Recruiting without discriminating - An experimental study of hiring discrimination on ethnicity, using structured video interview versus unstructured face-to-face interview

Karam Hanna

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Abstract

Background: Ethnic discrimination is believed to be present in recruitment processes and this is reflected in the unequal level of employment in Sweden today. Discrimination may come in a more subtle and implicit form, especially when employers use methods that are more susceptible to subjective judgment. *Method:* This study examined ethnic discrimination in a recruitment process by comparing two recruiting methods. Participants (N=233) were randomized to an experiment group to perform a structured video interview, and to a control group for an unstructured face-to-face interview. *Results:* No effects were found between the groups after the recruitment process. However, effects were found within the groups showing that Swedish participants had higher odds of advancing in the recruitment process with 298 percent in the experiment group and 495 percent in the control group, compared to non-Swedish participants in each group. *Discussion:* While the obtained results suggest discrimination was present the study had methodological issues that may have influenced the outcome. These consisted of the control group undergoing a premature selection prior to the recruiting process, and not having the employers blinded to the purpose of the study. Future research should focus on further assessment of video interviewing as a screening method.

Keywords: decision-making, discrimination, ethnicity, interview, recruiting

Sammanfattning

Bakgrund: Etnisk diskriminering förekommer i rekryteringsprocesser och detta avspeglas i den ojämna anställningsfördelningen i Sverige idag. Diskriminering kan ske subtilt och implicit, i synnerhet när rekryterare använder sig av metoder som är mer känsliga för subjektiva bedömningar. *Metod:* Denna studie undersökte etnisk diskriminering i en rekryteringsprocess genom att jämföra två rekryteringsmetoder. Deltagare (N=233) randomiserades till antingen en experimentgrupp där en strukturerad videointervju genomfördes, eller en kontrollgrupp där en ostrukturerad face-to-face intervju genomfördes. *Resultat:* Inga skillnader på etnicitet påvisades mellan grupperna efter rekryteringsprocessen. Dock fanns en effekt inom grupperna som visade att svenska deltagare, i jämförelse med icke-svenska hade 298 procents högre sannolikhet att gå vidare i rekryteringsprocessen i experimentgruppen. Motsvarande siffra för kontrollgruppen var 495 procent. *Diskussion:* Trots att resultaten indikerar att diskriminering förekom i denna studie har metodologiska tillkortakommanden förelegat och kan ha påverkat utfallet. Dessa utgjordes av att kontrollgruppen genomgick en för tidig selektion innan rekryteringsprocessen påbörjades samt att rekryterarna inte var blinda för studiens syfte. Framtida forskning bör fokusera på att vidare utvärdera videointervju som screeningmetod.

Nyckelord: beslutsfattande, diskriminering, etnicitet, intervju, rekrytering

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Introduction

Discrimination

Discrimination is the type of unjustifiable behavior directed toward a group of people along with its members (Myers, 2010). The Human rights constitution of the United Nations and the Swedish constitutional law states that every individual is born free and with equal value and equal rights (diskrimineringslagen, SFS 2008:567). Researchers have differentiated between *old-fashioned* discrimination and *modern* discrimination (Ziegert & Hanges, 2005), where modern discrimination is a subtle form of discrimination, as opposed to the old-fashioned that is typically more direct and hostile (Brief, 1998). In this modern form of discrimination one is usually rational in the act of discrimination and therefore able to disguise the true intentions in order to maintain ones self-image (McConahay, 1986). This form of discrimination is believed to exist in our values and attitudes, and is ruled by unconscious psychological factors, and is therefore more difficult to identify (Ziegert & Hanges, 2005).

Earlier research

In recent years there has been a series of research in the area of ethnic discrimination in the work labor, however the majority of these studies have looked at race specifically, and were conducted in America (Brief et al., 2000; Pager & Western, 2012). There is limited research on discrimination on ethnic background. Carlsson & Rooth (2007) are amongst the few that have looked at hiring discrimination in Sweden. They used a method called *correspondence testing*, where two identical applications are sent in response to the same position, with the only difference being the names of the fictive applicants, names that are informative in terms of ethnic background. The results showed a 50% higher chance for fictive applicants with typical Swedish names to be called to an interview, after having sent a job application, compared to those fictive applicants of a typical Middle Eastern name, with an identical job application. Stenberg (2004) conducted a similar experiment, although on a relatively small scale, and found that employers who were contacted by phone about a position were 15% (own calculations) more likely to encourage applicants with Swedish sounding names than people with Arabic sounding names. The *International Labour Organization* (ILO 2006) has also studied hiring discrimination in an experiment on the Swedish labor market, where Swedish people were compared to people born in Sweden but with a Middle Eastern ethnic background. The experiment was designed to include three stages, each with a potential of detecting hiring discrimination. In the first stage employers were contacted via phone and asked if an application form can be sent, and in the next stage the application were sent using the same correspondence testing method as Carlsson & Rooth (2007). The third and final stage was the interviews, where actors were sent to play the fictive applicants. Results of discrimination were found in the second stage (sending application form and waiting for a callback to an interview), which saw applicants with a Swedish sounding name were 50% more likely to be offered an interview compared to applicants with

a Middle Eastern sounding name. Interestingly, results from the first and third stage show no indication of ethnic discrimination.

Other studies have failed to prove the occurrence of hiring discrimination (Edin & Lagerström, 2006). People that are unemployed, or simply looking to find a new job, are able to register on the *Arbetsförmedlingen* (Swedish employment agency) and uploaded a resume and a personal letter, in the hopes of being directly contacted by potential employers. When this database was reviewed in their quasi-experimental study, results saw that while women were contacted by employers more often than men, there was no indication of discrimination against ethnic background (Edin & Lagerström, 2006). So far research presents mixed findings in terms of ethnic discrimination, some in which there is no proof of such unequal treatment. Indeed, it is argued that perceived discrimination may as well be that employees base their decisions on other, more covert, traits or qualifications (Pager & Western, 2012). Because even when there are visible indicators of discrimination (e.g. difference between Swedish and non-Swedish people in terms of employment) we can still not argue that it is discrimination, seeing as we cannot know with full accuracy that these differences are not in fact a result of other non-visible differences such as language skills (Carlsson & Rooth, 2007). This seems to be a common explanation used to argue against discrimination. This issue was investigated in an official report of the Swedish government (SOU 2005:56). The argument that the existing notable difference in level of employment between the two groups is caused by lack of certain qualities in the non-Swedish group, e.g. sufficient language (SOU 2005:115), failed to serve as an explanation, and the conclusion was that it is indeed ethnic discrimination that is the main reason for the inequality in employment. Furthermore, as discussed earlier, discrimination today exists in a more modern form, where it is subtler, and hence more difficult to identify, therefore hiring discrimination is not easily measured and can go by unnoticed (Pager & Western, 2012).

Like many other countries, Sweden strives to have a multi-cultural and diverse society, which is why this often presents as an important question in Swedish politics. To achieve this, equal employment is an important issue that needs to be attained (SOU, 2005:56). This however is not reflected in the labor market where people with non-Swedish background have a lower level of employment. The difference between level of occupation for people with Swedish background and people with non-Swedish background is estimated to as much as 20% (Statistiska centralbyrån [SCB], 2007).

Psychology of the mind; Heuristics and biases
How is it that discrimination takes place? Everyday we are faced with difficult tasks that require careful judgment and decision-making and we do not always have enough resources, hence we employ different heuristics; mechanisms in our brain that we use as mental shortcuts to facilitate everyday choices and decisions (Tversky & Kahneman, 1973). These heuristics are useful to some degree, but are dangerous at times as they may result in systematic errors (Tversky & Kahneman, 1974). When we make decisions we are not always as rational as we would believe ourselves to be. We do not always weigh the pros and cons before making decisions, and many times our assessment of certain events are incorrect or biased (Zajnoc, 1980). A part from these heuristics, we also tend to have different cognitive biases, which are flaws in our judgment (Haselton, Nettle & Andrews, 2005). How do employers judge and evaluate applicants in a hiring process? This knowledge of how people function may shed some light on the subject and explain why discrimination can take place.

Confirmation bias
This is the process of seeking out evidence and information that supports ones belief, and selectively finding and molding information to fit into that belief (Nickerson, 1998).

Although this is a less deliberate and less explicit process, so when people use this bias (e.g. looking for and collecting evidence to argue for a certain hypothesis) they are doing it unawares. Confirmation bias was illustrated cleverly in an experiment where participants were recruited on basis of their attitude on death penalty. Half of the group was in favor and the other half was against it. They were instructed to read two articles, fictional studies on the positive and negative aspects of death penalty, to later evaluate the research studies and assess the credibility of their results. When they were asked about their viewpoints afterwards participants tended to stick to their original attitude despite there being strong support against it. They were good at finding evidence or details that supported their belief, and they disregarded all that contradicted their viewpoint (Lord, Ross & Lepper, 1979). In another study by Wason (1960) participants were presented with a series of three numbers and their task was to identify the rule behind the combination of that series. The series was (2,4,6) and participants were able to create their own series using the same rule and the experiment leader would give feedback on whether or not their series were applicable to the rule. This was a difficult task for participants to accomplish. The actual rule was as simple as "any ascending sequence" however, many identified the rule as "each number is triple as its predecessor" and they would therefore come up with a series according to that rule. They only tested examples that would fit the rule instead of a series that would disconfirm the rule (e.g. 3, 7, 4). This, Wason argued, goes to show that we tend to seek confirmation over falsification.

The affect heuristic

Affect plays an important role in our reasoning on our daily issues (Zajonc, 1980). Our judgment and decision-making are heavily influenced by our emotions to different stimuli. This is an automatic process that functions as a guide to the processing and judgment of stimuli, that comes afterwards. As Zajnoc so nicely put it "We buy the cars we "like", chose the jobs and houses we find "attractive" and then justify it by various reasons". The affect heuristic was illustrated in a study where participants were instructed to give their opinions on different techniques used within different areas, such as cars and chemical industries with the task to provide pros and cons to each technique. The results showed an inverse correlation between the perceived risk and benefit respectively that are associated with the techniques. When people had a positive opinion of a specific technique they tended to rate it as more beneficial and less harmful or risky. And when they had a more negative outlook on a specific technique they tended to be more resourceful on risks and less on benefits (Finucane, Alhakami, Slovic & Johnson, 2000). Another phase of this study saw the participants read short statements with arguments for each technique. Some had more focus on the benefits of certain techniques, while others focused on the low risks of those same techniques. This resulted in having the participants change their viewpoint on the risks of a technique after reading a paper that acclaimed the benefits of that technique, and vice versa.

Availability heuristic

When trying to estimate the frequency of classes or probability of events we tend to use a mental shortcut based on availability of information of a certain event, and on the degree of access we have to that information. In other words, events or classes that are easier to remember also become more likely to happen according to our judgment (Tversky & Kahneman, 1973). A good illustration of this heuristic was when people were asked to estimate the most common causes of death. The majority of people overestimated the likelihood of typically airplane accidents and underestimated diabetes as a common cause of death, even though it is the other way around. This can be explained by the fact that for instance media tend to report events that are more chocking more frequently and more intensely. Hence, we usually hear more about airplane accidents, murders and fires etc. and

not so much about how people are dying from diabetes or heart diseases. So when this question is asked, people can recall these big events more easily, and because this information spring to mind, it seems to us that it is more common than it actually is, and therefore more likely to occur (Tversky & Kahneman, 1974).

In-group bias

People seek to benefit members of one's own group, in-group, over members of others group, out-group (Brewer, 1979). Tajfel, Billig, Bundy, & Flament (1971) had participants sit in a room together and presented with an amount of dots on a screen, and later guess the number privately. Based on their guesses they were told that they were either overestimators or underestimators, and that neither was better or worse than the other. They were later given the task to allocate monetary rewards and fines to the other subjects that participated (this was also done privately). Those other participants were identified by a coded number and were labeled as either an overestimator or an underestimator. How they chose to allocate the rewards and punishments was strictly confidential and they would have no contact with the other participants. The results saw participants being strongly biased to other participants with the same label, choosing to benefit participants of their own "group" rather than participants from the other "group".

Having shed some light on these different psychological mechanisms that are present in our judgment and decision-making, it might provide a better understanding of how discrimination can occur in different situations, one of them being recruiting processes. Recruiting people is a big responsibility and finding the right person for the job is not always an easy task, but an important one nonetheless. Therefore it is important that these employers can do their job and base their decisions on valid information. There must not be any other factors involved such as biases and heuristics, because clearly, they are not always good. That is why there are different recruiting methods used, each with its pros and cons.

Predicting future job performance

Resume One of the most commonly used methods in recruiting for entry level jobs is the classical resume which includes detailed information about the applicant, such as education, earlier experience, and also personal details like name, age, sex and sometimes even a photograph (Hutchinson, 1984). There is very little research on the validity of the hiring decisions made by employers when using resumes as a source in judging the eligibility of the applicants (Gatewood & Feild, 2001). The intention of this study was to increase diversity and reduce potential discrimination, and resumes are believed to be a method that gives room for discrimination seeing as it is the first impression applicants will make on the employers (Gatewood & Feild, 2001).

Interview The interview as a method has been shown to have a lower predictive validity (0.14) compared to other methods such as mental ability tests, in a meta-analysis by Hunter & Hunter (1984). Predictive validity in this context is measured in terms of correlation between interview ratings and future job performance, according to Cohen's classification; 0.10 to 0.29 equals weak correlation, 0.30 to 0.49 equals average correlation, and 0.50 to 1.0 equals strong correlation (Cohen, 1988). Huffcut & Winfred (1994) responded to these earlier results by referring to subsequent meta-analysis that has shown a much higher predictive validity (0.47) for the interview (Wiesner & Cronshaw, 1988). They also suggested that the structure of the interview had a moderating effect on the predictive validity; more specifically the mean validity was twice as high for the structured interview than that of the unstructured (0.62 and 0.31 respectively). This was in alliance with findings by Marchese and Muchinsky (1993) who presented a correlation between interview structure and predictive validity (0.45). In their

meta-analysis of the findings from 85 years of research Hunter & Schmidt (1998) evaluated several recruiting methods and their ability to predict future work performance. The methods that ranked the highest on predictive value were work sample tests, general mental ability tests and structured interviews. According to them, methods that had a lower predictive value for work performance were those that are more sensitive to subjective interpretation, such as unstructured interview. Structured interviews based on a thorough profile for the specific position has a high validity (0.51), compared to an unstructured interview (0.38).

Video interview There is very limited research on web-based video interviewing as a screening method, in fact there is no research that has assessed the validity of this method (Gorman, 2013), despite the fact that it provides considerable benefits in terms of effectiveness and costs. Gorman (2013) reports in his recent study (yet to be published) a correlation between video interviewing and future job performance. More specifically it was the applicant characteristics, ratings of the applicant and interview responses that served as predictors of job performance. Typically structured interviews are costly and not the best option, especially for entry-level jobs (Hunter & Schmidt, 1998), hence this method could become revolutionary in the recruitment field.

Aim

The aim of this study was to examine whether discrimination on ethnicity was less likely to occur if using a more controlled method as opposed to a less controlled one in a recruitment process. Hence the use of structured interview was assessed in contrast to the use of unstructured interview - a method that is believed to allow other factors to contribute to selection, such as gut feeling or intuition. As reported earlier research has shown that in many hiring settings applicants are eliminated on the basis of their names alone. With the use of a method such as the video interview there is a possibility that an applicant, despite having a foreign name that might be vulnerable to such discrimination, will have an advantage of showing him/herself in a way that will make the employer look beyond the name, and thus be judged on his/her performance instead. This study also looked at gender as a control variable.

Method

Design

This was a randomized controlled experimental study, with a between-group design to look at hiring discrimination towards people with a non-Swedish ethnic background. Using two different recruiting methods in an experiment group and a control group, this study compared the potential effects of ethnic discrimination in these methods in a recruiting process. The experiment group underwent a structured video interviewing tool called ZeroLime, as opposed to the control group that underwent the organizations traditional recruiting process; unstructured face-to-face interview. The recruiting process consisted of four phases (see figure 1), in which the first three were included in this study. The first phase was publishing the job advertisement and randomizing participants into the experiment and control group. In the second phase, before participants underwent the different recruiting processes, a pre-measurement was conducted on the ethnicity and gender variables. A post-measure on the same variables, was done on participants who advanced to the third phase and were deemed eligible for the job. This study did not go beyond this phase, but there was a fourth and final phase where participants underwent a conclusive step in the recruiting process.
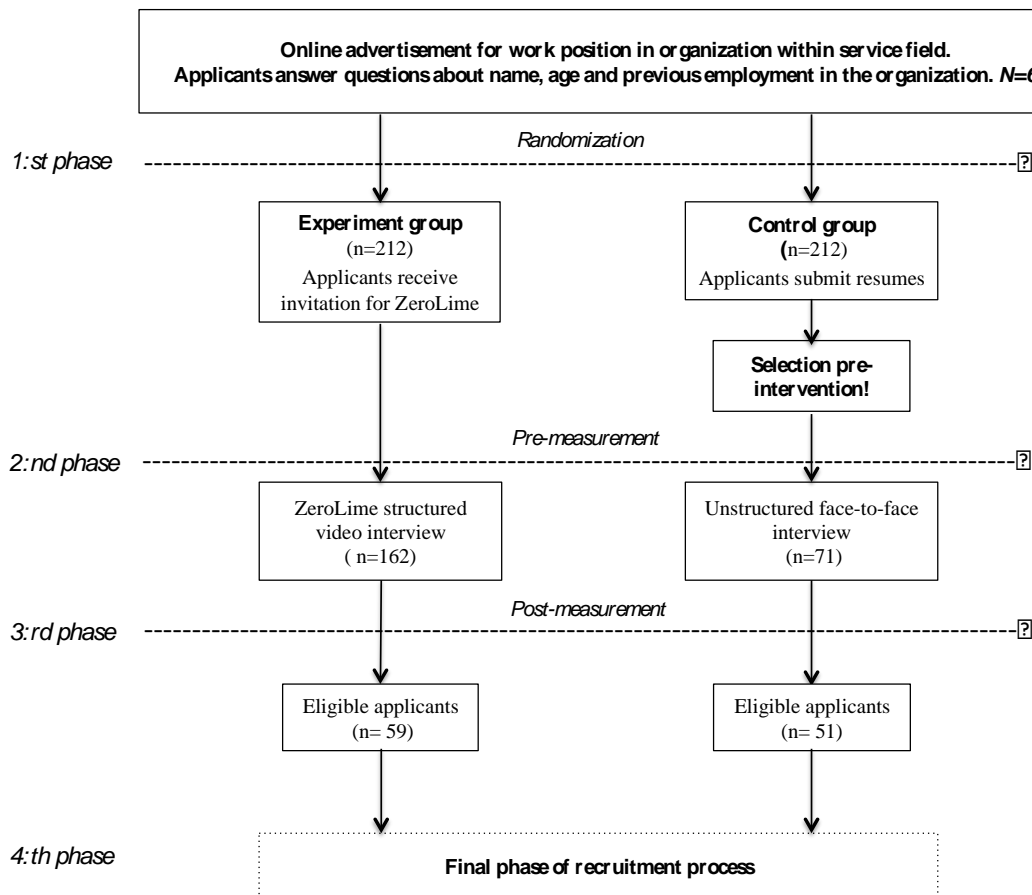
Figure 1 - Schematic illustration of study design and recruitment process.

The independent variable was the recruiting method, and the dependent variable was participants' ethnicity. Ethnicity of the participants was identified by name and operationalized as such. Participants with Swedish sounding names were categorized as Swedish applicants, and those with non-Swedish sounding names were categorized as non-Swedish. Gender was included as a control variable. Data for ethnicity and gender was coded in numbers. Due to practical reasons the employers were not blinded from the purpose of the study.

Participants

Participants in this study consisted of applicants for an advertised position that agreed to participate in a research study. The sample consisted of a total of 636 participants at the first phase where 212 participants were randomized to the experiment group and the control group respectively. The remaining 212 participants were randomized to an additional group that was evaluated in a different research study conducted simultaneously using *Predicting Job Performance (PJP)* (Sjöberg, Sjöberg & Forssen, 2006), a work psychological testing as a recruiting method. After an initial dropout in the first phase the total amount of participants in the experiment group were 162 in the second phase. Out of the original 212 randomized to the control group, only 71 participants remained at the second phase. The reasons behind this substantial drop were unknown. It appears that there occurred a selection of some sorts

already at the first phase, before the recruitment process was supposed to start. 51 and 59 participants made it through to the third stage of the recruitment process from the control group and experiment group respectively. The distribution of the different variables in the total sample and across the two groups is presented in table 1. The mean age in the experiment group was 20 years (SD 3.95) and 19 in the control group (SD 2.19). The oldest participant was 47 years in the experiment group and 29 years in the control group. The youngest participant was 16 years in both groups.

Material

   ZeroLime is a newly developed application for shorter structured interviews that can be downloaded free of charge and used via smartphones and computers (ZeroLime, 2014). This application provides the employer with the option to set questions in advance and control the amount of time assigned to each question, e.g. 30, 60 or 90 seconds per question. In this study the employer included five questions with 45 seconds to respond for each. The questions were presented in the following order *What makes you seek us? Tell us about a time when you received good service, What was your latest employment (or internship) and what was your experiences from that place? Describe a tough situation you have been in, Why should we hire you?* By definition this method is equal to that of a structured interview (Schmidt & Hunter, 1998). The ZeroLime application offers a chance to go through a tutorial and record a test interview before you conduct the real one. Once it is time for the real interview, the participants will receive a PIN-code to insert along with their e-mail address, which will enable the recording to be sent and coded to the participants' individual ID. The ZeroLime system is designed as a type of cloud service, meaning that all data is available via the web with no need of any type of installation. Once the interview has been conducted successfully it is available for the employers. They can access it and start the evaluation process of the participants. The employers can categories the participants in four categories; interesting, not interesting, appointed, and presentation (applicants presentation can be sent to another recruiter for a second opinion). Before this interview can be recorded participants have to read and agree to ZeroLimes integrity policy describing how material is used in regard to different important aspects, and informing that data will be used in educational purposes as part of a research study.

Procedure

   Participants responded to an online advertisement for an entry-level job by an organization specialized within the service field. On the website participants had to answer mandatory questions about name, gender, age and whether they had previously worked for the organization. In the first phase participants were randomized to two groups; the experiment group and the control group, before any recruiting process could start (*see figure 1*). Randomization was done using randomization.org. After the initial dropout in the first phase, a pre-measure was done on all participants at the start of the second phase, before participants would be subjected to the different recruitment methods in each group. The method in the experiment group consisted of the ZeroLime video-interview, used by the employers to judge and assess whether or not participants were eligible to go through to the third phase of the recruitment process. Participants in the experiment group received an e-mail invitation by ZeroLime with instructions on how to conduct the interview and the technical requirements needed, such as having a phone with a camera, and access to Internet during the interview. The e-mail also included general information about the work position and the organization, as well as an agreement contract for participation in the study. This document included information that participants had the right to dropout at any point in the process, and that individual data would be treated with confidentiality.

Table 1. Data of the distribution of participants in the total sample, the experiment group and the control group is presented in this table. Ethnicity and gender is presented by number of participants, and prevalence is presented in percent.

		Total sample	Experiment group	Control group
2:nd phase *n* (%)	Swedish	189 (81%)	130 (80%)	59 (83%)
	Non-Swedish	44 (19%)	32 (20%)	12 (17%)
	Male	77 (33%)	56 (35%)	21 (30%)
	Female	156 (67%)	106 (65%)	50 (70%)
3:rd phase *n* (%)	Swedish	99 (90%)	53 (90%)	46 (90%)
	Non-Swedish	11 (10%)	6 (10%)	5 (10%)
	Male	26 (24%)	12 (20%)	14 (27%)
	Female	84 (76%)	47 (80%)	37 (73%)

Participants in the control group went through the organizations traditional recruitment method, which consisted of resume reviewing and an unstructured face-to-face interview. After applying for the position in the first phase participants were immediately called and invited to a face-to-face interview. After the interview those who were ranked as eligible by the employers would advance to the fourth and final phase of the recruitment process (see figure 1), which consists of an additional face-to-face interview, and somewhere during that part of the stage their resumes would be processed and evaluated (however this study does not look at the recruitment process beyond the third phase).

Ethnicity and gender were measured and compared between the two groups before and after they were subjected to the different recruiting methods, to see if the groups differed in terms of distribution of ethnicity, and thus if any or both methods harbored any discrimination.

Statistical analyses

This study used Chi-2 test and logistic regression on the two dichotomous variables ethnicity and gender. Analyzes were performed pre and post recruitment on all participants, and on the two groups separately. Interaction effects between ethnicity and gender were also measured using logistic regression. All analyzes were performed on the statistical program STATA Data Analysis and Statistical Software.

Ethical considerations

Data was handled with complete confidentiality according to *personuppgiftslagen* (1998:204). All participants of this study were informed that their participation might be evaluated and used in a research study conducted by Psychology students. They received written information that they, at any given time during the process, were free to cancel their participation. They were also instructed that individual data would not be possible to identify, and that the research study would examine the data on a group-level.

Results

Descriptive statistics

In the second phase of the recruitment process 32 out of 162 participants were non-Swedish in the experiment group, and 12 out of the 71 were non-Swedish in the control group. Male participants were 56 and 21 in the experiment group and control group respectively, and female participants were 106 and 50 in the experiment group and the control group respectively. In the third phase of the recruiting process 6 out of 59 participants were non-Swedish in the experiment group, and 5 out of the 51 participants were non-Swedish in the control group. Participants consisted of 12 male and 47 female in the experiment group, and 14 male participants and 37 female in the control group.

Chi-2 test

Ethnicity At the pre-test the sample included 189 Swedish participants and 44 non-Swedish participants in the second phase of the recruitment process. These frequencies were not significantly different at this phase $X^2(1, N = 233) = 0.26$, $p = 0.61$. The randomization of participants into the two groups was still intact, even after the initial dropout and pre-selection from the first phase. At the post-test the sample included 99 Swedish participants and 11 non-Swedish participants in the third phase of the recruitment process. These frequencies were also not significantly different at this phase $X^2(1, N = 110) = 0.00$, $p = 0.95$. Swedish and non-Swedish participants were equally distributed in the two groups after the recruitment process in the second phase

Gender At the post-test the sample included 156 male participants and 77 female participants in the second phase of the recruitment process. These frequencies were not significantly different at this phase $X^2(1, N = 233) = 0.56$, $p = 0.45$. The randomization of participants into the two groups was still intact, even after the initial dropout and pre-selection from the first phase. At the post-test the sample included 26 male participants and 84 female participants in the third phase of the recruitment process. These frequencies were also not significantly different at this phase $X^2(1, N = 110) = 0.77$, $p = 0.38$. Male and female participants were equally distributed in the two groups after the recruitment process in the second phase

Logistic regression

To examine if ethnic discrimination had occurred, analyzes were performed comparing the pre and post measures on the total sample and between the groups, on the distribution of ethnicity. The measured odds ratios account for either an increased or decreased probability that participants with a certain ethnic background, in comparison with participants with another, will advance in the recruiting process. In this case, the odds ratios indicated how likely Swedish participants were to advance to the third phase of the recruitment process compared to non-Swedish participants. The odds ratios are calculated by dividing the value by 1 to obtain the odds for a Swedish participant to advance in relation to a non-Swedish participant.

Ethnicity On the total sample (N=233) results showed a significant effect (*p*=0.002) with OR 0.30 (95% CI = 0.14-0.63) on distribution of ethnicity between the pre and post measures. This means that Swedish participants had higher odds of advancing to the third phase of the recruitment process compared to non-Swedish participants. To identify which group contributed to this effect, or if they both did, the same analysis was performed on the two groups separately. Results showed significant effects in both experiment group (*p*=0.025)

with OR 0.34 (95% CI = 0.13-0.87), and control group (*p*=0.016) with OR 0.20 (95% CI = 0.05-0.74), meaning that Swedish participants had higher odds of advancing to the third phase of the recruitment process in both the experiment and the control group, compared to non-Swedish participants in each respective group.

When controlling for gender, there was still a significant effect (p=0.008), with OR 0.36 (95% CI = 0.17-0.76) on ethnicity for the total sample (N=233). This suggests that Swedish participants had higher odds of advancing to the third phase of the recruitment process compared to non-Swedish participants in the total sample. A decline from the odds (OR 0.30) obtained when gender was not controlled for in the previous analysis, thereby a small part (51%) of the variance could be explained by gender. The same analysis performed on the groups separately showed that there was no significant effect on ethnicity in the experiment group when controlling for gender. In the control group however, there was a significant effect (p=0.019), with OR 0.21 (95% CI = 0.06-0.77). This indicates that Swedish participants in the control group had higher odds of advancing to the third phase than non-Swedish participants in the same group.

Gender The same analyzes were performed to look for significant change in the gender variable on the total sample between the pre and post measures. There was a significant effect found (*p*=0.004) with OR 2.29 (95% CI = 1.30-4.04), demonstrating that female participants saw a benefit of advancing to the third phase of the recruitment process, compared to that of male participants. As with the ethnicity variable, analysis were performed on the two groups separately in order to see which group contributed mostly to this effect. The experiment group showed a similar effect (*p*=0.005) with OR 2.92 (95% CI = 1.39-6.15), indicating female participants had higher odds of advancing to the third phase of the recruitment process compared to male participants in the experiment group. No such effect was found in the control group (*p*=0.53).

Ethnicity & gender An interaction variable for ethnicity and gender was created and run in logistic regression analysis on the total sample and on the two groups separately. No effects were found on the interaction between ethnicity and gender in the total sample (*p*=0.48), the experiment group (*p*=0.50), or the control group (*p*=0.94).

Discussion

This study compared two recruiting methods, structured interview versus unstructured interview, in order to examine which method would result in less ethnic discrimination. Results showed that there was no significant difference between the groups on the distribution of ethnicity in participants at the third phase. Within the groups however, both the experiment group and the control group had a statistically significant effect on ethnicity at the third phase, after participants having undergone a recruiting process in the second phase. Swedish participants had a benefit of 298% higher odds of advancing from the second to the third phase of the recruitment process compared to non-Swedish participants, in the experiment group. Likewise, Swedish participants saw a benefit of 495% higher odds of advancing to the third phase of the recruitment process compared to non-Swedish participants in the control group. When controlling for gender the experiment group showed no significant effect. The control group on the other hand was still statistically significant even when controlling for gender, with an odds of 483% in favor of Swedish participants compared to non-Swedish participants in that group.

As for gender there were no effects to be reported between the groups before and after the recruiting process, the ratio between male and female participants was not significant after the recruiting process. However, effects were found within the groups on the total sample, which indicated that female participants had 129% higher odds of advancing to the third phase of the recruitment process compared to male participants, in the total sample. In the experiment group a similar effect was found showing female participants had 192 % higher odds of advancing, compared to male participants in that group. No such effect was found in the control group.

This study also intended to look at age as a control variable, but decided to not include it since age was not considered to be an important factor in this particular case. This is because the sample in this study had a very limited age range, which makes it difficult to talk about discrimination even if such a trend would have been found. Also the organization that participated in this study is not one to be believed to discriminate on age. Therefore age was taken out as a variable.

In conclusion, results indicated that recruitment benefitted Swedish participants significantly more than it did non-Swedish participants. Recruitment also benefitted female participants over male participants. This suggests that discrimination was present in the recruitment process. It is important however to point out that while some of these results may hint of discrimination, the study has not controlled for other important factors such as earlier work experience or education. With that said, even without controlling for such variables, it is still possible to assume that the results could indeed have been effects of discrimination, because this organization in particular and the entry level job it provides is not one that requires specific, if any, merits or earlier experience.

These results are in line with earlier research studies where employers benefitted certain applicants over others, based on their names. Those particular studies saw applicants with Swedish sounding names more likely to get a callback compared to those with Middle Eastern or Arabic sounding name (Stenberg, 2004; Carlsson & Rooth, 2007), much like the numbers seen in this study. Let us keep in mind though that in those experiments the participants' job applications were identical except for the name, meaning that when one applicant was chosen over another it was safe to assume that it was indeed discrimination. In this study, participants were real applicants that went through a real interview for a potential working position. This makes it more difficult to be certain if there was any hiring discrimination or if it could have been other factors, such as merits or interview performance. Detecting hiring discrimination in an interview process is more difficult, as in an interview it is no longer easy to point at a concrete reason or argument. With that said, it is not meant that discrimination does not occur in interview settings, only that it is more difficult to capture. In their research ILO (2006) could not find any effect in the final stage of their study, which consisted of an interview. As Pager & Wester (2012) argued, decisions by employers are always based on qualities that are more covert and non-distinct, making it impossible to know if they have indeed discriminated. Even if employers have discriminated, it could still be justifiable if they have based it on practical reasons such as language skills, one of the non-visible qualities that Carlsson & Rooth (2007) sheds light on. Also, we do not always judge rationally and our decisions are colored by emotions to different things, and this is sometimes a process that we are not even aware of (Zajonc, 1980), meaning that it is even possible to discriminate without the intention to do so.

As for discrimination on gender, this study found that female participants had an advantage over male participants in a recruiting process, which goes along with findings made by Edin & Lagerström (2006) and their review of the database of the Swedish employment agency. This could also be explained by the fact that female participants were more experienced than male participants.

This study had some methodological issues that ought to be addressed because they might have influenced the results. The main issue was the major loss in participants seen prior to the start of the recruiting process, where some sort of screening must have occurred before the recruiting process started, which was not part of the agreement. This posed a serious concern seeing as the sample went form 212 participants to 71 participants without any explanation. Whether there was any discrimination in that prescreening or not, is not possible to know. It can be argued that if indeed there was a premature selection, how many of those who were in the original sample were of non-Swedish origin? There were 12 non-Swedish participants before the recruiting process started, and it is safe to assume that there must have been more initially. One possible explanations to this whole situation could be that the experiment group had a much more effective recruiting process in terms of time and cost, and the methods used in this study (and the other studies conducted simultaneously) could handle large volumes of applicants in a way that did not require as much time and effort from the employers. On the other end, the organizations own recruiting method was a much longer process which may have led the employers to not follow protocol all the way when candidates could be found faster and cheaper. Another explanation might be that the employers simply saw fit to go about the recruiting in a less systematic way, seeing as they do not have specific manuals to follow. They have had no trouble with recruiting earlier and they are happy with the methods they use. Through confirmation bias, the employers may have become overconfident in their belief of the validity and effectiveness of their recruiting methods, and to that end acted in a way to further strengthen their belief, especially when it was being challenged by other methods (Nickerson, 1998). Whether this was the case or if it was simply a major dropout, or a result of resume reviewing, one can only speculate. No matter what the cause, this was a major influence on the outcome.

There is also fact that the employers were not blinded to the purpose of this study or the hypothesis, hence it can be assumed that they would be more self aware of their selection of applicants and perhaps less likely to discriminate on that basis. This is problematic of course because it was the employers that eventually did the selection of the applicants. Knowing the nature of what was being studied could not have gone by without affecting their selection.

Another important aspect to discuss is the credibility of a video-interviewing method such as ZeroLime on ethnic discrimination. What is it that makes this tool less susceptible to discrimination? One thing is for sure; this tool is designed as a structured interview (containing the same amount of questions and time limit for all applicants and they), which is a method that holds greater predictive validity for future job performance compared to unstructured interview and resume reviewing, and more importantly ZeroLime stands as less susceptible for subjective interpretations than an unstructured interview (Hunter & Schmidt, 1998). Consequently when using a more controlled method such as that of a structured interview, factors of biases and heuristics that may be present in a subjective judgment are eliminated. Thus it can be concluded that ZeroLime, by definition a structured interview, is less sensitive to discrimination. Furthermore, with an approach such as the one ZeroLime takes, applicants are allowed to present themselves on their terms with the chance to showcase their characters in a short period of time. This might force the employers to see applicants differently, hoping to base their decisions on the applicants' presentation and not on his/her characteristic qualities. If so, this could help employers come over prejudiced images they may harbor and help them provide a fair chance for each applicant. Moreover, ZeroLime could potentially also reverse discrimination to some extent. For instance an applicant may be eliminated on the basis of their resume because they had lived in another country their whole life and the belief that they may not speak very good Swedish may be assumed. The applicant is therefore tossed aside. However, after viewing a video interview of the applicant, employers may find that he/she speaks perfect Swedish and in this regard is

actually screened back into the recruiting process. This very tool might be the answer to why such a method would help lower discrimination

With that said, it does not mean that ZeroLime is free of discrimination. The validity of video interviewing on discrimination can still be disputed. Who is to say that this very tool does not in fact increase discrimination? It was earlier described that resumes give away information about the individual that may be used to discriminate. ZeroLime provides the same type of information and more. The employer can see applicants name, age, appearance etc. Thus if an employer has a preconceived idea or prejudice against certain ethnic backgrounds, seeing the applicant in person is likely to help the employer eliminate the person from the process. Let us imagine a scenario where a male applicant from the Middle East with a typical Arabic name and beard, is being interviewed. The applicant's appearance or the mere fact that he is from the Middle East might stir up some type of association in the employer's head. Is it possible to believe that this will not affect the employer in his/her selection? It cannot be denied that there is a probability that the employer might associate this applicant with the stereotypical image or idea held of that ethnic background, for instance "*he looks like a terrorist!"* This information might affect the employer more even if the probability of it being true is very small there is much more reported on all the crime some immigrants have made, and not so much on positive achievements, and so people may have more negative information available on people that fit this image, illustrating how our brain uses the availability heuristic (Tversky & Kahneman, 1973). Even without the visible qualities in an applicant, the mere fact that the name indicates a different ethnic background might be enough information to discriminate on. As illustrated in Tajfel et al. (1971) it does not take much to create the sense of in-group and out-group in people. If it was enough with just a label of how people performed on a certain task, to motivate people to judge and reward others, then how will employers rank and assess applicants if they are from a different nationality, which is a much bigger and more defined group?

With these different heuristics and biases in mind, one can speculate if employers really are rational and fair, and most importantly, non-discriminating in their assessment. More importantly though, these mechanisms seem to occur automatically and most of the time, implicitly, meaning that they are non-intentional. However, using methods that are more structured and less open to subjective judgment can really help diminish the risk of discriminating or basing decisions on such biases or heuristics.

Last but not least this study operationalized ethnicity in terms of names, which may not have been the best of methods. The coding of names was done by the authors and we based our categorization on whether we thought the names sounded typically Swedish or not, which is not a reliable method even if a persons name provides good indication of his/her ethnic background. Others studies on ethnic discrimination have used questions on ethnicity specifically, but in those studies ethnicity was studied mainly in terms of race (Robertso & Block, 2001; Pager & Western, 2012). In Sweden ethnicity is not talked about in the same way, and people most definitely do not have to provide this information when filling out forms or questionnaires, and so we felt it was difficult to justify why such a question should be included.

Future research should focus on the validity of video interviewing. Randomized controlled studies need to be conducted on this field where other variables such as earlier work experience, education and other merits are controlled for, and where the variables are defined in better terms. Research should preferably be focused on organizations that are believed to be more likely to discriminate on these different factors and where employers or hiring managers are not involved in the administrative part of the research, and consequently be blinded to the purpose of the research.

References

Brief, A. P. (1998). *Attitudes in and around organizations.* Thousand Oaks, CA: Sage.

Brief, A. P., Dietz, J., Cohen, R. R., Pugh, S. D., & Vaslow, J. B. (2000). Just doing business: Modern racism and obedience to authority as explanations for employment discrimination. *Organizational Behavior and Human Decision Processes, 81,* 72–97.

Carlsson, M., Rooth, D-O. (2007). Etnisk diskriminering på svensk arbetsmarknad – resultat från ett fältexperiment. *Nationalekonomiska Föreningen*, 3, 55-68.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. (2. uppl.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Diskrimineringslagen, SFS 2008:567. Retrieved on 17 november 2013 from http://www.regeringen.se/content/1/c6/11/19/86/4a2b4634.pdf

Edin, P-A och J Lagerström (2006), "Blind Dates: Quasi-experimental Evidence on Discrimination", Working Paper 2006:4, IFAU, Uppsala.

Finucane, M. L., Alhakami, A., Slovic, P., & Johnson, S. M. (2000). The affect heuristic in judgments of risks and benefits. *Journal of Behavioral Decision Making, 13*, 1-17.

Gatewood, R. D., & Feild, H. S. (2001). Human Resource Selection (5th edition). Orlando, FL: Hardcourt.

Gorman, A., C., (2013). Video interviewing linked to job candidate success. Retrieved on 7 december 2013 from http://www.prweb.com/pdfdownload/11190220.pdf

Haselton, M. G., Nettle, D., & Andrews, P. W. (2005). *The evolution of cognitive bias.* In D. M. Buss (Ed.), The Handbook of Evolutionary Psychology: Hoboken, NJ, US: John Wiley & Sons Inc. pp. 724-746.

Huffcut, A. I., & Winfred, A. Jr. (1994). Hunter and Hunter (1984) revisited: Interview validity for entry-level jobs. *Journal of Applied Psychology, 79,* 184-190.

Hunter, J. E., Hunter, R. F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin, 96,* 72-98.

Hutchinson, K. L. (1984). Personnel administrators' preferences for resume content. Journal of Business Communication, 21, 5-14.

ILO (2006), *Discrimination against Native Swe- des of Immigrant Origin in Access to Employment*, International Labour Organization, Genève.

Lord C. G., Ross L. & Lepper R. M. (1979). Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence. *Journal of Personality and Social Psychology, 37,* 2098-2109.

Marchese, M. C., & Muchinsky, P. M. (1993). The validity of the employment interview: A meta-analysis. *International journal of Selection and Assessment, 1,* 18-26.

McCrae, R. R., Costa, P. T. Jr. (2008). The Five Factor Theory of Personality. In. Oliver, J. P., Robins, R. W. & Pervin, L. A. (Eds.), *Handbook of personality: theory and research* (159-181*).* New York: Guilford Press.

McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91–125). Orlando, FL: Academic Press.

Myers, D. G. (2010). Social psychology. In. Myers, D. G. (Ed.), *Psychology* (672-721). New York: Worth publishers.

Nickerson, R. S. (1998). Confirmation Bias: A Ubiquitous Phenomenon in Many Guises. *Review of General Psychology, 2*, 175-220.

Pager, D., Western, B. (2012). Identifying Discrimination at Work: The Use of Field Experiments. *Journal of Social Issues, Vol. 68, No. 2,* 221-237.

Personuppgiftslagen (1998:204). Retrieved on 2 december 2013 from
http://www.riksdagen.se/sv/Dokument-
Lagar/Lagar/Svenskforfattningssamling/Personuppgiftslag-1998204_sfs-1998-204/

Roberson, L., & Block, C. J. (2001). Racioethnicity and job performance: A review and critique of theoretical perspectives on the causes of group differences. *Research in Organizational Behavior, 23,* 247–325.

Sjöberg, S. Svensson, C., & Sjöberg, A. (2011). Measuring and Assessing individual Potential (MAP). Svensk & Engelsk version. Manual. Stockholm: Assessio International.

Sjöberg, A., Sjöberg, S., & Forssen, K. (2006). *Predicting Job Performance.* Svensk version. Manual. Stockholm: Psykologiförlaget AB.

SOU 2005:115. *Avidentifiera jobbansökningar – en metod för mångfald.* Stockholm: Fritzes offentliga publikationer. Retrieved on 4 december 2013 from *http://www.regeringen.se/content/1/c6/05/57/08/72859fdb.pdf*

SOU 2005:56. *Det blågula glashuset – strukturell diskriminering i Sverige.* Stockholm: Fritzes offentliga publikationer. Retrieved on 4 december 2013 from http://www.regeringen.se/content/1/c6/04/61/88/496ba099.pdf

Statistiska centralbyrån (SCB), (2007). Fokus på arbetsmarknad och utbildning - Integrationen på arbetsmarknaden. Retrieved on 2 december 2013 from http://www.scb.se/Statistik/AM/AM9903/_dokument/Integrationen-pa-arbetsmarknaden.pdf

Stenberg, E. (2004), "*Rebin? Nej, tack. Fredrik? Ja, välkommen!"*, Dagens Nyheter, 5 september 2004.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *Journal of Social Psychology, 1,* 149-178.

Tversky, A. & Khaneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science, 185,* 1124-1131.

Wason, P. C. (1960). On the failure to eliminate hypotheses in a conceptual task. *Quarterly Journal of Experimental Psychology, 12,* 129-140.

Wiesner, W., & Cronshaw, S. (1988). A meta-analytic investigation of the impact of interview format and degree of structure on the validity of the employment interview. *Journal of Occupational Psychology, 61,* 275-290.

Zajonc, R. B. "Feeling and thinking: preferences need no inferences", *American Psychologist,* 35 (1980), 151-175.

ZeroLime. (2014). ZeroLime Interview Media Systems - Zims. Retrieved on 29 January 2014 from
http://www.zerolime.se/produkter_zims.aspx

Ziegert, J.C., Hanges, P.J. (2005). Employment discrimination: The role of implicit attitudes, motivation and a climate for racial bias. *Journal of Applied Psychology, 90(3),* 553-562.