



## Can Eye Movements Be a Predictor of Implicit Attitudes? Discrimination Against Disadvantaged Individuals During the Recruitment Process

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### Abstract

The present study examined the effect of eye movements during the recruitment process with eye-tracking technology as an indicator of negative implicit attitudes against disadvantaged groups. We composed eleven fictional resumes, and we asked the recruitment experts to hire the most suitable candidate for the position in the laboratory environment. The study used a mixed-methods approach. First of all, we evaluated the psychosocial characteristics of the participants. Then, we recorded the eye movements of the participants during the recruitment process. Lastly, we held interviews with the participants about their choices.

We concluded that the recruitment experts had spent more time examining the social identities of the candidates than the candidate's work experiences and educational background. Furthermore, we also found that the disadvantageous social identities of these candidates were more influential in the recruitment process.

As a result, we can say that our implicit attitudes affect our behaviors and preferences, and eye movements can be a useful tool in predicting intentions and implicit attitudes.

### Keywords

Discrimination in the Workplace, Eye Movements, Human Resource Management, HRM, Implicit Attitudes

## Introduction

Sigmund Freud's theory in the 20th century refuted the assumption that human behavior is mostly conscious, deliberate, and intentional. Many researchers pointed out the implicit, unconscious processes of human behavior with Freud's concept of the unconscious. (Greenwald et al., 2002; Greenwald et al., 1998; Rudman & Glick, 2001). One of the issues of this field is implicit attitudes; they are the attitudes that the individual is not consciously aware of (Greenwald et al., 1998). In the present study, implicit attitudes will be discussed together with unconscious discrimination and implicit bias.

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Anti-discrimination movements have spread across the whole world. Despite awareness-raising campaigns and legal sanctions, many studies show that discrimination against disadvantaged groups continues today (Smith, 2014; Burton et al., 2013). If so, do legal sanctions fail to prevent discrimination? Lee (2005) argues that legal sanctions can only prevent intentional discrimination. However, discriminatory behaviors continue in many different forms.

Some researchers claim that we learn prejudice and stereotypes starting in childhood (Clark & Clark, 1939; Quillian, 2006; 2008). Clark and Clark's (1939) study of children aged 3-7 years is one of the most striking examples of this statement. The children learn, develop, and internalize prejudices in their social life. Jean Moule (2009) makes a clear distinction between children and adults when it comes to prejudices. According to him, children can express prejudices more directly than adults without censoring. Adults, on the other hand, will not show their true intentions as clearly and explicitly as children.

Similarly, Gaertner and Dovidio (2005) argue that adults cannot express their discriminatory behaviors as explicitly as children due to the notion of "good people do not discriminate." Hooton (1937), therefore, says that people try to legitimize their prejudices and discriminatory behaviors. In a study by Schuman et al. (1997), a vast majority of Americans stated that they support equal treatment regardless of race. However, the results of the survey and the rate of the people exposed to discrimination were contradictory.

In a study by Norton et al. (2006), participants were asked to hire one of the two candidates for the position. One candidate was black, and the other one was white. Researchers manipulated the characteristics of the candidates, and they told the participants that the white candidate had more successful job interviews and slightly more experience. After the recruitment process, most of the participants hired the white candidate, and they claimed that the job experience was the reason for their decision. Then, the researchers changed the conditions and told the participants that the black candidate had more work experience, and this time, the participants stated that the successful interviews were the reason for their decision. The researchers noted that this was not consciously "lying," and unconscious tendencies affected the decisions (Shin, 2010).

Theoretically, the eye-mind assumptions reveal the extent of discrimination (Just & Carpenter; 1980). The eye-mind hypothesis indicates a strong causality between "the fixation of the eyes" and "the contents of the mind."

In this research, we examined the relationship between gaze behavior and the recruitment process. In this respect, the participants are assumed to choose the resumes that they spend some time examining. Eye-tracking technology helps us in determining the decision-making process and motivations (Russo, 2011; Gidlöf et al., 2013). The relationship between visual

attention and selection behavior are areas in the marketing and advertising sector. According to some researchers, visual attention plays an essential role in all of our selection behaviors through our eye movements (Maughan et al., 2007; Milosavljevic and Cerf; 2008). Krajbich et al. (2010) examined the causality between gaze behavior and selection behavior in a controlled study. In this study, the participants were asked to choose one of the two products. As a result, they chose the product that they gazed at the most. Shimojo et al. (2003) stated that gaze behavior affected our preferences and caused a bias, which was why the selected product was the one the participants gazed at more and fixated on more in the study.

In this study, we examined the implicit attitudes of recruiters towards disadvantaged groups during the recruitment process through their eye movements. We also investigated that among 11 resumes, which fictional resume the recruiters selected, and why they made this decision and how the unconscious processes affected their decisions.

## Method

### Participants

The participants were recruitment specialists who worked in the recruitment departments of companies in Ankara, Turkey. The age range was between 24-47 years old ( $M = 30.20$ ,  $SD = 7.60$ ). Amongst the selection criteria for the recruitment companies in the study was to be in the list of the top 500 companies determined by the Istanbul Chamber of Commerce (Istanbul Chamber of Commerce, 2017), out of which 24 companies, which were (1) the member of Ankara Chamber of Commerce, (2) had published policies such as the management of diversity in human resources recruitment and anti-discrimination policies in their official websites and (3) followed a policy in their recruitment strategies that provided equal job opportunity regardless of ethnic origin, sect, language, religion, gender etc., were selected to be included in the study. The reason why these criteria were applied was to understand whether the recruitment specialists would prioritize their own attitudes or the company's benefits in the decision-making process in the presence of the company's clear discriminatory policy. Another reason, as Baert et al. (2015) argues, was to prevent the legitimation of the discrimination by relying on the assumption that the "clients and employers" would not choose to work with someone from a disadvantaged group. Thus, if the recruitment specialist did not hire someone from a disadvantaged group, he would not be able to justify it as if he was trying to protect the company's benefit.

The human resources departments of these 24 companies were then sent an invitation, which included the information on the purpose, venue and time of the study. Fifteen out of 24 companies responded. Out of all the recruitment specialists who worked in the selected companies and agreed to take part in the study ( $N=15$ , Males = 8, Females = 7), 9 of them had a

bachelor's degree and the remaining 6 had masters or doctoral degrees. They were graduates of the Departments of Business Management (N=5), Psychology (N=3), Electrical and Electronics Engineering (N=2), Computer Engineering (N=1), Labor Economics (N=1), Economics (N=1), Mathematics (N=1), and Metallurgy and Material Engineering (N=1). While one of the participants was a graduate of Gazi University, the rest of the participants had all graduated from Middle East Technical University, one of the best state universities in the country.

## Materials

***Fictional resumes.*** 11 resumes were fictionally composed. The resume forms were prepared according to the standards of general application forms used in international companies operating in Turkey.

As well as work experience, information with respect to the candidate's health, previous convictions or demographical data were also included in the resume forms. The names of the companies were hidden so as to protect confidentiality. The determinants of disadvantaged group membership were specified to be i.) gender, ii.) sexual orientation, iii.) ethnicity, iv.) sect, v.) mental illnesses and vi.) former convictions. As a control, a neutral resume was also prepared without any information on identity or membership of a disadvantaged group. In one of the resumes, it was stated that the candidate was born and had completed his education and some early work experience in Holland in order to examine at what rate an applicant from Europe would be preferred over those from Turkey.

The birth dates of the fictional candidates were invariably fictionalized within a narrow range of 1993 to 1988 with a marital status of "Single". Since male obligatory military service might have possibly been used as one of the selection criteria, all male candidates were fictionalized as if they had already completed their service or held an exemption.

In the resumes, both male and female applicants belonged to different ethnical backgrounds so that we could test the double jeopardy hypothesis, according to which, candidates with a second disadvantaged group membership are exposed to more discrimination than those with a single disadvantaged group membership (Berdahl & Moore, 2006). In this case, it was thought that the first disadvantageous group membership was gender (i.e. being a female), whereas the second one was the sect or ethnic origin.

All fictional candidates had graduated from Turkish universities (Ege University, Dokuz Eylül University, Istanbul University and Marmara University) with similar levels of achievement, except for the one that was born in Holland. The aforementioned Turkish universities were chosen so as to have closer success scores according to the 2016-2017

Times Higher Education (THE) and URAP (URAP, 2017) listings. The fictional characters were graduates of Business Administration Departments and had completed their university courses within 4 years.

In terms of experience, all of the candidates were selected from companies in Turkey operating on fast moving consumer goods: Kraft Heinz Company, ADECCO, Mars INC., Pepsi Co., Johnson & Johnson, Nestle SA, Colgate-Palmolive, Pfizer Inc., Procter & Gamble, Kimberly Clark Turkey, Unilever Turkey.

All participants had computer knowledge of Microsoft Office. However, this information was presented in varying forms for the sake of credibility such as, Microsoft Word, Microsoft Package Programs, Office programs.

All candidates knew English at the Intermediate Level. The English equivalence table of the Council of Higher Education in Turkey was used to find the equivalent scores (Council of Higher Education, 2017) in the National Foreign Language or IELTS exams in order to introduce variability across different resumes.

Candidates' social identity in terms of sexual orientation, sect and ethnicity was expressed through memberships. The same method had already been used in previous studies on discrimination in the recruitment process (Bursell, 2007; Rooth, 2010; Ahmed et al., 2013; Drydakis, 2009). Realism was prioritized while giving clues about the discrimination group memberships. For this reason, social identities were not expressed directly, but were rather expressed as a sympathy for that identity. For example, in order to express the Alevi identity or Alevi sympathy of the candidate, it was written in the membership part as "Volunteer in the 4+4+4 Education System Project of the Federation of Alevi Associations". Although this statement did not provide any evidence that this person was Alevi, it still gave the impression that the person at least sympathized with the Alevi people and was in close contact with the community. Similarly to the religious sect identity, the same assumption was valid for the homosexuality identity, too. Here the assumption was that a person's positive attitude towards homosexuality would be enough for them to be discriminated against during the recruitment process.

Our study included both innate and acquired identities. In this context, the question was whether being an ex-convict or having a psychiatric disorder would cause any prejudice during the recruitment process. As previously emphasized, in some other countries, this information is kept as confidential by law, although it is still allowed in Turkey, thus, it was included in our current study. The presentation types of the identity information regarding the group membership/sympathy are shown in Table 1.

Format of the resumes such as the font size, font type and number of pages were all equated in different resumes.

Following the composition of the resumes was an assessment stage, where the resumes were evaluated in terms of their validity, credibility, and relevance to the purpose of the study by an arbitration committee. The committee consisted of 4 members who were faculty members from the fields of social psychology, industrial and organizational psychology and business administration, together with a professional who had 10 years of experience as a human resources specialist. All arbitrators agreed that the female candidates were more experienced than the male candidates. The resumes were finalized following the examination of the arbitrators.

Table 1  
*Expression Methods of Group Belongingness-sympathy*

Group belongingness or sympathy	Expression methods and membership associations
Belongs to an Alevi Group	I volunteered for the 4 +4 +4 Education System Project of the Federation of Alevi Associations.
Homosexual woman	Club of Lesbian Women in Professional Life, Izmir
Homosexual man	Lesbian, Gay, Transsexual Families and Relatives Association (LISTAG)
Male of Kurdish origin	Istanbul Kurdish Institute
Woman of Kurdish origin	Kurdish Research and History Association (KATED)
Foreign (neutral)	Elas Cyran (name) and the schools he studied tried to emphasize his ethnicity.
Ex-convict	I stayed in prison for 6 months due to evasion of enlistment.
Psychiatric illness	I spent one month in a closed psychiatric ward due to obsessive-compulsive disorder (in Bakırköy)
Psychiatric illness	I have been followed with schizophrenia for 2 years. (I have a no objection certificate for working as long as I receive the treatment. )

**Eye-tracking device.** Eye movements of the participants were recorded using a Tobii T120 recorder. Data analysis was conducted using Tobii 2.0.5 analysis software. The experimental part of the study was held in the “Middle East Technical University Human Computer Interaction Research and Application Laboratory”. The Tobii T120 is a computer with an attached 17-inch monitor (1280 x 1024 megapixels). The device can monitor and record from both the right and left eyes simultaneously with a degree error of 0.5 and a temporal resolution of 10 Hz.

**Demographic questionnaire.** In a typical Likert-type scale questionnaire, participants were asked to give ratings in the range of 1 (never...) to 6 (very...) over their demographic information and experiences in the business life. They were also asked questions on whether they had previously been exposed to any discrimination or had social relations with disadvantaged groups (and if so, to what extent). In addition, they were asked 1 question about their tendencies, for example, conservativeness, traditionalism, and authoritativeness. The reason why three tendencies were queried in one question rather than a scale was that if the scale was used, the number of questions would increase, and this would increase the total time of the experiment.

***Social identity scale.*** We added a social identity scale to the method section because we wanted to manipulate the possibility of bias that might be caused by the social identities of the candidates during the recruitment process. We distributed these scales to participants to see whether they were close to any of them. They were allowed to mark more than one, and they could also add a new section if they did not feel close to any of the given ones. We thought that it was unethical, or it might make the participant feel uncomfortable if we directly asked about the participant's social identity.

***Social dominance orientation scale.*** The scale was based on the social dominance theory of the researchers, and it measured the tendency of discrimination in the social hierarchy (Sidanius et al. 1994).

***Interviews.*** We used the face-to-face interview method and the semi-structured method during interviews. We formed the upcoming question according to the participant's answer to the previous question. The questions were generally about the participant's decisions. We used Socratic questioning and directed discovery methods to determine whether the participants had made any discrimination among candidates during the recruitment process.

## Procedure

Data collection took four days. We collected the data in the METU Human-Computer Interaction Laboratory. First of all, we informed the participants about the technical equipment, and we performed the calibration. After the calibration, we held a sample interview with each participant. We told the participants that the experiment had begun. The experimental part had three phases. In the first phase, the participants each examined all the resumes for the first time. We asked the participants to evaluate the resumes by using three criteria. The scores of these criteria (between 1 - not enough and 9 - exceeds requirements) would show the sufficiency of the educational background, the adequacy of the experience, and the competencies and characteristics of the candidates for the position. In this stage, participants were permitted to review the resumes for as long as they required, and they could move on to the evaluation questionnaire when they wished. After completion, the participant was not allowed to review the same resume again. In the second phase, we asked the participants to choose the three most suitable candidates along with the least suitable candidate. In this phase, each participant reviewed each resume for 45 seconds before moving on to the next one. They were not allowed to review the resumes again. After the participants finished examining all the resumes, we asked them to write down the three candidates (to place the best one in the first row) that they found the most suitable and the candidate that they found the least suitable for the position on a blank sheet of paper.

In the last phase, we gave the participants one more opportunity to review the three best candidates that they had selected. They reviewed all the resumes once more for ten seconds

and we asked them to confirm their choices. With this phase, we aimed to make sure that the participants did not get confused about the resumes due to the limited time. We also intended to use the time as a stressor to examine which part of the resumes the participants spent more time reviewing during the decision-making process.

## Results

### Comparison of Psychosocial Characteristics of Participants

We used the Friedman test to examine the psychosocial variables of the participants (such as conservativeness, traditionalism, authoritativeness, social dominance orientation, political view, and the effect of religious activities on daily life). According to the results, there was no significant difference between the participants in terms of psychosocial variables ( $\chi^2(5) = 9.796, p = .081$ ). The mean scores of the 15 participants regarding traditionalism, authoritativeness, conservativeness, the effect of religious beliefs, and political view was  $2.73 \pm 1.43, 3.40 \pm 1.24, 2.27 \pm 2.26, 2.40 \pm 1.72$  and  $2.60 \pm 0.82$ , respectively.

### Comparison of Perceived Proficiency Scores of the Fictional Candidates

We used the Friedman test to analyze whether there was a significant difference between the proficiency scores given to the first fictional resume (neutral male candidate). According to the Friedman test, there was no significant difference in perceived proficiency scores of the first resume ( $\chi^2(2) = 2.108, p = .349$ ). Significance results regarding perceived proficiency scores of other resumes are below in Table 2.

Table 2

*Results of the Difference between the Perceived Proficiency Scores Given by the Participants on the Resumes (Friedman Test)*

	$\xi^2$	df	p
1st Candidate's Resume <sup>1</sup>	2.108	2	.349
2nd Candidate's Resume <sup>2</sup>	1.902	2	.386
3rd Candidate's Resume <sup>3</sup>	6.865	2	.032*
4th Candidate's Resume <sup>4</sup>	7.644	2	.022*
5th Candidate's Resume <sup>5</sup>	1.682	2	.431
6th Candidate's Resume <sup>6</sup>	4.571	2	.102
7th Candidate's Resume <sup>7</sup>	6.333	2	.042*
8th Candidate's Resume <sup>8</sup>	21.808	2	.000*
9th Candidate's Resume <sup>9</sup>	13.220	2	.001*
10th Candidate's Resume <sup>10</sup>	9.905	2	.007*
11th Candidate's Resume <sup>11</sup>	4.909	2	.086



\*p< .05.

This resume belongs to the male candidate who is not given a social identity.

<sup>2</sup> In the membership section of this resume, it is written “I volunteered for the 4 +4 +4 Education System Project of the Federation of Alevi Associations.”

<sup>3</sup> In the membership section of this resume, an expression is written including, “Club of Lesbian Women in Professional Life”

<sup>4</sup> In the additional information section of this resume, it is written “I have been followed with schizophrenia for 2 years. (I have a no objection certificate for working as long as I receive the treatment.)

<sup>5</sup> This is the resume of a foreigner named Elas Cyran.

<sup>6</sup> This resume belongs to the female candidate (neutral) who is not given any social identity information.

<sup>7</sup> In the additional information section of this resume, it is written “I stayed in prison for 6 months due to evasion of enlistment.

<sup>8</sup> In the membership section of this resume, an expression is written including “Lesbian, Gay, Transsexual Families and Relatives Association (LISTAG)”.

<sup>9</sup> In the additional information section of this resume, it is written “I spent one month in a closed psychiatric ward due to obsessive-compulsive disorder”.

<sup>10</sup> In the membership section of this resume, an expression is written including “Kurdish Research and History Association (KATED)”.

<sup>11</sup> In the membership section of this resume, an expression is written including “Istanbul Kurdish Institute”.

In table 3, a significant difference was found between the proficiency scores of the third, fourth, seventh, eighth, ninth, and tenth resumes. The Wilcoxon Signed-Rank test was later used for the same resumes to have a deeper insight into the differences. The Wilcoxon Signed-Rank test scores are below in Table 3.

Table 3

*The Paired Comparison Results of Perceived Proficiency Scores (Wilcoxon Signed-Rank Test)*

	Education	Experience	Total	p
3 <sup>rd</sup> Candidate’s Resume	5 (4 – 8)	6 (3 – 9)	6 (3 – 9)	0.040* 0.013# 0.564+
4 <sup>th</sup> Candidate’s Resume	5 (2 – 8)	6 (4 – 8)	5 (3 – 8)	0.014* 0.458# 0.191+
7 <sup>th</sup> Candidate’s Resume	6 (2 – 8)	6 (4 – 8)	5 (3 – 8)	0.058* 0.087# 0.012+
8 <sup>th</sup> Candidate’s Resume	6 (2 – 8)	7 (3 – 9)	4 (1 – 6)	0.031* 0.001# 0.001+
9 <sup>th</sup> Candidate’s Resume	6 (2 – 8)	7 (5 – 8)	5 (4 – 8)	0.004* 0.714# 0.007+
10 <sup>th</sup> Candidate’s Resume	6 (2 – 8)	8 (5 – 9)	7 (1 – 9)	0.004* 0.714# 0.007+

\*: Comparison of Experience and Education; #: Comparison of the Total and Education; +: Comparison of the Total and Experience

In table 3, there was a difference in the proficiency scores of the candidates. For example, a significant difference was found between total proficiency scores and experience scores in the eighth resume. This difference was the difference between the candidate’s score of proficiency regardless of the other characteristics and the score of all the characteristics. The median value

was 6.000 for educational background and 7.000 for work experience, while it decreased down to 4.000 for all characteristics. Therefore, the other characteristics of the candidate negatively affected the educational background and work experience. In the beginning, we told the participants to evaluate education and experience regardless of the other characteristics. For example, the participants found the education backgrounds and previous experience of the eight resumes sufficient for the position. However, the candidate's perceived proficiency score decreased when the participants evaluated the resume as a whole. Since we manipulated foreign language knowledge and computer skills, we consider that disadvantaged group membership was the main reason for the decreased perceived proficiency scores.

It was the same for the tenth resume, which belonged to a candidate called Rojbin. We gave this Kurdish name deliberately after noticing that participants focused mostly on the candidate's names with the analyses of the heat maps of the second stage. The participants found the candidate's work experience sufficient (median=8.000), and they gave a score of a minimum of 5 out of 9. The candidate was also a member of a Kurdish history association. When the participants evaluated the candidate as a whole, the candidate's median value decreased to 7.000. This time the candidate's total score dropped below 5. It seemed that the association membership or the Kurdish name irritated the participants.

Moreover, when we examined the scores of a male and a female candidate who were both members of the Kurdish history association, we found that the participants perceived the female candidate less proficient. This result shows that membership of two disadvantageous groups means more discrimination from recruiters.

The effect of gender also existed between the third and ninth resumes. The third resume belonged to a female candidate, and the ninth resume belonged to a male candidate, and both of the candidates were members of a gender-oriented association. The perceived educational proficiency scores of the two candidates were close to each other, and there was no significant difference between them in terms of job experience. However, there was a significant difference between the perceived total proficiency scores. The overall rating of the resumes indicated that the third resume was considered more suitable for the job. This result shows that between a male and a female candidate, who were both members of the LGBT association, the candidates perceived the female more positively.

The candidate in the third resume was a member of the lesbians in professional life club while the candidate in the ninth resume was a member of the Lesbian, Gay, Transsexual Families and Relatives Association (LISTAG). The Mann-Whitney U test was used to determine whether there was a difference between the education, experience, and total proficiency scores. We aimed to examine the effect of the association memberships on the perceived proficiency scores. According to the Mann-Whitney U test results, there was no significant difference between the two resumes in terms of education and experience ( $p >$

0.05), while there was a significant difference between the total proficiency scores ( $z = -2.752, p < 0.01$ ). According to these results, the participants found the female candidate (Mdn = 6.000; min: 3 – max: 9) generally more suitable than the male candidate (Mdn = 4.000; min: 1 – max: 6).

### **Distribution Frequency of Initial Fixations Among Stages**

The participants became more familiar with the resumes after the first, second, and third stages. In this section, we examined the participant's first fixations and analyzed the frequency across the stages. We divided the fictional resumes into six parts to simplify the process. These sections were from top-to-bottom: Demographic Information, Educational Background, Work Experience, Computer skills, foreign languages, and hobbies (CFH), Membership information, and Additional information.

The participants examined the resumes for the first time in the first stage. The first section they looked at was the demographic information section. This finding was related to the characteristics of the Turkish language (top-to-bottom script direction). In the first stage, the first fixation results for demographic information, educational background, work experience, the CFH, the memberships and the additional information sections were 44.81% (SD = 11.55), 17% (SD = 8.66), 16.23% (SD = 9.63), 6.49% (SD = 5.93), 7.14% (SD = 6.38) and 7.79% (SD = 6.38), respectively. According to these findings, the participants examined the demographic information section more than the other sections in the resumes when they reviewed the resumes for the first time.

In the second examination, the participants already had an initial impression of the resumes. The first fixations were mostly at the demographical data section, with a rate of 29% (SD = 9.59) for all the resumes. And the results for educational background, work experience, CFH, membership and additional information were 10.38% (SD = 7.91), 27.92% (SD = 11.82), 8.44% (SD = 7.03), 12.33% (SD = 10.13) and 11.03% (SD = 11.42), respectively. Here, the difference between membership and additional information was remarkable. The participants realized that memberships and additional information sections were giving clues about the candidate's social identity. None of the participants looked at the membership sections of the ex-convict, the candidate with OCD and the candidate diagnosed with schizophrenia ( $N = 0$ ), the same thing was valid for the additional information sections of the candidates with gay, lesbian, Alevi, and Kurdish identities ( $N = 0$ ). Only for these resumes, the average first fixation rates increased for membership sections and additional information sections from 12.33% to 21.43% and 11.03% to 25%, respectively.

In the third stage, the difference between the departments regarding the first fixation widened to a greater extent. It decreased down to 18.82% for demographic data. It increased up to 10.38% for educational background, and work experience, CFH, membership, and additional information results were 24%, 7%, 30.95%, and 42%, respectively.

## Rankings of the Fictional Candidates

We required the participants to place all the fictional candidates from the most suitable candidate (rated as number 1) to the most unsuitable one (rated as number 11). The fictional candidate with the lowest average score was the most suitable. We used two different methods during the evaluations. First, we averaged the rankings, and then we presented them in terms of genders. The rankings are in Table 4.

Table 4

The comparison of the mean values of Norm Group

	NormM	Alevi	Lesbian	Schizophrenia	Elas	NormF	Ex-convict	Gay	OCD	KurdishF	KurdishM
	1	2	3	4	5	6	7	8	9	10	11
Mean Value	5.46	5.38	3.92	8.38	5.46	4.46	9.46	4.85	8.00	3.85	6.77
Mean Value of the Male Participants	2.33	5.00	3.86	9.00	5.71	3.86	8.14	7.86	6.57	4.14	6.86
Mean Value of the Female Participants	6.14	6.14	4.86	7.86	5.00	4.57	10.14	2.71	9.14	3.29	6.14

## Comparison of Heat Maps

Heat maps can reveal the sections of the resumes that participants are focused on the most (Dukowski, 2007). In this section, we examined the fixation changes among stages. As mentioned earlier, a total of 15 people participated in the study, however, one person with a total fixation recording rate of below 70% was excluded from the analysis. The heat maps are displayed for 14 participants (see below).



The remaining contents are presented in the appendices at the end of the text.

## Discussion

### Graph Interpretations of Initial Fixation Distributions Among Stages

The research assumes that “the initial look is always at the most effective part in the decision-making process.” We had a total of 14 initial fixation points for each stage. In the first stage, there were two paradigms of the initial fixations. The first one was due to the characteristics of the language as the participants were expected to look at the demographic information section first since the script direction of the Turkish language was from left-to-right and top-to-bottom. The second one was due to marketing science (Tatler, 2007; Atalay et al., 2012). According to this, participants looked across directly because their heads were naturally in the upright position. From this point of view, Atalay et al. (2012) state that the salesmen who desperately want to sell a product, should put it in the middle aisle in the supermarkets, that way the product would sell more, and people would remember it more. In the present study, the participants saw the demographic information section first as it was in the top part of the resume. In the second stage, the frequency distribution of the first fixations in demographic areas decreased in all resumes. However, in the 3<sup>rd</sup> stage, we believed that the participants were going to look at the parts that were most important to them within a limited time. The participants looked more at the membership sections of the male candidate who was a member of the Alevi association, the female candidate who was a member of the lesbian association, the female and male candidates who were members of Kurdish history association and the gay male candidate who was a member of the LGBT association. From this point of view, the participants seemed to examine the distinctive sections more than the other sections. So, they initially looked at the additional information parts of the resumes of the candidate diagnosed with schizophrenia, the candidate with OCD, and the ex-convict candidate as these sections were the most distinctive parts of the resumes.

The heat maps also proved that the participants mostly looked at the name and experience sections of the fictional candidate, Elaz Cyran. This resume lacked membership information. This finding supports our assumption that a piece of different information creates a distinction among resumes. As for the resumes without any membership information, the first fixations were mostly on the experience and demographic information sections. To sum up, participants paid more attention to the membership sections than the educational details, work experience, computer knowledge, and foreign language sections. Moreover, their unconscious fixations affected the candidate rankings and caused unconscious discrimination. The heat maps supporting this assumption are below.

### Interpretation of the Heat Maps

The real extent of the discrimination is usually not revealed with research based on oral statements as the participants are usually not aware of the origin of their actual behaviors.

Eye-tracking is a method that reveals “the reality” rather than an analysis of the socially acceptable statements. Eye-tracking technology also provides a more objective study of the visual-cognitive aspects in decision-making processes. (Gidlof et al., 2013; Henderson, 2008). As eye tracking is a new technique, its use in decision-making processes is limited (Blondon et al., 2014). The developments in neuro-marketing recently proved that the consumers were not always making conscious and rational decisions when purchasing products (Babiloni, 2012). From this point of view, we consider that the unconscious affects decision-making processes in the new marketing strategy approach. Moreover, consumer behaviors cannot be explained only by oral statements and it is now a necessity to understand the unconscious and the emotional reactions of the consumers as well (Aierly & Berns, 2010; Damasio, 1994; Zaltman, 2003; Giray & Girişken; 2013; Girişken, 2017). In our study, the unconscious played a vital role in recruitment expert’s decisions. Although the recruiters stated that they were searching for a candidate with the most suitable work experience and the best educational background, the candidate’s belonging to a group was also an active factor in decision-making processes. In this study, we interpreted eye movements through heat maps. What makes heat maps more preferable is that they reveal the frequency and duration of the eye fixations. (Dukowski, 2007). In the present study, the heat maps defined the period (in seconds), and the frequency of the fixations at a certain point.

Studies show that looking at a specific visual stimulus for a longer time than any other incentives indicates that this area attracts the most attention (Deubel & Schneider, 1996; Hoffman & Subramaniam, 1995; Kowler et al., 1995). Just and Carpenter (1980), in his eye-mind hypothesis, revealed a strong causality between “where” the eye fixated and “what” the mind processed. From this point of view, we can assume that the most prolonged fixations are on the “most effective” areas in the decision-making processes in this study. The heat maps revealed that, in the first stage, the fixations were scattered all over the area; in the second stage, it narrowed down to the work experience section, and in the last stage, the red area only focused on the name and this data supported our hypothesis. In the resumes of the OCD, candidate diagnosed with schizophrenia, and ex-convict candidates, the fixations were expected to be in the additional information section. This result suggested that the participants made a distinction between the parts of membership information and additional information. The fixations were on the membership sections of all resumes with social identity information.

The distribution of the fixation areas was also significant. In the first stage, the fixations were scattered across all areas of the stimulus; in the second stage, the red areas gathered in certain narrow areas and in the last stage, the red areas narrowed more and became more intense and more specialized. This distribution shows that recruitment experts made general-to-specific reasoning during the recruitment process. They first considered the candidate as a whole, and then they eliminated some of them due to their criteria. Lastly, they focused on the most critical part when giving the final decision.

## Ranking of The Eleven Resumes

We asked the participants to place 11 resumes from the most suitable candidate to the least suitable. Later, we compared the heat maps of the first fixations during the ranking. We believe that the participants looked at the areas that were most important to them, and their fixations affected the rankings. We had manipulated the identities of the candidates in terms of ethnicity and sect variables to prevent positive discrimination. The participant, EP2, identified himself with his Kurdish identity, so he was not included in ranking analyses. The fictional candidate with the lowest average score was the most suitable candidate for the position. The higher the average, the more unsuitable the candidate was for the job. The most suitable candidate was Rojbin, who was a member of the Kurdish Research and History Association (KATED) with an average of 3.85. This candidate ranked in the first place by four participants. The candidate, who was a member of the Lesbian Businesswomen Association, was next. The female candidate, without social group identity, ranked in third place with an average of 4.46. The male candidate who was a member of LISTAG, came forth, and the fifth candidate was the one that came from Holland. The participants selected the best candidates among the females. This expected result proves that the candidates ranked regardless of their disadvantaged group memberships. This finding correlates with the verbal statements of the participants stating they were cautious about not discriminating during the interviews. The lowest average belonged to the ex-convict candidate with a score of 9.46 out of 11. We expected this result, and we separately analyzed the average ratings given by the male and female participants to notice the ranking differences. The male participants selected the male candidate without social identity information as the most suitable one with a score of 2.33, and they put the female candidate without social identity information in the third rank with a score of 3.86. This finding proves that the male participants had discriminated against candidates. The male participants were supposed to choose one of the female candidates as the fictional resumes of the female candidates were constituted with a lot more work experience and with more senior job titles than the male candidates. The male participants also discriminated against the participants with the disadvantaged group memberships as they put another female candidate without social identity in the second rank. This behavior proves that the severity of the discrimination increases with the number of disadvantaged group memberships. For example, a Kurdish woman faces discrimination due to both her ethnicity and gender. This finding is called the “double jeopardy discrimination hypothesis” in the literature, and it is consistent with previous research (Berdahl & Moore, 2006; Deros et al., 2014). In the third rank, there was the female candidate with the membership of the Lesbian Businesswomen Association. The participants thought that as a member of such an association, this candidate had a “masculine” characteristic. The male participant, EP5 stated:

“What matters most to me is work experience. Oytun worked as an expert for 19 months. Her membership in Lesbians in Business Life made me think that she had courage. You know,

these things are not prevalent among us. (Well, does her membership give us an idea of her characteristics?) I believe she also has a strong personality in business life. It is not easy to get accepted like this. I can imagine that she is ambitious, competitive, and highly persuasive. (Well, do you think that means you favored this candidate because of her membership?) No, because everyone mentioned their memberships. Not everyone can think of such things. This candidate made a difference.”

This comment shows that EP5 was justifying his bias in some way. Remarkably, this justification originates from an unconscious tendency. Another finding that supports this view is that the eight candidates (a member of the Lesbian, Gay, Transgender, Families and Relatives Association (LISTAG)) ranked ninth. This candidate was right before the ex-convict candidate, and the candidate diagnosed with schizophrenia and the participants chose him as the third most unsuitable candidate. EP3 was the participant who placed this candidate last. He stated:

“(In your opinion, Mustafa is the most unsuitable candidate for the position. Well, what makes him the most unsuitable?) Why didn’t we like Mustafa? First of all, I do not have any issues with his memberships. However, to me, the candidate seems like a spirited person, and this might lead to mistakes. (Can’t this dynamism and excitement be used more positively by the managers?) Of course, it can, but for example, Mustafa seems like a sensitive person to me. I mean, he is an emotionally intense person. This sensitiveness may cause him to lose his objectivity when doing his job. He might decide under the influence of his emotions. Other than that, I do not care about his memberships. “

EP5 also discussed the reason why he placed the same candidate at the bottom. He stated:

“(…) (Well, you have chosen Mustafa as the most unsuitable person to the position. What is the main reason for this?) First of all, I could not think of any other name. I later noticed that I only remembered the best candidate. I wrote the best ones down, and this way, he came at the very last (long pause) I chose the best eleven very quickly, and I placed him there totally by chance.

Freud, one of the founders of psychoanalysis, states that pausing during a speech indicates a resistance or a defense mechanism. (Yalom, 2000; McWilliams; 2016), and most often, this can occur unconsciously. It is also remarkable that the participants referred to the identities of the candidates by mentioning their membership information.

All fictional candidates were neutral in terms of social identity. For example, there were no expressions like “I am gay” or “I am Kurdish.” A gay person could join a gay association, and a gay person could also join the same association for support. Memberships did not give specific information about the ethnic origin, sect, sexual orientation of the individual. However, the participants mostly chose to take the membership information as a reference to the identity. This false reference might lead to discriminatory decisions given by unconscious tendencies. During the decision-making process, one participant stated:



“(What are your criteria when evaluating candidates?) I examined work experience, but they were almost the same. So, I considered the internships. They were not very different, either. I checked the name of the companies. After that, I searched for clubs or something. All the resumes looked near enough the same to me. I did not care much about their English language knowledge, as the position was in Turkey. After all these, only their membership information left. That is why the memberships affected our decisions. “

The bilateral interpretation was useful when interpreting the rankings. For example, the lesbian female was discriminated against because of her sexual orientation when compared to both the male and female candidates without social identity information. However, she had taken precedence over other participants. The lesbian candidate was possibly readily accepted and given priority due to her “masculine” characteristics. This finding is consistent with other research findings (Berg & Lien, 2002; Black et al., 2003;). The female candidate who was a member of the Kurdish Research and History Association was in the fourth rank. This result showed that the male participants placed importance on work experience only after they placed the candidates without social identities in the higher ranks. So, the membership information was more effective than work experience in the decision-making process.

The most preferred candidate of the female participants was the so-called gay candidate. The male participants placed the same fictional candidate ninth during their selection, yet the female participants chose him as the most suitable candidate. The female participants were thought to have developed sympathy for the candidate who was presumed to be gay. We can call it a kind of positive discrimination. One of the female participants stated:

“(Well, what is the difference between the participants Berk Soylu and Mustafa Ates? You placed one of them as the 2<sup>nd</sup> and put the other one in the last place) (...) As I said, there was not much difference between them. However, Mustafa (supposedly gay) is a member of the gay association. I do not have any issues with gays; this only made me think that Mustafa might be more understanding. (Berk said he was a member of the TEMA Foundation. He also takes part in volunteering projects. So, what is the difference between these two?) I might have given this decision under the influence of my notions. I believe LGBT associations should be more in the forefront. Okay, humans exploit and destroy nature as well,, but sometimes people can become invisible because of their preferences. I hear a lot about how these people face discrimination. He identified himself as gay, which was a courageous thing to do that no one would ever dare. Other recruiters might eliminate him straight away upon such a statement. I think he wrote this information in his resume for a reason, maybe to defend his belief. I do not want this person to experience discrimination because of his preferences. Similarly, if he faced discrimination before, he would be more sensitive in his job.

Female and male participants ranked the most unsuitable candidates differently. The most unsuitable candidate for male participants was the candidate diagnosed with schizophrenia

(mean score: 9.00), while it was the ex-convict candidate (mean score: 10.14) for the female participants. There was also a remarkable score difference between the two candidates. The participants discriminated due to sect, sexual orientation, and ethnicity under the influence of their implicit attitudes. Although the participants revealed their negative attitudes and judgments against the most unsuitable candidates, they were still totally unconscious about their discrimination. In other words, not employing someone because of their mental state or imprisonment status was not discrimination according to the participants; it was a way of protecting the company and other employees, and a way to legitimize their discriminatory behaviors and implicit attitudes. Here is what a male participant stated about placing the candidate with schizophrenia at the very bottom:

“(In your opinion, what makes this candidate the most unsuitable?) A patient with schizophrenia. Even if he has a report, it does not make any sense to me that he can work one-on-one with anyone. It is more logical that he works more in the background. (Which part of the job do you think he might not be able to accomplish as a candidate diagnosed with schizophrenia?) Ultimately, he will be hiring people. His condition might affect his decision-making process. He might evaluate people in a short time. Another office position might be more suitable for him. I do not think he should work among many people. (Can you tell if a person has schizophrenia when you see this person?) No, but if he has to decide for me, I do not want this decision to be affected by his condition. (In this case, if you cannot tell about his condition, you would never know what affected the decision about you. Do you think there is anyone around you who has schizophrenia?) No. (Well, have you ever read about schizophrenia or heard about it from media?) Yes. (So, what are the characteristics of schizophrenia patients?) For example, they can see things that no other people see. Alternatively, they have difficulties in distinguishing between dreams and reality. (So, this person said that he had his treatment and has a “no objection certificate” from the doctor. Did you consider this information when you were evaluating this person?) No, I did not mean that he should not work. I only say that he cannot work with other people. (Well, do you think you discriminate against this person’s condition?) No, because his situation does not let him move forward, not me. Lastly, I was looking for a person who would work with other people. As a human resources specialist, I should also hire the best candidate. This person is not suitable for the job.

EP4 also placed the candidate diagnosed with schizophrenia at the very last. He stated:

“(…) One of them is Alevi, the other one is a lesbian, and the other one has schizophrenia, maybe I am a little uneasy about the candidate diagnosed with schizophrenia one. It may also be because of my ignorance. My anxiety may result from my ignorance.”

From this point of view, attitudes towards the candidate diagnosed with schizophrenia might have resulted from the lack of knowledge. We think that the participants could have

acquired negative opinions about mental disorders through media and misinformation, or a lack of information might have led to negative attitudes and discrimination. Other studies confirm that people with mental illnesses are discriminated against in work life due to the lack of knowledge about other people around them (Lee et al., 2006). From this point of view, Hinshaw and Cicchetti (2000) suggest that discrimination would stop when anti-labeling programs become widespread. However, giving information is not enough on its own to prevent implicit attitudes and stigmatization, yet its effect could be weak and short-lived (Hinshaw & Cicchetti, 2000; Stuart & Arboleda-Flórez, 2001). In this case, social relationships help a great deal in preventing discrimination (Whitley, 1990). The participant, KP2 stated:

“I observe the people around me when they have such kind of illnesses. Unfortunately, although it is genetic, I decided not to hire them as well. (Well, in his resume, the candidate said he had the treatment, and the illness would not reoccur as long as he continues the treatment. Has this statement affected you?) There are six schizophrenic patients, undergoing treatment right now, around me. Moreover, upon seeing what happens in their lives when they do not take their medications, I would not want to take this risk in the workplace.”

The participant, KP5 stated:

Would he confuse the real with the unreal? Would he have problems with the applicants during the interviews? I mean, I do not know, he could get angry over minor things at the very moment and might go furious suddenly. He might be suspicious. (Have you ever heard about schizophrenia?) I checked it online. I did not read a scientific material about it, but for example, I heard that they start fights quickly. I could not trust him because I do not have enough knowledge about them, but I guess I would not like to work with them.

Female participants decided that the ex-convict candidate was the most unsuitable one. This result was due to the prejudices of women who did not feel safe when they worked with ex-convicts. They claimed that the ex-convicts always had the possibility of re-committing the crime, and they were usually irresponsible. The participant, KP1 stated:

“(…) (Well, you placed the deserter in the last place). Well, he escaped from the army, I mean, it is not hard to postpone such a thing. If he is avoiding such a responsibility, he can also flee from other duties too. Of course, the fact that he spent time in prison already develops a stigma. The fact that he had escaped from being a soldier means he might escape from his responsibilities, as well. “

The participant, KP2 stated:

“The reason I put the convicted candidate in the last place is about responsibilities. He did not postpone his military service while he could. That means he is an irresponsible person.”

The participant, EP8 stated:

“There is another reason I placed this candidate at the very end. He is an ex-convict. Especially in large companies, people are more likely to be tolerant of different identities. However, in today’s business world, I thought someone with a criminal record could not work comfortably with his colleagues. For example, if this person has a criminal offense not because he is a deserter but because he has committed a crime of thought and is accused due to a legislative bill, then I would not still support this previous idea. However, if it were because of infamous crimes, I would put him right in the end as well. (What would you decide if he was involved in a political crime?) He would be in the higher ranks. Because his crime would have nothing to do with the regulations in the workplace. I would think that he still might be able to work cooperatively with his friends.”

As mentioned earlier, both male and female participants differently interpreted the lack of social identity in the resumes. The female participant, KP2 stated:

“(Is there anything you want to add?) I noticed that people said that they are Kurdish or Alevi in their resumes. I believe that people who do not reveal that they are Turkish, Kurdish, or Alevi are superior to others. I am a human being; my habits are these; for example, I am a hardworking person. I believe this person becomes more subjective when he/she depends on these identities through memberships. That is like using a superscript when introducing and identifying yourself. For example, when I was introducing myself, I only marked that I am an atheist and a woman. I want to introduce myself that way. That is why I do choose someone that I introduce himself/herself with such characteristics. For example, when I ask, “Who you are?” I do not want this person to say, “I am a gay, I would rather him say, “I am a human being.” I am looking for someone who claims he/she is a world citizen and who can think broader.”

KP2 is the only participant who put the first resume in the higher rankings. KP2 said that a resume without identity information was a result of the marginalization process. Out of a male and a female candidate without identity information, KP2 placed the male candidate in a higher rank. The participant, KP2 stated:

“Yes, the first candidate did not indicate he was either Turkish, Kurdish, or gay, so I placed him in the second row. For example, Aylin is in the third row, and she also did not mention anything about her identity either. There was only one woman among the first three people I have chosen. (Well, from this point of view, can we say that you placed the male candidate Berk before the female candidate Aylin?) Err. Unconsciously maybe. However, I did not do it on purpose. I did not think of that. However, Aylin only slightly falls behind Berk.

As we mentioned earlier, if the participants had prioritized work experience, they would all have chosen the female candidates. However, their decisions might have been negatively

affected by unconscious tendencies. This participant, despite being a woman herself, positively discriminated in favor of males. Persistent exposure to discrimination can lead individuals to internalize the prejudice and may cause the victim to start discriminating against disadvantaged groups. This finding is consistent with Clark and Clark's trial in 1939. In the study, the black children chose the white baby as the best one, just like the female participant, KP2 chose the male candidate among female candidates.

### **Limitations**

The first limitation of this study was the number of participants. We constituted the study around eye-tracking data and, we supported this data by collecting data through scales and interviewing methods. Due to the small number of participants, we could not specify and calculate the population, samples, or study samples. We defined the people who took part in the study as "participants" rather than samples. Due to the low number of participants, we could not conduct the reliability and validity studies of the social dominance scale used in the study. Another limitation was that we included the people living in Ankara because the laboratory was in the Ankara Province. We believe that it was also a confounding factor that 6 of the participants had completed an MA or a doctoral degree, and 3 of them were psychologists. Human resources departments attract many graduates from all fields. Many graduates from various areas have the chance of working in human resources departments with a certificate taken from other institutions due to the legal gap. Our participants consisted of highly educated human resources experts who had training in discrimination, prejudices, and psychology, and they were aware of discrimination during recruitment processes. This fact had a moderating effect on our research. We believe that upcoming studies on discrimination might achieve more realistic results by including participants who graduated from other departments. Likewise, the researchers' average self-concept of traditionalism, conservatism, and authoritarianism is lower when compared to society in terms of the psychosocial variables. The overall aspect of the results and candidate rankings of HR experts, who identify themselves as conservative, right-wing supportive, authoritarian, or traditional, is an issue of concern in the upcoming studies.

### **Inferences and Conclusions**

We concluded that unconscious bias has an effect on choices and implicit attitudes and this effect is possibly the reason for the prejudices against disadvantaged groups. Accordingly, we examined whether tracking of eye movements was an experimental method that could be used in the investigation of implicit behaviors. As far as we know, this study is the first study examining whether eye movements might be a measurement tool for implicit behaviors. We analyzed eye movements as a predictor of implicit behaviors in the context of job interviews. We examined whether there is a qualitative relationship between "the place that they look

at” and their choices. Also, this study used an experimental method which separates it from other studies investigating discrimination during the hiring process. Using objective methods in obtaining data is vital for reliable results in studies to be conducted regarding variables that may behave according to social desirability. Remarkably, our participants declared that they had chosen the best candidate for the benefit of the company. However, their profiles regarding resume evaluations were based upon the differences of the fictional candidates.

The sample of the study consists of a particular population regarding psychosocial variables. Studies on discrimination indicated that low-educated individuals with high scores of traditionality and conservatism were clearly found to discriminate more against the others. Regarding the scale scores, 6 out of 15 participants were postgraduates and they described themselves as being below average in terms of psychosocial variables (Bilgin, 2013). Also, all the companies that the participants had been working for clearly defined their anti-discrimination policies in their hiring policies. Regarding their professions, the participants were senior executives in companies regarded as being in the top 500 companies in Turkey, and they had experience in hiring. Despite the features of these profiles above, they also had a mindset of implicit bias and thoughts of ill-intentioned discrimination. Although the participants defined themselves as “more humanistic, less prejudiced, less discriminatory or more humane,” the verbal statements should be considered as they do not always reflect the real actions. In our study, the oral statements of the participants similarly did not match with their unconscious discriminatory decisions. During the investigation, we examined the proficiency score differences among the fictional resumes, and we analyzed the fixations through the eye-tracking data and confirmed the results with interviews. However, more studies should be carried out with more participants to generalize these findings. Finding resources and training that raise awareness of discrimination might also help to reduce this kind of attitude. The participant, KP7 stated:

In your research, I think you observe how liberal and conservative the people are and to what extent they accept differences. People might give you socially acceptable answers. I am also a little uneasy about that. Someone might have the same motives as Hitler, but I do not know if we can reveal this with such a questionnaire.”

This comment is an excellent example of the necessity of questioning research that attempts to measure discrimination and prejudice through scales. According to the participant, social desirability can easily manipulate the responses. Therefore, different methods should be carried out to predict true intentions. In this study, we used eye-tracking technology to measure unconscious tendencies. The results of the experiment show that eye-tracking technology is a useful tool to understand intentions and implicit attitudes.

Both the results of our study on implicit attitudes and on unconscious tendencies, and the studies on this area from past to present (Clark & Clark, 1939; Schuman et al., 1995; Steele &

Aronson, 1995; Correll et al., 2002; Norton et al., 2006) revealed that the parents' prejudices against disadvantaged groups pass onto the child through social and political environment, in which the child is born and raised, and through media. Legislators are supposed to solve this problem. Although Lee (2005) argues that legal sanctions are not effective in preventing unconscious discrimination, legal penalties are considered necessary to fight against discrimination.

In terms of business disciplines, differences are known to create a chaotic environment, and HR managers are responsible for dealing with this so-called chaotic situation. Some of the suggestions for them are listed below:

- To turn anti-discrimination practices into written policies and to implement these policies effectively,
- To create a serene environment for employees with differences to work cooperatively, to let the brand identity unite the employees, to reduce perceived individual differences among employees and to cherish the similarities,
- To place importance on teamwork, communication skills, and awareness training,
- To adopt human rights and equality concepts as the company's highest value, to ensure they are adopted and to put these concepts in practice,
- To implement forms and procedures in a more humanistic way without discrimination, especially when making recruitment assessments (for example, not to ask female candidates about their marital status or not to ask questions to newly married female candidates indicating whether they intend to have children or not, and to ask the candidates to remove photos from their resumes).

We consider that the above recommendations are useful at least in reducing discrimination.

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## Appendices











