. In this case, a team at the university has to cooperate to achieve its goals. Participants are not competing with this applicant, which can decrease some negative attitudes or stereotypes regarding the outgroup members. The competitive element which usually takes place when choosing between an ingroup or outgroup (e.g., the Robbers Cave experiment) was not salient enough to people. Nevertheless, one must also notice that the participants individually did not compete with anyone else, but there was an existing competition between the applicants who wanted to be chosen. The participant therefore had the choice to make a decision in this competition between an applicant of the ingroup or outgroup, and

with whom more information is shared. If there was only one place available for the applicants (which in this sample was the case), it should be logical that the participants still would prefer their own ingroup and applicants with stronger connections. The fact that this effect was not found supports the idea of Fu et al. (2012), but mostly supports the notion that the manipulation of the groups can be seen as questionable and not salient enough. Furthermore, research done by Hagendoorn and Nekuee (1999) and Wagner and Zick (1995) showed that higher education led to less experience of ingroup bias and the feeling that possible ingroup members were associated with more positive feelings. Thus, it may be a possibility that most participants who study at Tilburg University slightly differ in their tendency to actively select members based on ingroup membership and connections shared with possible ingroup members. Therefore, the manipulation with which the groups were made salient (i.e., the information on the cv about the education of the applicant) may had less effect on the participants in our sample.

Strengths

This study about hiring likelihood and ingroup favoritism took on an experimental approach in which participants were asked to fill in a questionnaire and judge applicants individually. Participants were randomized for the conditions, which makes the validity and reliability higher (Schulz & Grimes, 2002). Moreover, by using an experiment and ANOVA, we can conclude causality more than with a correlational study. This leads us to take hiring likelihood as a dependent variable, and measure the influences of group categorization and knowledge as independent variables. Manipulation checks were used to exclude participants who did not understand the questions, so the impact of the independent variables was measured more reliable (Kidd, 1976). By creating four distinct conditions, the separate effects of both variables could be studied in a detailed way. The ANOVA enables us to accurately compare the means of the measures, check for both interaction effects and possible post-hoc or follow-up tests. Furthermore, different dependent variables were measured in the questionnaire. Not only hiring likelihood was looked into, but also expected job performance, advice seeking, and different scores on warmth and competence of the applicant. By dividing the questionnaire in different parts for these variables, each could be measured separately (i.e., hiring likelihood). This was not only investigated with a general ANOVA, but specific measures were used for either the Dutch or

English/International bachelor group of students. This way, ingroup favoritism and the knowledgevariable were measured in a detailed way.

Overall, this study encounters different advantages by using an experimental design with a 2 (Group categorization: Ingroup or Outgroup) x 2 (Knowledge: High or Low) between-subjects ANOVA with subsequent follow-up measures including an interaction effect and specific ANOVAs for the subgroups (i.e., Dutch and English bachelor groups). Hiring likelihood is measured in detail through this design, which was the purpose of the study.

Limitations

Although several elements were measured and a randomized design was used with an ANOVA so the effects could be measured independently, the key problem of this experiment is that no significant results are found, and that some of the results show opposite trends to what we expected in the hypotheses. A first remark is the size of the sample. Although the starting sample was 206, this was reduced a substantial amount after data preparation. This can imply that no effects were found, even though there are differences. The difference between the mains (see Table 1) are also small, as well as the differences between the two subgroups of students. Looking further at the effects and results, significant effects were not found and the *p*-value of each effect was high, similarly the *F*-value and partial eta-squared were very low. Consequently, the power of this experiment will be low. This makes it harder to find results which are significant, or can be reproducible (Simonsohn, 2015). It also means that the found result may not reflect a true result.

The manipulation used in the experiment must be investigated in a detailed way to explain high p-values and low F-values. There are problems with validity and reliability although a randomized ANOVA is used, because the operationalization of the variables is showed to be incomplete because of both the p- and F-values, and the small effects which were not significant and sometimes opposite to expectations. We may not have measured or manipulated the variables in the way we wanted to, which caused misinterpretation of the participants – creating a disparity between their perception of the manipulation and ours. We used a manipulation by which the group categorization and knowledge were changed by adapting the cv of the applicant. This cv may be too complicated to use as a manipulation. Although it offered a general and clear overview of information

about the applicant, this may be too much information to use as a fundament for judging an applicant. Especially in a short experiment like this, participants may misunderstand the general cv, courses, or background of the applicant. They have a brief look at some of the parts of the cv and then forget about this information when focusing on the questions. Although this was checked for during data preparation (e.g., participants who made mistakes in the manipulation checks were excluded from the data), this may still have consequences for participants who were not excluded. Moreover, the participants excluded made up a substantial amount of over 30% of the original sample, meaning that one-third did not get the manipulation checks correct. This similarly shows the importance of these checks, but also the weakness of the manipulation itself.

Although differences were made between the cv's of the applicants for the conditions, some problems can still be discovered. For example, there were no differences between reported 'languages' on the cv for the conditions. This was done with the goal of minimalizing the difference between conditions, except for the distinction which could be made between the variables for group categorization and knowledge. That is why the name and gender of the applicant were also similar for each condition. In retrospect, alterations could be made for the languages and name, so that an applicant with a more Dutch or international background could be distinguished more easily. There is a chance that people have stereotypes about names and proficiency of languages when individuals show they are either Dutch or international (Maass & Arcuri, 1992).

The main problem with this experiment is the lack of significant results, and the presence of opposite directions in the results for hypotheses 1 and 2. Significance could be increased by a bigger sample size, through which power also increases. But, this still does not account for low *F*-values and high *p*-values, of which the source is likely to be the manipulation. Not only could the manipulation be too difficult (i.e., use a cv), but the operationalization of both variables could also be questioned.

Future research

Investigating group memberships and its consequences on ingroup favoritism and intragroup ties can be very useful because it is clear there are effects for not only hiring likelihood, but also other factors in general. Membership creates prejudice and stereotypes (Dovidio & Gaertner, 1986) which result in intergroup conflict (e.g., Allport, 1954; Hewstone et al., 2002) but also ethnocentrism (e.g., Brigham, 1971; LeVine & Campbell, 1972) or racism (Amir, 1969). Experimental research led us to conclude there are small consequences, but the results for this sample showed no significant effects. For future research, the same design (i.e., 2 x 2 ANOVA) is advised to be used as this creates a clear distinction between group categorization and knowledge as independent variables. The manipulation should be altered and be made stronger, as this experiment showed that the manipulation did not deliver the expected results. Because it is clear that ingroup favoritism exist and that ingroups cause stronger ties and positive attitudes, these conditions should be made so that the difference between the groups becomes more salient than in this experiment. Besides that, it should be clear that there is a competition between the ingroup and outgroup, so that participants perceive their choice as being important (e.g., Mullen, 2004). First, one can use another context than a job hiring committee for students, for example a situation in which more importance is placed on the choice of a new member. Hiring likelihood could be measured for jobs with high-status and more significance, instead of a student assistant. Brewer and Brown (1998) showed that group members show more bias when jobs are involved with a higher status. Second, although the groups used in the minimal group paradigm were useful, these were constructed based on simple identity categorization like an even or odd number (for a review see Diehl, 1990). In this experiment, existing groups were used based on a defining characteristic which could be used to distinguish the two groups – their choice of either the Dutch or English bachelor. To build further upon these pre-existing groups, other characteristics could also be used. For example, ingroup favoritism can be a major influence when considering gender (e.g., see Bagues & Esteve-Volart, 2010; Blank, 1991; Goldin & Rouse, 2000). Individuals may hold more stereotypes when it comes to hiring a women or a man, especially for higher positions. Moreover, Burtch, Ghose and Wattal (2013) showed that people prefer intergroup transactions and connections with culturally and geographically similar individuals. The same effects were showed for political ideologies (Miller, Smith, & Mackie, 2004) and hiring prejudices between religious and non-religious people (Jackson & Hunsberger, 1999; Wright, Wallace, Bailey, & Hyde, 2013). Going further, Herek (2000) and Levine (1979) provides an elaborate view on how sexuality and sexual prejudice creates hiring discrimination. This could also be taken into account for new experiments. Future research could employ the factor of gender, proximity, politics, religion, sexuality, or culture. The attitudes

towards the other group members could then be measured, still focused on hiring likelihood for a job in a higher position.

Conclusion

Ingroup favoritism is a concept which has been widely studied by social psychology researchers because it is very common in society. Individuals use their stereotypes to differentiate certain groups, which they then use to categorize group members. Group membership fosters these stereotypes and plays a role when making important decisions, for example hiring and recruitment for a job. This experiment investigated ingroup favoritism and accuracy of the ability of an applicant to predict hiring likelihood, but no effects were found. According to our results, individuals do not favor applicants based on their group membership (Ingroup or Outgroup), or their knowledge about the applicant (High or Low). Although these effects were not found, favoring certain individuals still happens in plenty of contexts, especially when people think they have an accurate perception of the qualities of applicants. Ingroup favoritism has various consequences which have been shown not only in research, but also in real life. Being member of a group constructs prejudice which fosters (hiring) discrimination. Further research is needed to investigate these factors.

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Tables

Knowledge								
	Low kn	Total						
	(N =	= 61)	(N)	(N = 72)				
Group categorization	M(SD)	N	M (SD)	N	M (SD)			
Ingroup ($N = 67$)	4.92 (.87)	29	4.77 (.95)	38	4.84 (.91)			
Outgroup ($N = 66$)	4.88 (1.1)	32	4.88 (.93)	34	4.88 (.99)			
Total (<i>N</i> = 133)	4.90 (.97)	61	4.82 (.93)	72	4.86 (.95)			

Table 1Results for hiring likelihood for all conditions

Note. Results are shown for the hiring likelihood-variable with a 7-item Likert scale (1 = Strongly disagree, 7 = Strongly agree).

Table 2

Test of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected model	.421ª	3	.140	.153	.927	.004
Intercept	3221.241	1	3221.241	3408.450	.000	.964
Group categorization	.036	1	.036	.039	.844	.000
Knowledge	.162	1	.162	.177	.674	.001
Group categorization * knowledge	.198	1	.198	.216	.643	.002
Error	117.865	129	.914			
Total	3256.000	133				
Corrected total	118.286	132				

a. R Squared = .004 (Adjusted R Squared = -.020).

Table 3a

Results for hiring likelihood for English bachelor participants

Knowledge								
	Low kn (N=	Total						
Group categorization	M (SD)	N	M (SD)	N	M (SD)			
Ingroup $(N = 34)$	5.20 (.47)	15	4.74 (1.1)	19	4.94 (.88)			
Outgroup $(N = 24)$	4.72 (.94)	11	4.82 (.94)	13	4.78 (.92)			
Total $(N = 58)$	5.00 (.73)	26	4.77 (1.0)	32	4.87 (.89)			

Note. Results are shown for the hiring likelihood-variable with a 7-item Likert scale (1 = Strongly disagree, 7 = Strongly agree).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected model	2.226ª	3	.742	.930	.433	.049
Intercept	1322.224	1	1322.224	1657.790	.000	.968
Group categorization	.527	1	.527	.661	.420	.012
Knowledge	.477	1	.477	.598	.443	.011
Group categorization * knowledge	1.078	1	1.078	1.352	.250	.024
Error	43.069	54	.798			
Total	1422.889	58				
Corrected total	45.295	57				

Table 3b

Test of Between-Subjects Effects for English bachelor participants

a. R Squared = .049 (Adjusted R Squared = -.004).

Table 4a

Results for hiring	likelihood fo	r Dutch	bachelor	parti	cipants
		-			

Knowledge							
	Low knowledge $(N = 35)$		High k (N	Total			
Group categorization	M (SD)	Ν	M(SD)	Ν	M (SD)		
Ingroup $(N = 33)$	4.62 (1.1)	14	4.81 (.83)	19	4.72 (.94)		
Outgroup $(N = 42)$	4.95 (1.1)	21	4.92 (.95)	21	4.94 (1.0)		
Total $(N = 75)$	4.82 (1.1)	35	4.87 (.89)	40	4.84 (.99)		

Note. Results are shown for the hiring likelihood-variable with a 7-item Likert scale (1 = Strongly disagree, 7 = Strongly agree).

Table 4b

Test of Between-Subjects Effects for Dutch bachelor participants

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected model	1.104 ^a	3	.368	.364	.779	.015
Intercept	1698.393	1	1698.393	1678.101	.000	.959
Group categorization	.911	1	.911	.900	.346	.013
Knowledge	.111	1	.111	.110	.741	.002
Group categorization * knowledge	.220	1	.220	.218	.642	.003
Error	71.859	71	1.012			
Total	1833.111	75				
Corrected total	72.963	74				

a. R Squared = .015 (Adjusted R Squared = -.026).

Appendix

Introductory text

Manipulation check

Which bachelor program is the applicant following? (English bachelor, Dutch bachelor)

Which courses did the applicant report on her cv (Yes/No)? (Personality Psychology, Brain

and Behavior, Experimental Psychology, Introduction to Statistics, Development Psychology,

Psychopathology, Cultural Psychology, MTO-A)

Where does the applicant report that she has previous work experience (Yes/No)? (Cappu

Cino, Brain and Behavior)

Questions about hiring likelihood (1 = Strongly disagree, 7 = Strongly agree)

I would recommend that the committee hires this applicant

This applicant is the right person for this position

If it were my choice, I would hire this applicant

Attitude clarity and correctness (1 = Not at all, 7 = Very certain)

To what extent is your true opinion towards the candidate clear in your mind?

How certain are you that the opinion you expressed towards the candidate really reflects your true thoughts and feelings?

How certain are you that your opinion towards the candidate is the correct opinion to have?

To what extent do you think other people should have the same opinion as you on this candidate?

Expected job performance (1 = Strongly disagree, 7 = Strongly agree)

I think this applicant will do a good job if hired

I think this applicant will perform well in the advertised role

I think this applicant is a good fit for the job

I think the applicant will be successful later on in life

I think the applicant would be a suitable co-worker for a future job

I think the applicant will perform well in other future jobs

Advice seeking (1 = Strongly disagree, 7 = Strongly agree)

I would seek personal advice from this applicant

I would seek advice from this applicant concerning relation problems

I would seek advice from this applicant concerning health problems

I would seek study advice from this applicant

I would seek advice from this applicant for study skills (e.g., time management, revision planning)

I would seek advice from this applicant for practical course skills (e.g., essay writing,

methods)

I would seek future career planning advice from this applicant

I would seek advice from this applicant concerning my future educational plans

I seek advice often

Please tell us how you evaluate the applicant on the following traits (1 = Strongly disagree, 7 =

Strongly agree)

The applicant is intelligent

The applicant is friendly

The applicant is honest

The applicant is competent

The applicant is trustworthy

The applicant is likeable

The applicant is warm

The applicant is skilled

The applicant is sincere

The applicant is moral

The applicant is sociable

The applicant is capable

Now we have some questions about your bachelor program and courses:

Which bachelor program are you following? (Psychologie (Dutch), Psychology (English),

Other)

Which year are you following? (First year, Second year, Third year or later)
Identification questions (1 = Strongly disagree, 7 = Strongly agree)
I identify with English psychology bachelor students
I feel committed to English psychology bachelor students
I am glad to be an English psychology bachelor student
Being an English psychology bachelor student is an important part of how I see myself
I identify with Dutch psychology bachelor students
I feel committed to Dutch psychology bachelor students
I am glad to be an Dutch psychology bachelor student

Please indicate below if you have followed the courses listed (Yes – I have taken and completed this course, Yes – I am currently following this course, No, Unsure). Personality Psychology, Brain and Behavior, Experimental Psychology, Introduction to Statistics, Development Psychology,

Being a Dutch psychology bachelor student is an important part of how I see myself

Psychopathology, Cultural Psychology, MTO-A.

For the courses that you have taken, please indicate below how difficult you think these courses are (1

= Very difficult, 7 = Very easy, 8 = Not applicable). Personality Psychology, Brain and Behavior,

Experimental Psychology, Introduction to Statistics, Development Psychology, Psychopathology,

Cultural Psychology, MTO-A.

Now we have some questions about how you see yourself

I am very emotional

I am able to devote myself completely to others

I am very gentle

I am very helpful to others

I am very kind

I am very aware of feelings of others

I am very understanding of others

Demographic questions:

My gender is: Male, Female, Other

My age is:

My nationality (Dutch, German, English, Moroccan, Turkish, Belgian, Spanish, Italian,

Chinese, Other)

Realism questions (1 = Strongly disagree, 7 = Strongly agree)

Did you find the presented cv realistic?

Did you find the introduction about you being part of the hiring committee realistic?

Debrief