Are We Under the Influence of What We See? The Power of Body Tattoos in a Job Interview

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A Thesis in the John Molson School of Business

Presented in Partial Fulfillment of Requirements
for the Degree of Master of Science (Management) at
Concordia University
Montreal, Quebec, Canada

September 2021

CONCORDIA UNIVERSITY
School of Graduate Studies

This is to certify that the thesis prepared

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Entitled: Are We Under the Influence of What We See? The Power of Body Tattoos in a
Job Interview

and submitted in partial fulfillment of the requirements for the degree of

Master of Science (Management)

complies with the regulations of the University and meets the accepted standards with respect to

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Abstract

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Fair treatment of employees is an important ethical question. With the increasing number of tattooed workers in the workplace and on the job market, their work experience and the treatment they receive deserve more attention. To date, however, very few studies have focused on such a niche group of employees. The intention of this study was to offer insights on the experience of tattooed individuals in job interviews. Using an experimental design, this study examined the influence of visible tattoos on hiring decisions and interviewers' evaluations. Participants (N=233) were recruited online, in China, and they were assigned to one of four experimental conditions: tattoo vs. no tattoo job applicant and entry-level vs. managerial positions. The results show that applicants with visible tattoos had decreased chances of being hired. Interviewers in the study were also more likely to perceive the virtual job candidate with tattoos as less competent, especially when hiring at the management-level position. These results serve to raise awareness around biases and stereotypes experienced by tattooed individuals seeking employment.

Acknowledgement

I would like to take this opportunity to thank my supervisor, Dr. Kathleen Boies, for her invaluable help during this process. I would also would like to thank my committee members, Dr. Linda Dyer and Dr. Yu-ping Chen, for their help along the way.

I would also like to thank my family for their support during my studies.

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Introduction

Discussion of equal rights never ceased, the ongoing discussion of equal rights includes topics ranging from ethnicity to gender equality. With minority social groups' appeals for equal rights in various social settings, society has devoted much attention to addressing these inequities. Those appeals have extended to equal rights in the workplace, facilitating the emergence of laws and regulations, such as Title VII in 1964 in the United States, which prohibits discrimination against race, colour, religion, sex, and national origin in the workplace. To an extent, rules and regulations protect minority workers from employment discrimination. Though discrimination and stereotypes still exist (Banks, 1988; Fiske et al., 2018), minority group workers have more legal protection today, compared to the early 20th century (*Title VII of the Civil Rights Act of 1964 | U.S. Equal Employment Opportunity Commission*, n.d.).

Under the protection of laws and regulations, minority groups have gained access to more work opportunities; however, the working conditions for minority groups are still insecure. Researchers investigating the employment opportunities for minority groups found that they are still victims of negative perceptions and bias. More specifically, researchers have shown that gender and race still influence the decision-making process in the workplace, particularly regarding hiring decisions (Heilman, 2012; Jacoby-Senghor et al., 2016; Kent & Moss, 1994; Mor Barak et al., 1998; Price, 2012; Xu & Leffler, 1992).

In addition to studying employment discrimination for traditional minority groups, scholars have also studied inequality based on other features, such as appearance, in the workplace. Recent research has demonstrated the negative influence of appearance and body features, body weight, and attractiveness in the interview process (Dipboye et al., 1978; Larkin & Pines, 1979; London & Hakel, 1974; Pingitore et al., 1994).

An emerging physical characteristic that could alter one's appearance is the tattoo. Although nowadays, tattoos are usually for cosmetic purposes, they have a religious origin. In ancient times, tattoos usually symbolized healings or holy marks. With the spread and expansion of tribes, tattoos also became a sign to mark members of the same tribe (Hambly, 2009). Similarly, modern-day tattoos began symbolizing affiliations. More specifically, tattoos showed the wearer's identity and their belonging to particular groups (DeMello & Rubin, 2000). Military and gang tattoos usually serve to define the latter.

Today, tattoos carry less weight. Enthusiasts get tattooed for personal purposes, and the meanings have changed from the ancient time (DeMello & Rubin, 2000). As painful as the process may be, those images sometimes carry more than just cosmetic value: they may also hold spiritual meaning (Rush, 2005), for example, to remember or to demonstrate faith. However, these meanings are mostly overlooked, and the public still tends to remember when tattoos were mainly seen on gang members or soldiers. As a result, people with extensive visible tattoos can be the subject of negative stereotypes, based on their tattoos.

Let's imagine a job applicant named Anna was preparing for a job interview the next day. She looked through her wardrobe and to decide what to wear for her job interview. She chose a short-sleeved shirt, but then realized it would not cover the tattoos on her arm. Without hesitation, Anna pulled out a long-sleeved shirt to hides her tattoos, although wearing a long-sleeved shirt in the summer might seem a bit odd. Anna might not have reacted this way if she had not anticipated the interviewer's assumptions about her tattoos. It did take some time for her to overlook people staring at her tattoos on the street and in the workplace. Although those close to Anna do not pay too much attention to her tattoos, she has overheard people talk about them. This instance is not fictional but reality.

By the year 2012, about one-quarter of Americans had tattoos. About one in three people between 18 and 29, who were preparing or just entering the job market, had at least one tattoo (*Tattoo Statistics - How Many People Have Tattoos?*, n.d.). Tattoos can also be perceived negatively, and associated with traits such as violence or lack of self-control (Miller et al., 2009), with the actual quality of the candidates being undervalued. There is a vast amount of applicants with at least one tattoo. The current study will specifically address the influence of tattoos on hiring decisions, based on simulated interviews.

A second objective of this study is to determine whether or not the type of position for which one is being interviewed has any effect on the hiring decision. Specifically, we want to know if the visible tattoo will impact hiring decisions for entry-level positions and management positions differently, since the general population has a particular perception of leaders (upper-level positions). Leadership prototypes refer to the perceptions that others have of "ideal leaders" (Popper & Druyan, 2001). This prototype suggests that interviewers are likely to have a concrete expectation of a leader despite their working abilities, which is not expected to include visible body arts. Moreover, managers and leaders hold the same stereotypes, whether or not they are themselves tattooed (Morton, 2017), which suggests that interviewers with tattoos are equally likely to hold stereotypical views of managers in an interview, just like other appearance and body features.

Today, we emphasize the importance of equality, elimination discrimination, and seeing beyond a person's appearance; we also care about hiring the right person for the right job. As we try to evaluate candidates, is it possible that their "book cover" influences us? This thesis will explore stereotypes toward tattooed individuals in the interview process for entry-level and manager-level positions. There is an urge to understand this process; however, there is currently

not much attention devoted to the topic. Given the prevalence of tattoo wearers currently on the job market or preparing to enter it, this quest is relevant and holds important practical implications. More specifically, this study investigates the existence of bias induced by visible tattoos in the hiring process, a topic that currently lacks attention from scholarly groups. If the existence of this form of discrimination is demonstrated, this study could inspire more research and the development of training tools to address these biases.

Theoretical background

Two streams of literature are particularly relevant to support the rationale behind the hypotheses. I will first review the literature on stereotypes and their role in the interview process. Second, I will introduce the literature on leadership prototypes that articulate the hypotheses regarding perceptions of leadership abilities derived from the interview process for a managerial position.

Stereotypes

Stereotypes are simply perceptions referring to a set of common traits and behaviours that an individual assumes another to have, without background information (Ashmore & Del Boca, 1979; Heilman, 2012). Depending on the society and the environment, education, and other contextual factors, an individual forms a set of perceptions toward a group of people with similar traits. In other words, a stereotype is a set of perceptions formed under the influence of family values, personal experience, education, and social values (Ashmore & Del Boca, 1979). The instinct to categorize is natural and harmless. Imagine trying to pick a book to read for the weekend. We naturally gravitate to our favourite category, mostly because our past experience has taught us that we had enjoyed books on such topics. As with the process of sorting books, we use a similar process to categorize people. Putting people into categories is a primary human

function, since our memory is limited, just like we process other objects in our lives, such as food, books, and music (Heilman, 1995). Once we see an individual, we make assumptions about them based on our interactions with people from our past who seem to share similar characteristics with this individual. The question then becomes, "How does a simple and everyday process eventually lead to behaviour that needs public and researchers attention?".

Based on how our memory works, stereotypes are both descriptive and prescriptive. Stereotypes focus on differences between social groups and outline the norm for the targeted group (Heilman, 2001). For example, in terms of gender stereotypes, female managers are only viewed as more competent in categories that relate to traditional female traits (Heilman, 1995). This phenomenon illustrates how the public shares general expectations about the strengths and weaknesses of female workers, such as being a caring and nonconfrontational communicator; however, they tend to ignore their individual characteristics (Ashmore & Del Boca, 1979; Heilman, 1995). To change such fixed expectations takes enormous effort. As a result, female managers only score higher in non-traditional, female-related areas, or when they are described as extraordinary successful in their field (Heilman, 1995). Although the above example only depicts the difficulties faced by female workers, other minority social groups face difficulties caused by similar stereotypes.

Stereotypes highlight differences and delineate a set of basic characteristics of certain social groups. This pattern of thinking leads to stereotypes and bias that cause us to overlook the specific merits of an individual, once we have categorized this individual into a social group.

Stereotypes can negatively influence behaviour and actions, since social activities can operate on the unconscious mind (Greenwald & Banaji, 1995). The human mind tends to act based on the information gathered from experience and lessons learned. Therefore, stereotypes

and bias tend to impact information processing by subconsciously offering pre-learned information, thus influencing decision-making (Bodenhausen, 1989). Once these categorizations are established, stereotypes focus on similarities and differences between groups, but not on the unique characteristics of an individual (Heilman, 1995), thereby weakening the importance of each person's merit as an individual. In the case of tattoos, when one individual encounters another with visible tattoos, those tattoos could awaken the perceiver's tattoo-related negative memories, such as gangs and crime. The perceiver's reaction may include distancing and a less favourable evaluation.

Despite women occupying more positions in the workforce today, the public still holds fixed views of the attributes that women and men should have (Heilman, 2001). Those stereotypes do not weaken with the expansion of a particular social group. On the contrary, the influence of stereotypes sometimes grows with the size of the targeted group (Blalock, 1967; Stacey, 2018), as the majority group can quickly feel threatened by the growing number of members from the minority groups, and the level of stereotype and bias grows consequently. As more members of the younger generation, many of whom express themselves through body arts (*Tattoo Statistics - How Many People Have Tattoos?*, n.d.), enter or interview for the job market, stereotypes and biases surrounding tattoos are likely to grow along with their numbers.

On the other hand, with this increasing number of workers with visible tattoos, we might expect equal treatment toward them, as the general public gets to know those tattooed individuals on a personal basis and gauge their ability. In reality, stereotypes and biases toward visible tattoos exist universally and seem to persist (Ellis, 2015; Miller et al., 2009). At a minimum, we might naturally expect tattooed people to better understand the logic behind getting a tattoo. However, a study has shown that even though almost half of the managers have tattoos or

piercing, they still share a similar negative stereotype as do non-tattooed managers towards employees with tattoos (Chen, 2007). Existing studies have addressed the more typical stereotypes and biases toward people with tattoos.

Existing studies have answered a portion of this question. Through self-reported surveys and experimental designs, these studies indicate that people tend to attribute to tattooed workers lower competency, poor performance, lower intelligence, and less ability for collaboration (Chen, 2007; Ellis, 2015; Miller et al., 2009). In reality, those stereotypes are unlikely to hold. Ellis (2015) offers examples of doctors and engineers who are fully tattooed and are successful in their fields. However, it is worth highlighting that no matter the success levels of the participants, they constantly felt the need to cover up their tattoos in the workplace to avoid being judged (Ellis, 2015). In conclusion, there is evidence to show the existence of negative stereotypes and biases toward people with tattoos in the workplace. Unfortunately, tattoo wearers have felt the influence induced by these stereotypes and biases in workplace, as these individuals can attest.

Stereotypes in interview and personnel decision-making

Interviews are conversations with the intention of getting to know the interviewees better in a limited amount of time, in order to evaluate their qualifications for a position (Bingham & Moore, 1931). Scholars have devoted efforts to preparing and designing interviews so that interviewers can make better hiring decisions (Huffcutt, 2010; Roulin et al., 2019). Despite these efforts in designing unbiased interview processes, the final decision-making is still influenced by surrounding factors. The focus of this particular thesis is on the influence of stereotypes in interviews and hiring decisions.

Past researchers have shown that the effects of stereotypes extend to personnel decision-making (Fiske et al., 2018; Pingitore et al., 1994). Studies have shown that interviewers preferred physically attractive candidates, when faced with two candidates with similar qualifications and backgrounds (Jawahar & Mattsson, 2005). The reason may be that attractive candidates are assumed to have better qualifications (Zakrzewski, 2004). One can argue that attractiveness is innate and unlikely to be modified. Acquired features could also influence perceptions in the workplace. Makeup has been shown to change perceptions, including abilities and health conditions, toward female workers (Dellinger & Williams, 1997). Bodyweight stereotype is another perception that influences decision-making. Obese individuals are more likely to be perceived as having poorer capabilities (Larkin & Pines, 1979) and less likely to be hired, when competing against non-obese individuals with similar qualifications (Pingitore et al., 1994). In summary, the above studies show the influence of appearance in the interview process.

The literature on warmth and competence may offer an interesting framework to understanding the influence of stereotypes in the hiring process. Perceived warmth and competence are ways in which individuals or groups are perceived (Cuddy et al., 2011). Researchers have studied how these two factors affect perceptions and influence decision-making. Warmth indicates the intentions towards the receiver (in this case, the applicant); in other words, it indicates the level of affection toward the receiver (Cuddy et al., 2011; Howard & Ferris, 1996). Perceived competence influences the evaluations that the applicant will receive (Howard & Ferris, 1996). Unsurprisingly, perceived competence was shown to directly influence hiring decisions (Higgins & Judge, 2004; Howard & Ferris, 1996). This stream of research specifically offers explanations for the process by which traits and characteristics influence hiring decision-making. In conclusion, traits and characteristics alter perceived warmth and

competence toward the receiver, and thereby affect decision-making, including during interviews.

Studies about stereotypes and biases around tattooed individuals in interviews are limited. For example, a laboratory experiment showed that participants preferred non-teamwork and separate compensation, when asked to work with a co-worker with extensive visible tattoos and piercings (Miller et al., 2009). The author suggested that workers tend to make this choice, based on their expectations that coworkers with visible tattoos might hinder group outcomes. The rationale behind their decisions is that tattooed coworkers are believed to be less competent and less effective collaborators. In another study, Ellis (2015) interviewed multiple individuals with extensive tattoos. It was found that numerous participants reported rejection, based on their tattoos, and the need to cover their tattoos and piercing in the workplace and during interviews (Ellis, 2015). The interviews revealed multiple personal occasions where interviewees were questioned and rejected because of their tattoos; however, these subjective opinions cannot capture the whole picture for the reason for rejections and cannot scientifically demonstrate the influence of stereotypes in decision-making. In conclusion, although interviewees have self-reported being unfairly treated, there is very limited empirical evidence of the influence of visible tattoos on decision-making in interviews.

Leadership prototype

Leadership prototype refers to the perception of managers and leaders (Popper & Druyan, 2001). Leaders are only considered effective when they match the viewers' perceptions of an "ideal leader" (Bradley et al., 2006). Past scholars have studied multiple factors, including gender and race, affecting hiring decisions for leadership positions (Kent & Moss, 1994; Xu & Leffler, 1992). Scholars have found that a classic white male figure better fits what the general

recruiter may picture as a leader (Kent & Moss, 1994; Xu & Leffler, 1992). Generally, effective leadership is mostly connected with traditionally masculine traits and that have remained unchanged over the years (Brenner et al., 1989; Cann & Siegfried, 1990). In other words, leadership prototypes indicate that recruiters ascribe certain traits to the candidate, and are more likely to react positively when they see features that match the prototype and negatively when they see traits that contradict the prototype. For example, all raters are likely to act positively toward leaders with high-performance results (Bradley et al., 2006).

Social cognition theory suggests that people tend to use past knowledge and experiences to create "labels" which carry information about a group of people with specific characteristics, and who act, consciously or subconsciously, according to the labels presented (Greenwald & Banaji, 1995; Pennington, 2000). Stereotypes and bias induced by "labels" (e.g., characteristics and traits) and social roles are better explained by the role congruity theory. Social role refers to the socially accepted expectations of members who occupy certain positions or roles (Sim, 1982). Eagly (2002) suggests that stereotypes between social groups and social roles "exist when social perceivers hold a stereotype about a social group that is incongruent with the attributes that are thought to be required for success in certain classes of social roles" (p. 574). This means that when a perceiver receives information about a member which contradicts the expectation of a social role, the perceiver tends to lower the evaluation of the member as a potential occupant of this role (Eagly & Karau, 2002; Sim, 1982). In general, stereotypes and biases toward the inked population might arise from the discrepancy between information implied by the group of tattoo wearers and the expectation of being a leader. For leadership positions, although not studied systematically, employees and job candidates with tattoos have self-reported feeling underrated, distanced, and rejected (Ellis, 2015).

Because our implicit memory offers experience about received information, the unconscious mind could influence actions and decision-making (Greenwald & Banaji, 1995). As most interviewers and recruiters have a set of expectations on what a leadership position entails, visible tattoos carry a specific message, which may be contrary to these expectations of respectability and seriousness. Although the information is not entirely understood, the form carries a strong signal, which suggests a deviation from the anticipated criteria, hence potentially influencing perception (Miller et al., 2009).

Hypotheses

This thesis aims to investigate a potential bias against people with visible tattoos in the interview process for both entry-level and management positions in the technology field. The major point of discussion in this thesis is to investigate the influence of visible tattoos in the job interview process.

Researchers have established that physical characteristics, such as obesity (Larkin & Pines, 1979; Pingitore et al., 1994) and attractiveness, induce stereotypes, which could negatively influence decision-making in the interview process, since stereotypes offer information from past knowledge (Greenwald & Banaji, 1995). Furthermore, with the growing number of people engaged in the art form, tattoos have become more prevalent in the workplace and, therefore, among job seekers.

This trend has encouraged researchers to explore the environment around those tattooed workers. They found that workers with visible tattoos are indeed experiencing stereotyped and biased behaviour, such as avoiding shared benefit (Miller et al., 2009), and that they may be fired or turned down for job opportunities because of their tattoos (Ellis, 2015). In conclusion, some evidence has suggested that stereotyped behaviours may be induced by visible tattoos. We want

to explore the specific topic of whether visible tattoos will also bring up negative memories and adversely impact the hiring result. More specifically, the aim of this thesis is to explore whether stereotypes induced by tattoos will negatively impact the evaluation and hiring decision between an applicant without visible tattoos and an applicant with visible tattoos. We expect that if the candidate has visible tattoos, they will be less likely to be hired than if he does not have visible tattoos, hence:

Hypothesis 1: The job candidate with visible tattoos will be less likely to be hired than the job candidate without visible tattoos with the same background.

Using a similar rationale, we also expect that when the applicant has visible tattoos, he will be rejected for the position because he will receive lower ratings of warmth and competence. Specifically speaking, because of the history and traditional meanings of tattoos, visible tattoos will induce stereotypes and bias towards the applicant. Then those stereotypes and biases will cause the participants to dislike the tattooed applicants more and perceive the applicants as less competent than the non-tattooed applicant (Cuddy et al., 2011; Howard & Ferris, 1996), hence increasing the chances of rejection to the position.

Hypothesis 2: The job candidate with visible tattoos will be perceived to be less competent than the job candidate without visible tattoos.

Hypothesis 3: Level of affect towards the job candidate with visible tattoos will be more negative than toward the job candidate without visible tattoos.

Finally, we want to explore whether the job position in need of hiring would negatively influence the relationship we proposed in our first hypothesis. As we have argued that stereotypes form categorization from past knowledge, the question remains: "Given the expectations toward leaders, will the decision-making process be further negatively influenced?"

Studies have demonstrated that although leadership perception might vary depending on gender and culture (Elkaterina Omeltchenka & Armitage, 2006), that perception still influences human behaviour (Popthat per & Druyan, 2001).

Specifically, we want to examine if the position for which one is hiring will impact the relationship between visible tattoos and hiring decisions. Past literature cited above suggests that expectations around leadership are clearly delineated. Most people expect to see a traditional masculine figure for a leadership position, and with that specific image embedded in their minds, decision-making could be strongly influenced. Requirements for leadership positions tend to be higher than for entry-level positions. Yet, people with tattoos are often ascribed lower competence and negative qualities. As such, extending the literature to tattooed individuals, we expect that when hiring for a managerial position, the tattooed job candidate will be even more negatively affected than in the case of an entry-level position. In other words, we expect that hiring position (entry vs. management-level) will affect the relationship between visible tattoos and hiring decisions (Figure 1), and between visible tattoos and job candidates' evaluations.

Figure 1.

Final Model
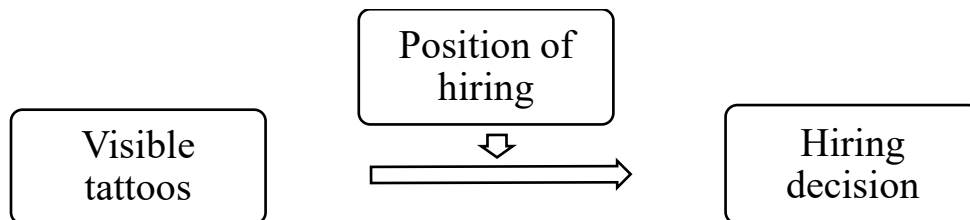
Hypothesis 4: Hiring position will affect the relationship between visible tattoos and hiring decisions, such that the difference in hiring decision will be greater when hiring for a managerial position than when hiring for an entry-level position.

Hypothesis 5: Hiring position will affect the relationship between visible tattoos and perceived competence, such that the difference in perceived competence will be greater when hiring for a managerial position than when hiring for an entry-level position.

Hypothesis 6: Hiring position will affect the relationship between visible tattoos and level of affect, such that the difference in level of affect will be greater when hiring for a managerial position than when hiring for an entry-level position.

Method

The study aims to examine whether extensive tattoos will influence decision-making in interviews. The definition of extensive tattoos is borrowed from a previous study by Miller (2009) as tattoos that cannot be covered by standard business attire. This definition effectively considered candidates' behaviour to conceal their tattoos in interviews and focused on the tattoos that might be exposed during the interview process, including tattoos on the neck and hands.

Before conducting the main experiment presented in the next pages, a pilot study was carried out. We initially had hoped to conduct the study with two sets of two virtual applicants, so that each participant would make a hiring recommendation by choosing between two applicants. However, despite our best efforts to develop two equivalent applicants (equivalent résumés, interviewees with similar physical characteristics, and equivalent interview scripts), this was ultimately unsuccessful. A chi-square test was conducted to test if both applicants had similar chances of getting hired. The final results show that the hiring rate was significantly different. We therefore decided to use only one applicant and rely on hiring recommendations (hire/no hire).

Participants

A total of 285 surveys were collected and resulted in 233 valid surveys. We first filtered out surveys which were answered by participants under the age of 18, as those participants were not allowed to answer. We then removed the participants who refused to sign the consent form at the beginning of the survey; participants who indicated that they refused their data to be used in the end; and participants who took too little time to complete the survey.

All participants were Chinese and were recruited through a survey agency. In total, there were 120 male participants, 103 female participants, and 10 participants refused to offer their gender information. Their ages ranged from 18 to 65 years ($M = 30.98$, $SD = 7.03$). Those participants also differed in terms of education, provinces of origin, and fields of work. The details of the demographics are shown in Table 1.

Manipulation and Design

This study relied on an experimental design which was a 2 (position: management vs. entry-level) X 2 (tattoo: candidate with visible tattoos vs. without tattoos), completely randomized design. In other words, participants were randomly assigned to a hiring position (entry vs. management) and to an applicant with or without tattoos. In total, four videotaped interviews were produced, all with the same male actor. In two of the videos, the actor had visible tattoos and in two videos, he did not. He was interviewing either for a managerial or an entry-level position in the high-tech field. Résumés were produced for both position levels (see Appendix A for résumés) and job descriptions were also produced for both jobs (see Appendix B for job descriptions). Ethics approval was obtained from Concordia's Human Research ethics committee for this study (see Appendix C for ethics certificate).

Table 1

Descriptive Statistics of Demographics

	Age		Gender		Education Level	
	No Tattoos	Tattoos	No Tattoos	Tattoos	No Tattoos	Tattoos
Valid	121	105	118	105	123	106
Missing	4	3	7	3	2	2
Mean	30.75	31.25	1.45	1.48	2.12	2.09
Std. Deviation	6.24	7.86	0.50	0.50	0.51	0.38
Minimum	18.00	18.00	1.00	1.00	1.00	1.00
Maximum	50.00	65.00	2.00	2.00	5.00	3.00

Note. Under Gender, 1 indicates male participants and 2 indicates female participants. Education

Level indicates the highest education level attained by participants: 1 = high school and

equivalents; 2 = bachelor's degree and equivalents; 3 = Master's degree and equivalents; 4 =

PhD and equivalents; and 5 = post-doctoral and equivalents

Procedure

This study was conducted online. Participants were recruited by an online survey company, Wenjuanxing, in China. They were told that the questionnaire intended to examine the effectiveness of a designed interview process and were asked to imagine themselves as a recruiter looking for a senior project manager (or a mechanical engineer, for the entry-level position) in a high-tech company. This, to an extent, covered the real intention of the study. Consent was first obtained from the participants. They were then presented with the relevant job description, the candidate's résumé, and the videotaped interview of the job candidate (either tattooed or not tattooed) (see Appendix D for interview scripts, Appendix E for screenshot of the interview). After watching the interview, participants were asked to score the applicants on competency and warmth, and to make a hiring decision.

Measures

Hiring decision. Participants were asked to provide their hiring decision as a binary choice: hire vs. no hire.

Perceived competence and affect. This was measured using eight items on the Howard and Ferris scale (1996). The eight items measure perceived work abilities and affect (four items for each aspect) on a 7-point scale, where 1 = totally agree and 7 = totally disagree. This scale includes reverse scored items, which were recoded prior to computing scale scores (e.g., "I would never have anything to do with this applicant"). Cronbach's alpha for affect and perceived competency was 0.75 and 0.85, respectively. The scales used can be found in Appendix F. In the case of perceived competence, a higher score indicates a lower evaluation of competence, and in the case of perceived affect, a higher score indicates more negative affect.

Result

Control variables

We first set out to determine if age and gender influenced the final outcomes. In general, as shown in Table 2, age, gender, and education level were not correlated with hiring position (labelled as POSITION), tattoo condition (labelled as CONDITION), or hiring decision.

To further examine the potential influence of these variables, a binomial test was conducted to verify if gender was equally distributed among our participants. The analysis showed that overall, there was no significant difference in the number of male and female participants ($p = 0.28$). Moreover, there was no significant difference in the number of female and male participants across each participant group. To be more specific, in the entry-level group, there was no significant difference between female and male participants in both tattooed and non-tattooed conditions ($p = 0.67$ vs. $p = 0.70$). The same observation was made in the management-level group, where female and male participants were distributed equally in the tattooed and non-tattooed condition ($p = 0.28$ vs. $p = 0.36$).

An analysis was conducted to see if there was a significant difference in age among the various groups. To do so, a 2 X 2 X 2 ANOVA was conducted, with position (managerial vs. entry-level), condition (tattoos vs. no tattoos), and hiring decision (hire vs. no hire) as independent variables, and age as the dependent variable. The result showed that these various groups did not differ significantly in age (see Table 3).

The tests above suggest that age, gender, and education level are not control variables that should be included when testing for hypotheses.

Table 2

Correlation Matrix

		Age	Gender	Education Level	Average Affect	Average Competence	Hiring Decision
Age	Pearson's *r*	-					
	P value	-					
Gender	Pearson's *r*	-0.154	-				
	P value	0.022	-				
Education Level	Pearson's *r*	-0.80	0.048	-			
	P value	0.229	0.471	-			
Average Affect	Pearson's *r*	0.002	0.013	-0.001	-		
	P value	0.981	0.849	0.986	-		
Average Competence	Pearson's *r*	-0.033	-0.100	-0.038	0.770	-	
	P value	0.626	0.138	0.566	$< 0.001^{***}$	-	
Hiring Decision	Pearson's *r*	-0.053	-0.041	-0.066	0.565	0.522	-
	P value	0.425	0.545	0.318	$< 0.001^{***}$	$< 0.001^{***}$	-

Note: *P value < 0.05,**P value < 0.01,***P value < 0.0

Table 3

ANOVA - Age

Cases	Sum of Squares	df	Mean Square	F	P
POSITION	11.47	1.00	11.47	0.2	0.63
CONDITIONS	0.63	1.00	0.63	0.01	0.91
HIRING DECISION	21.86	1.00	21.86	0.44	0.51
POSITION * CONDITIONS	1.13	1.00	1.13	0.02	0.88
POSITION * HIRING DECISION	1.63	1.00	1.63	0.03	0.856
CONDITION * HIRING DECISION	36.47	1.00	36.47	0.7	0.39
POSITION * CONDITIONS * HIRING DECISION	64.55	1.00	64.55	1.29	0.26
Residual	10892.64	218.00	49.97		

Note: Type III sum of Square.

p < 0.05.

Test of Hypotheses

Because the hiring decision had a binary outcome, a chi-square test was conducted separately to compare the hiring decisions of participants assigned to the two tattoo conditions. To test the hypothesis, these chi-square tests were computed separately for management and entry-level participants. The hiring decisions of the baseline version (applicant without tattoos) was used as the expected result, and the hiring decisions of the treatment version (applicant with tattoos) was compared to the baseline version, to determine if there was a significant difference between the two groups. Overall, participants assigned to the tattooed job candidate were less likely to recommend hiring the job candidate ($p = 0.003$), as opposed to participants assigned to the non-tattooed job candidate. This supports Hypothesis 1. To separately examine each condition, as show in Table 4, there is no significant difference in hiring decision between the two groups in the entry-level condition ($p = 0.61$), but there is a significant difference in hiring decision in the management-level condition ($p < 0.001$). This supports Hypothesis 4 and suggests that in the management condition, tattooed candidates may be more negatively affected in the management-level position than in the entry-level position.

To test if affect and perceived competence differed among the various conditions, we computed a 2 X 2 ANOVA. As shown in Table 5, condition (tattoos vs. no tattoos) produced a significant difference in both affect ($f(229, 1) = 4.20$, $p = 0.04$, eta-squared $= 0.02$) and perceived competence ($f(229, 1) = 7.41$, $p = 0.01$, eta-squared $= 0.03$). This supports Hypothesis 2 and Hypothesis 3.

In terms of the interaction effect between tattoo condition and hiring position, it was very close to significance in the case of perceived affect ($f(229, 1) = 3.83$, $p = 0.05$, eta-squared $= 0.02$) and it was not significant in the case of perceived competence.

Table 4

Summary of Chi-square Test

	x^2	df	p
Entry-Level	0.26	1	0.61
Management-Level	15.15	1	<0.001*

* p < 0.05.

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Table 5

ANOVA of Affect and Perceived Competence

Cases	Sum of Squares		df		Mean Square		f		p		η^2	
	A	C	A	C	A	C	A	C	A	C	A	C
CONDITIONS	5.75	9.46	1.00	1.00	5.75	9.46	4.20	7.41	0.04	0.01	0.02	0.03
POSITION	0.79	0.11	1.00	1.00	0.72	0.11	0.53	0.09	0.47	0.77	0.00	0.00
CONDITIONS * POSITION	5.24	3.38	1.00	1.00	5.24	3.38	3.83	2.65	0.05	0.11	0.02	0.01
Residual	313.34	292.46	229	229	1.37	1.28						

Note: A = Affect, C = Perceived Competence.

Moderation effect of position

Because the interaction term was marginally significant in the case of perceived competence ($p = 0.11$) and level of affect ($p = 0.05$) and because we had *a priori* hypotheses regarding interaction effects, we conducted more detailed analyses to evaluate these hypotheses. Specifically, we separated the data into entry-level and management positions, and compared tattoo vs. no tattoo conditions, with level of affect and perceived competence as independent variables. The results (Table 6) show that at entry-level, no significant difference is observed between tattooed and non-tattooed group, in both affect and perceived competence ($p = 0.95$, $p = 0.45$); however, there is a significant difference between the non-tattooed and tattooed groups at the management-level ($p = 0.01$, $p = 0.00$).

Regarding the descriptive statistics (Table 7), at the entry-level, the applicant received similar scoring in average affect, with tattoos ($M = 2.94$, $SD = 1.18$) and without tattoos ($M = 2.95$, $SD = 1.15$). Perceived competence had a slightly higher difference in scoring in the tattooed group ($M = 2.75$, $SD = 1.21$) and non-tattooed group ($M = 2.92$, $SD = 1.05$). On the other hand, at the management-level, the tattooed applicant ($M = 3.14$, $SD = 1.33$) received higher scores in average affect than the non-tattooed applicant ($M = 2.52$, $SD = 1.01$), indicating that tattooed individuals were less liked. The same trend is also observed in the scoring of perceived competence, where the tattooed applicant ($M = 3.11$, $SD = 1.23$) received higher scores than the non-tattooed applicant ($M = 2.47$, $SD = 1.01$).

Hence Hypothesis 6 is supported and Hypothesis 5 is not supported.

Table 6

Independent Samples T-test for Level of Affect and Perceived Competence Comparing Tattooed vs. Non-Tattooed Candidates in

Entry-level and Management-level Positions

		t	df	*p*
Affect	Entry-Level	-0.07	112.00	0.95
	Management-Level	-2.86	117.00	0.01*
Perceived Competence	Entry-Level	-0.76	112.00	0.45
	Management-Level	-3.15	117.00	0.00*

Note: Student's t-test.

*Levene's test is significant (*p* < 0.05), suggesting a violation of the equal variance assumption.

Table 7

Descriptive Statistics of Affect and Perceived Competence

Conditions	Position	Mean		SD		N	
		Affect	Perceived Competence	Affect	Perceived Competence	Affect	Perceived Competence
No Tattoos	Entry	2.94	2.754	1.175	1.210	63	63
	Management	2.52	2.468	1.011	1.011	62	62
Tattoos	Entry	2.95	2.917	1.151	1.051	51	51
	Management	3.14	3.114	1.330	1.226	57	57

Discussion

Influence of visible tattoos

Studies on the influence of tattoos are limited, perhaps because tattoos are considered to be a niche culture as opposed to a mainstream phenomenon. This thesis sought to examine the influence of visible tattoos on hiring decisions. Specifically, we examined the influence of visible tattoos on hiring decisions, perceptions of competence, and level of affect, in two different positions—entry-level and management-level—in China. The results show that the influence of visible tattoos on hiring decisions is limited in the entry-level condition; however, the tattooed job candidate was negatively impacted for the management-level position. This phenomenon might result from the fact that tattooed applicants are more disliked than applicants without tattoos, especially for applicants at the management-level. Also, tattooed virtual applicants were also viewed as less competent, in both management-level and entry-level jobs.

At first glance, this may suggest that having visible tattoos may not be detrimental when applying to entry-level positions. However, a closer examination of the data suggests that tattoos might still have an influence. To be more specific, in open-ended comments at the end of the survey, a number of participants in the entry-level condition mentioned that the reason they did not recommend hiring the applicant was because of their tattoos. One participant stated: "Tattoos left a bad first impression. We cannot exclude the possibility that he is capable for this job, and I do not oppose his personal habits. But he could leave a bad first impression on the job." A number of participants indicated similar concerns about how the visible tattoos could leave a bad first impression to coworkers and potential customers in the entry-level position. Another participant also expressed similar concerns: "This applicant has tattoos, which does not fit our requirements." In this specific case, what is worth mentioning is that the provided list of

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requirements only included criteria relating to skills and abilities, and excluded all appearance-related requirements. When giving reasons for their hiring decisions at the management-level, participants also indicated their concerns about the visible tattoos; one participant mentioned that the applicant's tattoos made the participant "uncomfortable."

The participants' ratings of perceived competence and warmth (liking) provide us with a more complete picture underlying the hiring decisions. In the case of both competence and affect, the tattooed job candidate received worse ratings than in the case of the non-tattooed job candidate.

The history and development of tattoos indicate that tattoos tend to carry negative connotations for the general public and our results support this. These findings offer evidence to support the stereotype toward people with tattoos and grounds to explain the differences in hiring decisions. As past researchers have indicated that affect and perceived competence toward the applicants influence hiring decisions (Cuddy et al., 2011; Howard & Ferris, 1996), we conclude that, at least in the management-level position, visible tattoos decreased the participants' liking toward the job candidate, and consequently, their ratings of the candidate's competence decreased their likelihood of making a hiring recommendation. Of note, both competency and affect were closely related to hiring decisions, which provides further support for the explanation above.

The differences in hiring decisions between entry-level and management-level positions support the moderation effect of hiring position between visible tattoos and hiring decisions, and also supports the literature on leadership prototypes more generally (Bradley et al., 2006). Past findings (Kent & Moss, 1994; Xu & Leffler, 1992) have offered grounds for position to influence the strength between visible tattoos and hiring decisions, and the data in this thesis

confirm the evidence for this effect. In this regard, participants who are hiring for a managerial position have a certain set of expectations about leaders embedded in their subconscious. Because visible tattoos run counter to those expectations, they will cause a greater sense of contrast when presented and may therefore be detrimental to job applicants who may be perfectly qualified.

Limitation and future research

This thesis contains some limitations. To begin with, a larger sample size might have better demonstrated the influence of visible tattoos on hiring decisions. In total, over 200 valid data were collected, and a relatively small difference was observed in the entry-level position. It is possible that it is because, indeed, the difference is small, but it is also possible that with a larger sample, the difference would have been more obvious. The question remains, will a bigger data pool offer a more accurate picture? The current results also show cases of marginal significance, which further support the potential need to increase the sample size.

Another major limitation is that the result of this thesis were derived from a pure experiment, where all factors were strictly controlled, except for the treatment of tattoos. This is a strength, in some ways, because it allows us to draw causal conclusions. However, in reality, our decision-making process was influenced by multiple surrounding factors. For example, we initially tried to conduct the experiment by presenting two different virtual applicants to the participants, so that the participants would choose between the two. Although their résumés, backgrounds, and scripts were deliberately designed to be almost identical, their hiring rate turned out to be significantly different. As the field offers conditions that are not as controlled as our experiment, the real-life influence of visible tattoos might demonstrate a different outcome.

Future research could improve this particular thesis by addressing the limitations mentioned above. To begin with, surveying a bigger pool of participants might offer better insights into the influence of tattoos. Secondly, the efforts could also be spent in investigating other moderation factors that influence the strength between visible tattoos and hiring decisions. Varying the gender of the job candidate could also lead to some interesting insights into the differences in perceptions around tattooed individuals. Last but not least, the relationship between visible tattoos and other workplace outcomes could also be investigated, including, for example, the influence of tattoos on compensation, job assignments, or promotion opportunities.

Implications

From our experiment, we conclude that visible tattoos have some influence on hiring decisions. The findings could also offer some practical implications. For the general public, this thesis raises questions around the fair treatment of tattooed workers. Raising awareness around this issue, which was an objective of this thesis, will serve to educate people in charge of personnel decisions around bias and stereotype behaviours toward tattooed individuals.

For interviewees, this thesis reveals potentially unfair treatment in the workplace. Efforts have already been made in a great number of workplaces to develop fair and efficient interview processes. Just as many training programs have been developed to correct bias and stereotype behaviours, such as gender bias, training could also be developed to train interviewees to avoid such bias and stereotype behaviours. However, considering the small number of job applicants with visible tattoos, organizations should evaluate the costs and benefits of such analysis. Alternatively, and perhaps more reasonably, current training could mention biases around physical appearance, such as visible tattoos. At the very least, this thesis may raise awareness about the existence of such phenomenon.

Conclusion

The purpose of this thesis was to document empirically the actual existence of a suspected phenomenon. Although we have long suspected the influence of tattoos on other people's perceptions and evaluations, those suspicions had not yet been demonstrated empirically. With the growing numbers of tattoo wearers, tattoos are no longer a niche culture. As those tattoo wearers enter the job market, their working situation becomes a topic worth documenting. In order to solve this problem, this thesis used an experimental method to examine the influence of tattoos on hiring decisions in interviews.

From this experiment, we learned that visible tattoos have a negative impact on hiring decisions, particularly in management-level positions. The results show that job candidates applying for entry-level positions suffer fewer consequences due to their visible tattoos. On the other hand, hiring decisions for management-level positions were adversely affected. As tattoos greatly contradicted interviewees' traditional expectations of a leader, applicants for management-level positions had a greater chance of being rejected. At the same time, at the management level, applicants with visible tattoos were less liked and perceived as less competent than the applicants without tattoos, even though, in this case, the same individual was conducting the interview (with or without tattoo). The only difference was the presence of visible tattoos. After decades of efforts devoted to building scientific methods of examining the real potential and abilities of interviewees, interviewers still apparently relied on their instinct and past knowledge. They relied, at least in part, on the book cover.

The intention of this thesis was to expand the literature on tattoo wearers, an area that has not received much attention so far. Human capital is crucial to a company's success, and hiring

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decisions are an essential component. Moreover, workers' and applicants' experience is equally important for building a healthy organization, and to ensure workers' happiness and retention. Hopefully, this thesis can shed some light on a new area, and contribute to a job market where all are treated fairly and equitably.

Appendix A: Resume
Entry-Level:

Luke Liao

PROFILE
- Master of science in Mechanical Engineering, seeking a position in information technology
- Solution and team oriented
- Experienced in multiple designing tools

EDUCATION

California Institute of Technology, School of Mechanical Engineering   **Pasadena CA**
Master of Science in Computer Science   **May 2018**
- Honor Scholarship

University of California, Los Angeles, School of Mechanical Engineering   **Los Angeles CA**
Bachelor of Science, Computer Science   **May 2016**
- Minor: Finance

PROFESSIONAL EXPERIENCE

Honda   **Palo Alto, CA**
Intern (machine design)   **May 2017 – June 2017**
- Managed the design process of a new part
- Collected user requirements for our design
- Cooperated with a team of 8 to work on an innovative project

Cummins   **Redmond, Washington**
Intern (machine design)   **June 2018 – July 2018**
- Helped to test the new beta software on the Macintosh platform
- Assisted in the analysis of customer reported error and in fixing process based on analysis
- Coordinated between different teams working on the same project

LEADERSHIP ACTIVITIES, AFFILIATIONS, HONORS

UCLA Chinese Students and Scholars Association
Vice Director (Department of Digital Marketing)   **May 2012 – May 2014**
- Took charge of the design and editing of the advertisements for all the activities
- Helped volunteers adapt to their role and assigned volunteers to different positions
- In charge of all advertisements across different social media and traditional platforms

Department of Computer Science, UCLA
Research on machine learning   **January 2018 – May 2018**
- Served as a research assistant on a research on a design project
- Researched current studies and developed method to examine machine in work
- Assisted in developing the framework and research methods

Language:
- English, Chinese, Spanish

Computer Languages:
- Solidworks, AutoCAD

Management-Level:

Luke Liao

PROFILE
- Master of science in Mechanical Engineering, seeking a position in information technology
- Solution and team oriented
- Experienced in multiple designing tools

EDUCATION

California Institute of Technology, School of Mechanical Engineering   **Pasadena CA**
Master of Science in Mechanical Engineering   **May 2016**
- Honor Scholarship

University of California, Los Angeles, School of Mechanical Engineering   **Los Angeles CA**
Bachelor of Science, Mechanical Engineering   **May 2014**
- Minor: Finance

PROFESSIONAL EXPERIENCE

Honda   **Palo Alto, CA**
Project Manager (machine design)   **May 2018 – March 2021**
- Managed the design process of multiple projects
- Collected user requirements for multiple Projects
- Lead and cooperated with a team of 10 employees on a daily basis

Cummins   **Redmond, Washington**
Mechanical Engineer (machine design)   **June 2016 – May 2018**
- Helped to test the new beta software on the Macintosh platform
- Assisted in the analysis of customer reported error and in fixing process based on analysis
- Coordinated between different teams working on the same project

LEADERSHIP ACTIVITIES, AFFILIATIONS, HONORS

UCLA Chinese Students and Scholars Association
Vice Director **(Department of Digital Marketing)**   **May 2012 – May 2014**
- Took charge of the design and editing of the advertisements for all the activities
- Helped volunteers adapt to their role and assigned volunteers to different positions
- In charge of all advertisements across different social media and traditional platforms

Department of Computer Science, UCLA
Research on machine learning   **January 2018 – May 2018**
- Served as a research assistant on a design research project
- Researched current studies and developed method to examine machine at work
- Assisted in developing the framework and research methods

Language:
- English, Chinese, Spanish

Computer Languages:
- Solidworks, AutoCAD

Appendix B: Job Descriptions

Mechanical Engineer (entry-level position)
Responsibilities:
- Designing new products with team members, according to customers' specifications
- Making adjustments to previous products
- Reporting to internal and external clients

Skills and experiences:
- Experience with machine design
- Experience with designing software
- Team work experience
- Skilled at public speaking and making presentations

Team Leader (managerial position)
Responsibilities:
- Coordinating and leading a design team of about 10 workers
- Designing new products with team members, according to customers' specifications
- Making adjustments to previous products
- Reporting to internal and external clients

Skills and experiences:
- At least 2 years of experience as a team manager
- Experience with machine design
- Experience with designing software
- Teamwork experience
- Skilled at public speaking and making presentations

Appendix C: Ethics Certificates

UNIVERSITÉ Concordia UNIVERSITY

CERTIFICATION OF ETHICAL ACCEPTABILITY
FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant: Yiyou Guo

Department: John Molson School of Business\Management

Agency: N/A

Title of Project: Decision Making in the Interview Process

Certification Number: 30015210

Valid From: June 15, 2021   To: June 14, 2022

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

_____

Dr. Richard DeMont, Chair, University Human Research Ethics Committee

Appendix D: Interview Scripts

Interview Script for Entry-level Position

Interviewer: Good morning! Thank you for taking the time to meet with us today. My name is David.

Applicant B: Hi, good morning! I am Luke Liao, how are you?

Interviewer: Good morning, I'm fine! Welcome to our interview today. My name is David. Let's start with you telling me about yourself.

Applicant B: Of course. My name is Luke and I am a senior working toward my degree in mechanical engineering in CIT. My specialty and interest is in design.

Interviewer: Why mechanical engineering?

Applicant B: I started working in my father's shop when I was a child. Working with machines has gradually become a habit and an interest. During this time, I also learned the importance of machines in our daily lives. This degree helps me better understand machines and offers me the tools to better utilize them.

Interviewer: Tell me why you are interested in this particular position.

Applicant B: to begin with, I think my skill set will be helpful for your company. And more importantly, I am very interested in your company's values and your contributions to society.

Interviewer: OK! Could you tell me about your most memorable internship or extracurricular experiences?

Applicant B: (shows responsibilities) My most memorable experience? It was my first internship at Honda, I was new to the field and it was my first time working on this specific topic. We were working on designing a part. I had to quickly learn how the current product worked. This was not the hard part. The hard part actually came after our first meeting with our potential users. We did everything according to the requirements; however, our client was not satisfied. We were really confused. At that point, I suggested that we might have misunderstood the requirement; more specifically, I suggested we reach out to the client to understand their true needs, what they wanted. We all worked in the same buildings, so I scheduled an appointment, walked upstairs, and had a pretty long interview with our client. The result was good, the meeting revealed the actual requirements, and we changed the design accordingly. This process taught me how to solve problems from a different angle.

Interviewer: So, in general, how would you categorize your role in a team? A leader or a follower?

Applicant B: A leader, I would say. I am always responsible for my own tasks and my team. I am a good communicator and a good listener. I have taken on the role of leader many times before. I have been a leader on many different projects.

Interviewer: What are your expectations in terms of salary?

Applicant B: Instead of salary, I do hope for a higher compensation.

Interviewer: Thank you for joining me today, it was a really nice talk. We will reach out to you soon! Thanks again!

Interview Script for Managerial-level Position

Interviewer: Good morning! Thank you for taking the time to meet with us today. My name is David, let's start by telling me a little more about yourself.

Applicant B: Hi! Good morning! This is Luke Liao, how are you?

Interviewer: good morning! I'm all fine! Welcome to our interview today! My name is David, let's start by telling me a little more about yourself.

Applicant B: of course! My name is Luke and I have been a mechanical engineer for about 3 years and worked as a project manager for 2 years.

Interviewer: Tell me why you are interested in this particular position.

Applicant B: to begin with, I think my skill sets will be helpful to your company. And more importantly, I am very interested in becoming a part of your company's values and your contribution to the society.

Interviewer: ok! could you talk about your most memorable experience?

Applicant B: (show responsibilities) that should be one of my more recent experiences, my team and I have been working with each other for quite a while. We are a pretty mature team. It seemed like a normal project, we were quite familiar with each member's duty, so we went with our routine. Later, as I was checking the designs, I realized that although we had done the design according to the design process, the final deliverable missed a portion of the requirement. I talked to each team member and tried to identify the problem within the design. I took the responsibility to find the problem with the design and fixed it before we had to deliver. This experience taught me what is the true responsibility of a leader.

Interviewer: So, in general, how would you categorize you role in a team? A leader or a follower?

Applicant B: a leader I would say. I am always responsible for my own tasks and my team. I am a good communicator and a listener. I was in the role of leader many times before.

Interviewer: what is your salary expectation?

Applicant B: I do not have much focus on salary, but I do have an emphasis on other compensation plans.

Interviewer: thank you for joining me today, and it was a really nice talk. We will reach out to you soon! Thank you!

Appendix E: Screenshot of interview process

Tattooed applicants:

Non-tattooed applicants :

Appendix F: Scales
The following scale is from the Howard and Ferris (1996) study, which was used as a
questionnaire for participants to indicate their evaluation of the candidates and their hiring
decisions. Participants were asked to rate each statement on a 7-point scale, where 1 is "totally
agree" and 7 is "totally disagree."

Totally agree	Agree	Somewhat agree	Neutral	Somewhat disagree	Disagree	Totally disagree
1 ----	2 -----	3 ----	4 -----	5 -----	6 ----	7

(Evaluating liking/warmth)
1. This applicant has qualities that I like.
2. If I had the opportunity, I would socialize with this applicant after working hours.
3. I would never have anything to do with this applicant.
4. I would like to spend some of my free time with this applicant.

(Evaluating competence)
1. This applicant appears to be highly qualified for this position.
2. This applicant does not seem to know what they are talking about.
3. This applicant knows what is important in mechanical engineering and project management.
4. This applicant appears to have a good understanding of mechanical engineering and project management.

(Hiring recommendation)
I will _____ (hire/ not hire) this applicant for this position.

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