

Philippe Fauquet-Alekhine

Clothing-based discrimination at work: the case of the Goth subculture

**Article (Published version)
(Refereed)**

Original citation:

Fauquet-Alekhine, Philippe (2016) *Clothing-based discrimination at work: the case of the Goth subculture*. [British Journal of Education, Society & Behavioural Science](#), 13 (4). pp. 1-16. ISSN 2278-0998

DOI: [10.9734/BJESBS/2016/21592](https://doi.org/10.9734/BJESBS/2016/21592)

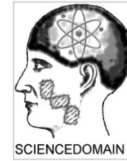
Reuse of this item is permitted through licensing under the Creative Commons:

© 2016 The Author
CC BY 4.0

This version available at: <http://eprints.lse.ac.uk/65352/>

Available in LSE Research Online: Online: February 2016

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.



Clothing-based Discrimination at Work: The Case of the Goth Subculture

Philippe Fauquet-Alekhine^{1*}

¹*Department of Social Psychology, London School of Economics and Political Science, Houghton St.,
WC2A 2AE, London, UK.*

Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/BJESBS/2016/21592

Editor(s):

- (1) Alina Georgeta Mag, Department of Private Law and Educational Science, University of Sibiu, Romania.
- (2) Stan Weeber, Professor of Sociology, McNeese State University in Lake Charles, Louisiana, USA.

Reviewers:

- (1) Anonymous, Kaplan University, USA.
 - (2) Anonymous, Bangalore University, India.
 - (3) Romel G. Solis Carcaño, University of Yucatan, Mexico.
 - (4) Robert Perna, Texas Institute of Rehabilitation Research, Houston, TX, USA.
- Complete Peer review History: <http://sciencedomain.org/review-history/12488>

Original Research Article

Received 25th August 2015
Accepted 20th November 2015
Published 15th December 2015

ABSTRACT

Clothing-based discrimination at work induced by belonging to a subculture is not studied in the literature. This paper aims at contributing to fill this gap through analysis of working conditions of the French Goth subculture. Subjects were contacted individually at random for interviews (1-3h each) examined afterwards through statistical, qualitative, and inductive analyses. $N=18$ cases were considered, confirming a clothing-based discrimination mainly favored by two conditions: working with colleagues whose culture is that of the "majority" and being employed in a company of dual type where domination-submission relationships prevail and where professional identities marked by withdrawal are expected by the management. Results suggested that discrimination could proceed of the combination of several socio-psychological mechanisms: a belief that appearances do matter at work, a negative appearance-based judgment biased by "horn effect" and a consecutive task congruent selection moving towards a negative competencies assessment, a resulting confrontational context developed from an opinion task conflict but expressed in terms of aptitude task, making thus vain Goth subjects' efforts to resolve the conflict.

*Corresponding author: E-mail: p.fauquet-alekhine@lse.ac.uk;

Keywords: Discrimination; work; subculture; judgment; ingroup; outgroup; goth; habitus.

1. INTRODUCTION

In its issue of February-March 2015, the Economist [1] reported the case of a young Muslim who was denied a job offered in a well-known North American casual-clothing store. The reason was a mismatch with the policy of the company in which “employees must align their dress with the ‘pretty look of the Ivy League’ and must not wear ‘caps’ or black clothing”.

Earlier in France (2012), the tribunal of Chambéry validated the dismissal of an employee fired from the company where he was working as a sales representative. The dismissal was done on the grounds that the clothes were inappropriate. The employer estimated that working in t-shirt and Bermuda shorts was not suitable for the position in the company (<http://rocheblave.com/avocats/tenues-au-travail>).

In 2008, a teacher was fired from a London secondary school (UK) because he wore tracksuit trousers to work [2].

Other cases focus on physical appearance (size, weight, face) (e.g. [3-5]) and authors now designate it as “lookism”. Yet, lookism leaves aside clothing appearance whereas many other situation of what could be called “clothing-based discrimination in the workplace” are reported as testimonials. Discrimination must be here understood as unjustified negative behavior towards a group or its members [6]. The European Commission regularly requests a survey regarding discrimination in the European Union [7,8]. One of the chapters of these reports focuses on discrimination at work including the question “When a company wants to hire someone and has the choice between two candidates with equal skills and qualifications, which of the following criteria may, in your opinion, put one candidate at a disadvantage?” Among 12 criteria suggested, the ranking did not almost changed between 2008 and 2012 (the latest survey available), listed thereafter from the most significant to the less: Candidates’ age, look, disability, skin color or ethnic origin, general physical appearance, way of speaking, religious belief, gender, sexual orientation, gender identity, name, address. The look (manner or dress presentation according to the report) remained in pole position with 51% and 45% respectively in 2008 and 2012; in 2012, the only item overtaking the look was this considering the persons’ age,

too old for the job (item not suggested in 2008). Despite the fact that the look (manner or dress presentation) is the first or second criterion of importance to hire new employees, this aspect of discrimination at work is investigated only for denunciation or analysis but restricted to anatomical (gender, disability, weight), racial or religious concerns. For example, the recent book of Dipboye and Colella “Discrimination at work” published in 2013 considers discrimination at work under seven categories: gender, heterosexism, age, disability, personality and unattractiveness. In their analysis, clothes are not addressed as a criterion of discrimination but as a shared social code.

The literature provides nevertheless results and theoretical considerations regarding social meanings of aesthetics or aesthetics-based judgments. For example, it was highlighted that the aesthetic components are strongly influenced by social codes, not written but known to all or almost, and as a feedback effect it helps people to assess others’ social status; yet this sometimes exceeds the simple appreciation of people’s social status: “from certain features assigned to handsome people that are true, we infer the effective existence of other qualities” [9] (see also [10]). This process is named “halo effect” [9,11]. In the same vein, V. Fournier [12] noticed that “the look is the first information given when meeting someone and the temptation is huge to make a quick judgment on that basis alone. But is not it this, after all, that the people seek when displaying themselves in such a way? Whatever the attire people wear, it is clear that it is full of meaning, carrying a desire to communicate something. [...] The adoption of a look is an approach which is thought by the individual, where nothing is left to chance”.

Beyond the aesthetic component, according to Darley & Gross [13], the assessment value (positive resp. negative) that people elaborate regarding an unknown person can be induced by the overall perception (positive resp. negative) that people have about the social status of the person. If the a priori judgment develops on the basis of aesthetic criteria before all other things, it then proceeds to behavioral criteria [14,15]. This refers to the “other qualities” proposed by Amadiou [9] quoted above.

In the world of work, these “other qualities” are called sometimes “competencies”. In fact, the

appearance of people seems to play a fundamental role concerning the inference of their skills. People who are about to take a job interview will not deny it given the care they provide to the choice of their clothes and to the way in which they will appear, present themselves. More generally, for two individuals in face-to-face situation, more than 65% of the information will pass through visual perception [16]. "Knowing how to be" arises in advance of "Knowing how to do" since it is the first accessible.

As written above, many studies are available to date regarding appearance discrimination at work, considering problems encountered by ethnic minorities or expressions of a religious belief. This paper aims at contributing to this paradigm by producing an analysis of clothing-based discrimination in the workplace when related to a subculture, regardless skin color or religious considerations. No studies in the literature addressed this question to date.

2. MATERIALS AND METHODS

2.1 General Considerations

In order to target a reasonable goal for this study about clothing-based discrimination at work induced by belonging to a subculture, we decided to limit our study to one subculture in one country.

For this aim, we chose a subculture shaped around the black color and a typical musical genre name "Goth" or "Gothic". This subculture was chosen after informal exchanges with members of this subculture. About eight persons over nine complained about difficulties encountered by themselves and by relatives or friends at their workplace, referring to a negative judgment of managers or colleagues. They depicted a context of discrimination in which some individuals judged them through a kind of automatic or systematic judgment process (as emphasized and analyzed elsewhere [17]) triggered by stimuli which seemed to be linked with their Gothic aesthetic. The role of stimuli in models of person perception were found crucial in social research (see for example [17,18]).

Gothic subculture appeared around the early 1980s. A seemingly satisfactory definition of "Goth subculture" is proposed on Wikipedia (retrieved in 2015, English version: https://en.wikipedia.org/wiki/Goth_subculture):

The goth subculture has associated tastes in music, aesthetics, and fashion. The music of the goth subculture encompasses a number of different styles including gothic rock, industrial, deathrock, post-punk, darkwave, ethereal wave, and neoclassical. Styles of dress within the subculture range from deathrock, punk and Victorian style, or combinations of the above, most often with dark attire, makeup and hair.

This definition is quite consistent with that of the specialized French books "Carnets Noirs" [19], [20] from which the previous definition can be complemented: Gothic of the 21st century is based on mixing trends Punk, New-Wave and Electro-indus, added by inputs from various music such as Techno and Metal (Fig. 1).



Fig. 1. A & B. Goth style at the Wave Gothik Treffen (Leipzig), renowned international festival of Goth art

Despite the rather clear definition of this cultural context, the first contacts and investigations showed that the people gathered around these musical tendencies were not necessarily claiming belonging to these subcultural "labels", and that, if these cultural movements could seem different, there were nevertheless many areas of recoveries, making it difficult the identification of the people to meet. As noted by A. Durafour [21] in his approach of what he named in French "milieu Gothique", borders remained unclear in that "identities that compose it [the Gothic subculture] are multiple, conflicting, and dialectics". It was therefore useless to try and meet people labeling themselves as "Goth", but more relevant to go and meet them in places where they were used to going to spend time together.

The main place we went in was the Parisian bar "Black Dog" (website: <http://www.blackdog->

[bar.com/](#)) in France, which is presented as the "first metal bar in Paris". The display of the musical tendencies is fundamental because music is one of the unifying factors essential for the people we met; as Philippe Rigaux wrote in his "Dark Continent" [22] "musical creation is the backbone of the current Dark-Gothic scene. Indeed it is mainly around it that are 'tribes' with their specific clothing and behavioral standards, and that an active sociality is structured in evenings and concerts." Essentially open in the evening and at night, the bar offered a permanent specific musical atmosphere in a dark environment. As we have said, the dominant clothing color was black.

2.2 Protocol

Subjects were contacted individually at random in the aforementioned bar or in concert halls or during Goth parties. Randomization consisted in choosing an unknown individual among people present in the place provided that this possible participant appeared to be involved in the subculture (respecting the dress code, exchanging with other persons appearing to be also members of the subculture according to their aesthetic).

After presenting the aim of the study, the protocol, the way data would be used (anonymously), an oral informed consent was obtained. The written informed consent was not used for fear of having a refusal because of its conventional aspect. However, the aim of the study was not completely unveiled at this stage of the interview in order to reduce the bias due to social desirability (tendency of respondents to answer questions as expected by the interviewer and/or in accordance to what they understand of the research). Therefore, the interviews could be considered as blind experiments since information about the aim of the study was kept from the participants until after the interviews.

The interview was then face-to-face, usually in a bar. It was semi-structured at the beginning, asking subjects to tell about their job, describing work activities, giving details about job duration, company size... Then discussion was free with no time limit. Subjects were asked to detail some points of interest of their narrative for the study. Interviews were not recorded again for fear of having a refusal. The consequent drawback was that the interviewer had to ask for repetitions.

Notes of the interviews were then analyzed by means of inductive content analysis applying

methods of systemic analysis [23] or Grounded Theory methods [24]: the analyst identified a posteriori, with cross-checks, the verbal categories that need to be represented [23] giving rise to a collection of key points extracted from the interviews. The material of this method guaranteed exhaustive identification of clues and reduced the analyst's filter as it did not begin with a hypothesis but started from data collection. Key points were then marked with a series of codes. Here, an exact written transcription of the interviews was not needed as what was sought was expressions in relation with the aim of the study. Taking notes was sufficient to capture these ideas during the interviews and to link them with key points later. This method also preserved the spontaneity of the narratives which could have been inhibited or biased by the exclusive use of questions prepared in advance.

On the basis of this material, statistical and qualitative analysis were undertaken in the aim of characterizing and understanding the relationship at work, looking for characteristics of discrimination related or not to aesthetic.

2.3 Subjects

Because our study focused on the relationship between garments and jobs, we met only people respecting the expected aesthetic (garment criterion) as described in 2.2, and having or having had a job (job criterion) excluding therefore students. The garment criterion combined with the pre-observation of the subjects (see §2.2) and the place where they were met (§2.1) contributed to the reliability of the selection process.

The lowest age was 25 years and the average age was 35 years. Some readers might think that some of the subjects met could be a bit old. However, Fournier [12] noticed in her study of the Gothic subculture: "having the same pace of life when 40 years old as when 25 years old is perhaps idealistic, even irresponsible. Whatever it is, this choice reflects inherent deep beliefs of the individual and are not anymore signs of a teenage rebellion. It favors a lifestyle in harmony with ideas, e.g. preferring less material but more hedonistic values: partying, enjoying the moment, enjoying friendship."

Despite subjects were met in Paris, some of them had a job in Paris suburb or in a far town. Subjects ($N_s=14$) were chosen white skin and working with white skin colleagues so that to avoid any bias due to racial prejudices. Some of

them had several professional experiences. This allowed us to analyze $N_c=18$ cases (the pre-estimation of the number of cases needed is described in Appendix).

In order to preserve anonymity, all given names are replaced by fictitious names.

3. RESULTS

3.1 General Considerations

Subjects all showed an emotional implication in their narratives. For most of them, the interview seemed to be a moment long awaited, an opportunity to tell someone at last what they had endured. Two female subjects cried. The interview duration was about 1 h 30 but in some cases it lasted for more than 2 h 30.

Subjects were 50% male, living with a partner of the subculture for 71%.

Among the jobs described during interviews, some were linked with the subculture (e.g. barman, gallerist, tattoo artist): subjects thus met people of their subculture as managers, colleagues and clients. These jobs are labeled “ingroup job” thereafter, otherwise “out-group job”. Among the cases studied, 72% concerned out-group jobs.

Among all $N_c=18$ cases, 83% implied direct contact with clients. When restricted to out-group job cases, it was 77%, whereas 100% for ingroup job cases.

3.2 Inductive and Statistical Analysis

The inductive analysis helped us to point out expressions having recurrent or important meanings. Recurrent and important meanings are these with high proportion of occurrence. When this proportion is low, the meaning is important but not recurrent. These meanings are listed below, where “Goth details” designates details of subjects’ appearance referring to Goth subculture (clothes, jewels, shoes, hair dress, tattoo, make-up):

- J01: They were asked explicitly to remove Goth details at work
- J02: They received aggressive comments from their management regarding Goth details
- J03: They progressively tried to come back to their original look

J04: They received NO aggressive comments from their management regarding Goth details

J05: They received positive comments from their management regarding Goth details

J06: They felt a decrease of aggressiveness regarding Goth details with time

J07: They felt a negative assessment of their competencies due to Goth details

S08: Goth is a style of life

S09: Dressing is the personality

S10: The outgroup is mainly described as people belonging to a majority

Among these 10 recurrent meanings, 7 are job-related among which 4 may be considered as a positive outgroup approach of the Goth subculture (J03 to 06) and 3 others as negative; 3 are subjects’ life style-related (S08 to S10). Fig. 2 gives the percentage among all $N_c=18$ cases concerned by each item differentiating these when relating to an outgroup job and when relating to ingroup job.

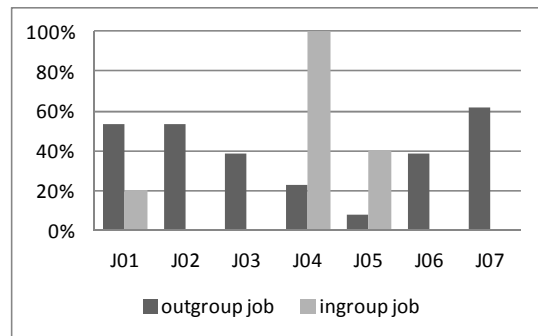


Fig. 2. Percentage distribution over job-related items (Jxx) for outgroup-job and ingroup job samples

Except J07, all expressions resulted of spontaneous expressions and not of direct questions. This is why for example the sum of percentages for J02, J04 and J05 is not 100%: some subjects did not tell anything regarding these meanings.

Regarding S10, the “majority” must be understood as used by Moscovici [25], i.e. people conforming to the norms of the society in which they live. Words used by the subjects to describe this majority were “people like everyone else”, “normal”, “ordinary”, “like most of the people”. Other expressions are reported in section 3.3.

Fig. 2 shows a clear difference between the “outgroup” job sample and the “ingroup job”

sample regarding the job-related items (Jxx) calculated for the *Nc* cases.

Regarding the life style-related items (Sxx) calculated for the *Ns* subjects, Fig. 3 gives the proportions.

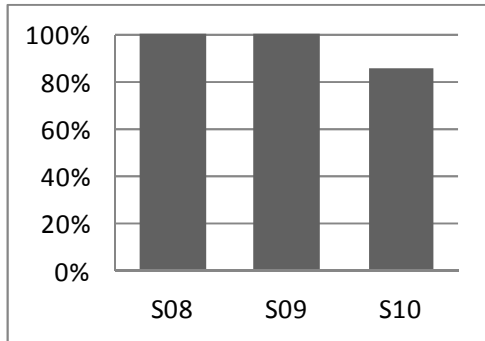


Fig. 3. Percentage distribution over life style-related items (Sxx) for all subjects

The homogeneity of the items quoted by the subjects was rated by calculating the Cronbach's alpha. For all subjects and the whole set of items Jxx and Sxx (J06 excepted), the coefficient was .80. When restricted to items Jxx, the coefficient was .77. This showed that the internal consistency of the data was good.

The comparison of the distribution of the items Jxx between the outgroup-job sample and the ingroup-job sample (Fig. 2) was characterized by the difference of ranking over the items through the non parametric test of Kolmogorov-Smirnov: the coefficient $D=.41$ ($p<.05$) reflected a significant difference between the distributions. This was confirmed by a high value of $\chi^2=19.23$ for a threshold at 16.81 ($p<.01$).

3.3 Qualitative Material

Narratives helped us to illustrate several concerns of the study. It appeared interesting here to exemplify:

- The relation to black color (related to S08, S09) since it was one of the criteria defining the subculture,
- The relation to people out of the subculture since the inductive analysis emphasized a significant difference between subjects with outgroup jobs and these with ingroup jobs; this was done through elements regarding the interaction with outgroup and how this outgroup was perceived (related

to J01 to J07 and S10), and also through the perception of ingroup-outgroup border at work (related to J02, J04, J05, J07 and S08, S10),

- The subjects' competencies and their adequacy with the position (related to J07) since this related to the aim of the study.

3.3.1 Relation to black color

Katia, head manager of a shop in Paris, defined her clothes: "I remain in black [...]; It will always be close to such a style Metal, Goth." Vladan reported remarks regularly made to him about his clothes. Some colleagues suggested, always in an ironic way, that he was in perpetual mourning. Others have suggested or even tried to convince him to "wear colors", "less sad colors". "For me", Vladan suggested, "black is not sad, on the contrary. It is a color in which I feel good. In addition, it is elegant and sober. What is sad is that all these people can only see grief and sadness in black."

This notion of "feeling good" in that color was recurrent during interviews:

Giorgi: "I feel good only in black."

Goran: "Be at ease, with a look that goes in the milieu."

Monstro: "The main thing is to feel good; These are my clothes; I know that in my clothes, I am alright. Watching of others, it's been long that I don't care anymore."

According to Valentina, dressing "is the personality".

3.3.2 The outgroup's perception

Vladan has explained that, regularly, depending on television programs or what was presented at the cinema, he was the target for new comparisons: "Hello, here's Man in Black", or "Hi Matrix".

Vladan's experiences with references to movie characters were not unique. Kina exhibited similar attitudes. Working in the accountancy department of a multinational, her office was located in Paris suburb. Dressed constantly in black, black hair parted down in symmetrical twintails, dark makeup, Kina was regularly called "N.C.I.S." by colleagues, referring to Abigail "Abby" Sciuto, character portrayed by Pauley Perette in American police drama TV series "NCIS".

Some have explained that they were ready to move away from their town to avoid this type of constraints: To find the environment and way of life that suited him, Yakov has chosen to be piercer (piercing maker) in Paris. Before, he worked in the province in a shop of a gardening chain. He lived a dress transition every day at work in wearing the company uniform, but he felt "to betray something": "I had the feeling to give an image of me that was not honest". He lived in a small village and when he dressed as he wished, "it was very very bad; Gothic fashion was less developed, with a bunch of weird rumors: they [Goths] are weird, they sleep in cemeteries, they are vampires." However, if at work it was forbidden for him to show his piercings or tattoos, there were no special comments on his fashion style.

Flawia explained, at the exit of a concert, that she could not dress herself as it was this night to go to work because of assumptions that her dress triggered: "People always imagine things. [...] Even my mother, who knows me well, she imagines incredible things!"

This was not the case of Viktor, employee for several months as a technician in a company for elevators maintenance. He had to wear a uniform for his work, uniform that he put on in the common locker room of the company. "Something who caused many questions from colleagues was tattoos and piercings. I undressed in the locker room to not be annoyed in the street. I wore nothing apparent [tattoos and piercings are hidden under a T-shirt], but I had [in those times] two piercings [in the chest, side by side] which highly impressed. It is not something current; people were blocked on it. For example, they asked me if I was crazy to do such a thing; the tattoo is more easily accepted: People were curious, interested in tattoos."

3.3.3 Ingroup-outgroup border at work

When we asked Vladan how he perceived himself relatively to the outgroup (expressed during the interview in another form: "people that the Goths say 'normal'"), he explained to feel "frankly apart. I would not be amalgamated with all those people who are all the same, seem all to dress according to global rules designed by others for doing the same things at the same time as going on holiday in August on crowded beaches, or watch the same crap on TV." This need to feel apart was often claimed during our interviews. Vassa, artistic assistant in a

contemporary art gallery, explained her dressing aesthetic as follows: "I have the feeling of being myself. I don't have the feeling that people have thought on themselves; It's harder not to blend in the mass." We may complete Vassa's words by those of Anastasia: compared to the dominant standard, she expressed the desire to feel "as far as possible; at the extreme, I'd be almost ready to dress me like a bag of potatoes to be different."

With his new job of piercer, Yakov said to be himself according to his own words: "I try not to go in this standard [the outgroup norm]; I don't want to be in: it erases someone's personality to please others." This attachment to the personality is recursive as shown above (§3.3.1) with Valentina's verbatim and as illustrated by quantitative data Fig. 3.

The barmen met in the study obviously belonged to those people who have chosen a job consistent with their cultural aspirations. Prior to this job, Giorgi was sales representative. He had to wear suit and tie during the day; he chose black on black, "the more rotten period of my life after the army" he said. Relatives that met him in the subway told him: "G., is that you?", "well, yes!" he replied. He lived these dressing constraints "in the sense that it was not me, but it did not kept me awake at night". He was not bothering meeting "friends of the night" facing him in jacket: "it made them laugh!" He explained that in his new professional context, he did not hear any specific remarks regarding his clothes; now it was only "the eyes of others in the street" appearing as a mark of reprobation more than verbal expressions. Goran, another bartender, expressed his happiness to be able to do this job in these terms: "this is a whole, atmosphere, music, events that may happen, all the friendships there is inside."

Between these extreme configurations where people have the chance to choose an employment which corresponds to their cultural and social aspirations (e.g. Yakov, Gorgi), and those otherwise extreme where people must leave or refuse a job (e.g. Romana, Monstro), intermediate contexts for outgroup jobs can be identified for which:

- The interaction personal clothes-job has little impact on the professional context (Vladan),
- People agree to the concession in their usual clothing, possibly through the mastery of a few details (Viktor, Pavlin).

We noticed however more subtle contexts in which the employer's attitudes could reverse from rejection to acceptance. This was the case of Valentina and Anastasia.

Valentina, financial consultant in a banking corporation, had a job involving frequent contact with the public. Her appointments were most often at the place of work, in her office, but she could have to move to the client's building. Theoretically, she was supposed "to wear a suit, or something classic". "Initially, this is what I was doing, and then little by little I started to scrounge". In general, Valentina was dressed according to her private meetings which could make her changing clothes several times a day. In her workplace, "a seller [i.e. a financial advisor] is supposed to have classic outfit". However, although she affirmed her own fashion style, she had little remarks from colleagues about what she wore. "It's mostly about the piercings, and she [her manager] has not yet seen tattoos". Valentina however said not to provoke: "I don't provoke, I'm trying not to shock".

Anastasia had also lived a story where she was able to impose her style. Under interim contract within a pharmaceutical company, she worked first in the laboratory where wearing sterile attire was mandatory, then held a commercial assistant position. For this second position, her superiors asked her to remove her jewelry (including her wide ring ear, her piercings), and to cover more parts of her body, in particular to reduce the wideness of the neckline. "The pretext: I was in relation to clients and this would not necessarily suit the clients" who were received in the offices of the company. If Anastasia did actually reduce the number of jewelry, also reduced her neckline, she chose to keep her fashion style, her makeup, and some piercings. Some managers "realized that it did not bother, even opposite"; however, this "did not prevented from remarks, without being orders [to remove the Goth details]". At the end of the contract, Anastasia had finally managed to keep her personal aesthetic. Despite remarks and requests for clothing changes that had been made during her contract, "when I left, I was asked: do not change". Sometime later, this company has recalled her as a replacement to keep the phone switchboard and the front desk: the contact with clients was important too. This recall was the proof that her work had been appreciated (according to her), and that her look differing from all of the other employees had not been categorized as harming the requested

objectives. "It was alright. At the end, they called me the 'Lady in black'. It was said that I was macabre". Speaking of clothes, "I was told: ah! that it's nice; I wouldn't wear it but it's nice!" Anastasia added with a smile: "they even scolded me when I did not hair dressed oddly!"

Viktor left his previous job as maintenance elevator technician to become network technician. There he was also living daily clothing transitions due to his work, because he was meeting foreign clients that he described as "strict". Wearing a suit and tie during the day was mandatory. He explained that the acceptance of this job required tacitly such dressing. Viktor was encountered during the interview of Goran. When Viktor came toward us, Goran said "Hey, this is an interesting case; usually it is not like that: the tie, it is exceptional!" If Viktor had accepted these clothing terms associated with the job, he admitted however: "I try to turn the constraints according to my tastes, playing on details, almost like a game".

Pavlin was in the same case than Viktor. During the day, he was financial advisor for wealth management, and in the evening he became bartender. During the day, he worked with commercials, assessors and had many contacts with clients. In the day, he wore suit and tie; He even presented himself so to his employer at the outset. In fact, no remark was made about his dressing nor about his hair that he wore very long and gathered with hairbands. "I'm in a firm, as long as the job is done, it is accepted", "If I get out, I change, because suit and tie, I don't like". If he was particularly fond of the social environment in which he lived in the evening, Pavlin brought a personal note to his clothes: he dressed himself in "white and functional, because I'm in an environment where everyone wears black, and it is so beautiful to be white among a black world".

3.3.4 Competencies and adequacy with the position

According to Vladan, co-workers did not seem to not infer professional expertise from the perception they have of his clothes, perception explained by looks or comments, sarcastic sometimes. "Nevertheless", he said, "I am careful how I dress and depending on what I have to do during the day. For example, I am almost always dress in black, entirely in black. [...] it happens I wear a tie, black on black."

If, for Vladan, his professional relatives' behavior was limited to comments without inferring judgments on his skills at work, this was not the case for everyone.

Monstro reported a job interview for a position of night watchman in a pharmaceutical company: "Night work, 400m² of warehouses to keep; you meet nobody". The recruitment officer presented him the position that required no particular qualification, led him to visit warehouses, and offered him to return to her office to sign the contract if he agreed. In the office, she asked him when he was free: "next Monday". But at the time of submitting the contract for signature, she told him: "Yes, anyway, when cut, it regrows". She meant that he had to cut his hair that he wore very long in ponytail. He threw the pencil and told her that he was not going to cut his hair "for a fucking job". He did not sign and left. The assumption that can be made here is that the appearance was not assessed in adequacy with the position. Yet Monstro felt it as a negative assessment of his competencies.

Romana, MSc Language & Civilization in English, was part of an association through which she gave private lessons to young schoolchildren. If her current work presented no particular issue, her previous work experience was hardly bearable. She was cashier in a big store of DIY in Paris suburb, where a specific dress in specific color was provided to the staff. "Initially, we could keep our own pants. I started the piercings, and when I did my labret piercing, I received the threat of forced rest [from the management], with explanation of my human resource manager that normal people were expected at cash desks. The store evolved; the head manager changed, and every week, I had remarks about my labret; [we changed for] the complete uniform, trousers straight cut... They did not appreciate that in two month time, I went from brunette to blonde, redhead and brunette. We celebrated Halloween [in the store] and that day I arrived in Goth, and here I received: 'you see, we let you keep your piercing', as if it was a favor." Romana ended up leaving this job, concluding that everything was done to show she was not competent for the job.

4. DISCUSSION

4.1 Relation to Black Color

Despite identities that compose the Goth subculture are multiple as mentioned in section "Introduction", black color for clothes is one the

main binder that contributes to give consistency to this subculture. All of the subjects met in interviews were dressed in black during the exchanges and the verbatim reported in section 3.3 showed how important this color was (only one subject explained to play with white color). Studies regarding membership social comparison showed that group identification was a priori elaborated on the basis of judgments themselves elaborated on the basis of aesthetic criteria before all things, and then on the basis of behavioral criteria [14,15].

This aesthetic consistency follows the description of the social psychologist Moscovici as synchronic and diachronic [26]: synchronic consistency in connection with the apparent consistency of the whole group at a given time, and diachronic consistency referring to the maintenance of this consistency over time.

The physical appearance is also a kind of message to the Other, with regard to the Other. As noticed in "Introduction", the look is not elaborated at random; it is the first information given in a meeting associated to a desire to communicate something [12].

4.2 The Outgroup's Perception

The perception of the Goth subjects by the outgroup in the workplace is of interest because clearly this does not stop at a simple glance: it periodically leads to remarks about the appearance and it has a tendency, as perceived by some of the subjects and as discussed thereafter, to amalgamate with a judgment on the person, and by extension sometimes, on the work done. Regarding the verbal remarks, 54% of the reported cases with outgroup job gave an account of aggressive comments and 62% perceived a negative assessment of their competencies, assessment linked with Goth details. Yet it is important here to notice that the outgroup's perception is described only from the Goth subjects' standpoint; indeed, accessing to the outgroup's perception without the filter of the Goth subjects' perception would imply another study oriented towards the outgroup.

The interviews showed that subjects received these kind of remarks most of the time from people which they said "people like everyone else", "normal", "ordinary", "like most of the people", i.e. from the "majority" in the sense of Moscovici [25] as explained in section 3.2. The inductive analysis showed that 86% of the

subjects merged this “majority” and the “outgroup”.

The examples of sarcastic or aggressive expressions reported in section 3.3 may find their basis in the need that those who expressed them had to increase self-esteem. This process was proposed by Anne-Marie de la Haye [27]: It would develop according to two different mechanisms, cognitive and psycho-social, determining the perception of others by the individual, or group by another group. The perception of a group by the individual and one person in this group by the individual proceeds according to different mechanisms, including those of cognition and those related to social learning. The cognitive aspect is associated with the phenomenon of illusory correlation to assign characteristics to others, not because they are socially acceptable, but because this allows the individual to increase self-esteem, having need to despise someone to upgrade him/herself, or not to perceive him/herself without any value.

Following discussion shows that this may combine with other mechanisms.

4.3 Ingroup-Outgroup Border at Work

Differentiation between ingroup and outgroup is posed as a constituent of the ingroup as for any movement seeking to be called “subculture” and/or “alternative”.

“Subculture” itself presumes differentiation. Fine and Kleinman, in their interactionist approach [28], suggested that “subcultures” must be conceptualized in terms of “cultural spread occurring through an interlocking group network characterized by multiple group membership, weak ties, structural roles conducive to information spread between groups, and media diffusion. Identification with the referent group serves to motivate the potential member to adopt the artifacts [material elements including clothing, hairstyle, ritual objects, foods, tools, and play objects], behaviors, norms, and values characteristic of the subculture.”

“Alternative” is not an easy term to define. This is probably why almost all authors use this term without defining it. Garland & Hodkinson [29], in their recent contribution to depict and analyze the victimization process related to alternative subcultures, attempted to clarify the notion of alternative subculture which “actually comprises an umbrella concept that encapsulates a number

of discrete groups [...] [each with] its own distinct identity, while collectively sharing with the others a sense of difference from ‘mainstream’ fashion, peer groups and music as exemplified, e.g., in typical chart music, high street clothes stores or popular nightclubs”.

We may suggest here that “alternative subculture” is a group of people with distinct identity from the referent group (the majority group) and therefore posed as a minority group; members of the group share typical artifacts (material elements including clothing, hairstyle, ritual objects, foods, tools, and play objects), behaviors, norms, and values inducing a typical cultural code including clothes, music, literature, cinema and thus implying special clothes stores or specific meeting places.

Vladan, explained wishing to be different from all those people all doing the same (to make it short). Vassa told wishing not to blend with the mass. Is this kind of conformity of the mass effective?

Moscovici [25] talked about “compliance” imposed on people by fashion, means of communication or institutions, in short by the “tyranny of the majority”; he nuanced however: “the rule of the majority itself, so important in a democracy, may have more qualities than others, it represents a pressure to conform but not to agree” [30].

If this social process may be observed for the “majority”, the out-group, such a result is also observed in the ingroup. For both there is a convergence of behaviors, of thoughts, of values. But for the out-group, Moscovici [25] spoke of tyranny, while for the ingroup, Fournier [12] spoke of choice. Therefore we may claim that the compliance to conformity exists for both groups (in and out) but that the processes leading to it as well as the norms defining this conformity differ from one to another.

This collective convergence of thought is accompanied by inter-group judgments. Researchers have shown that when subjects perceive shared values (social, moral, ethics) with others, their judgment of others is positively oriented [31,32]. In addition, according to Darley & Gross [13], the value assessment (positive, resp. negative) that the subjects make of an unknown person can be induced by the perception (positive resp. negative) that the subjects have on the social status of the subject.

These consequences resulting of group differentiation will foster the analysis of perceived competencies in section 4.4.

This social posture on the margins of the “majority” seems to elaborate on a bilateral basis: on the one hand, as we have seen, induced on one hand by the ingroup perception of the outgroup and on the other hand by these of the ingroup themselves who are clearly looking to stand out from this dominant standard by their way of life, their practices, their behavior, the way they take place inside the society, by what they give others to see. This refers to the notion of “habitus” introduced by Bourdieu [33], according to him a fundamental concept of a subculture in that habitus are essential founders of a subculture and that they allow the social recognition of this subculture. Bourdieu wrote: “one of the functions of the habitus is to account for the unity of style that unites the practices and property of a singular agent or a class of agents [...]. Habitus is the generator and unifying principle which retranslates the intrinsic and relational characteristics of a position in a unit lifestyle, i.e. a unitary set of persons, goods, practices.” The concept of habitus also helps to understand differences within the ingroup: the habitus “are differentiated; but they are also differentiating. Distinct, distinguished, they are also operators of distinctions: they implement the various principles of differentiation or use differently the common principles of differentiation.” Also habitus contribute to the emergence of a subculture by generating practices, “generating principle of separate and distinctive practices”, and posing what is given others to see as different both from the cultural whole as a single part and from other subcultures. Habitus therefore contribute to distinguish a subculture from the whole as well as from the constitutive parts of this whole. This matches Fournier’s work [12] proposing that, if subculture members wish to “distance themselves from the society as a whole, it is not necessarily to isolate themselves radically from the whole, but to find a reference group” sharing similar ideals. She remarked: “to reconcile a marginal lifestyle and a professional life, there is a solution: an artistic profession, yet better in the world of rock or nocturnal recreation.”

4.4 Competencies and Adequacy with the Position

The question of competencies or of the subjects’ adequacy with the job is crucial: item J07 of the

inductive analysis shows that 62% cases with subjects involved in outgroup jobs were associated to a negative assessment of subjects’ competencies due to their Goth appearance. If we restrain to the cases of outgroup jobs with direct contact with clients, this increases to 77%.

This is partly due to the importance given to appearance in the world of work as demonstrated by previous works.

Cavico et al. [34] reminded in introduction of their paper how North American society was shaped by media programs emphasizing physical appearance importance. “Consequently, employers realize that looks do matter, and their hiring decisions reflect this simple fact.” [35].

Mahajan [36] suggested that “such judgments have less to do with the importance of [...] appearance to individuals or employers and more to do with society’s expectations.”

When this appearance-based judgment is biased by “horn effect” (referring to the tendency to limit the overall assessment of an individual to a single negative attribute (according to Rubin [37] quoted by McDougall et al. [11]), then any detail perceived as negative may lead to a negative judgment of an individual. As exposed in section 4.3, one starting point of such a negative assessment might be due to the impossibility for the managers or colleagues to perceive shared values with Goth subjects.

Several studies pointed out that appearance could be a bias in hiring selection. Among these contributions, some showed that appearance could be also seen by recruiters as a relevant hiring criterion because matching or not the needs of the job (e.g. [38], [39]). Despite not seen as part of the expected competencies, appearance could nevertheless be appreciated as a key feature: “in terms of job compatibility, some perceptual traits may be more likely to be selected for in terms of perceived fit” [40]. Little [40] suggested “a more general name for the effects of appearance or behavioral traits leading to context specific choice of particular individuals: ‘task contingent selection’ or ‘task congruent selection’.” In the line of Little’s work, we suggest that the observed “horn effect” may also be induced by the managers’ perception of subjects’ appearance as not congruent with what the managers understand of the job needs.

4.5 Confrontational Context

Social differentiation, inter-group judgment, horn effect and task congruent selection are as many factors that pre-foster a confrontational context.

4.5.1 Competencies dimension

Among all the previous testimonials reporting context of conflict, there is an important feature: it appears that the conflict develops from the adequacy or inadequacy of the subject for the position (task congruent selection), the subjects being evaluated based on their aesthetic appearance. This appearance reflecting a so-called alternative subculture, thus rejecting the common rules of society, we can make the assumption that management assumed this rejection of common rules as an obstacle to interactions, collaborations, communication with others (managers, colleagues, clients). This attitude may also proceed of a projective mechanism whereby the manager assigns subjects what s/he feels towards them. The ability to interact, collaborate, communicate being part of social skills, assessing a lack of such skills would logically lead managers to consider partly incompetent subjects and therefore not suitable for the position.

Thus, beyond task congruent selection, the conflict may address competencies in terms of social skills.

According to the theory of the conflict [41], social conflict develops from four types of tasks: objective unambiguous tasks (simple tasks for which the response is known at the outset), aptitude tasks (involving the resolution of a problem, skills), opinion tasks (thoughts, attitudes and values...), socially non-engaging tasks (with non-significant social issues, for which one response compared to another does not matter). In the cases reported in the present study, the conflict would develop from an opinion task to be then expressed in terms of aptitude task. This hypothesis would therefore indicate that the subjects' efforts to summon all their skills and competencies would not resolve the conflict to the extent that it does not tackle the source of the conflict: it would deal with the aptitude task while the problem comes from the opinion task.

4.5.2 Socio-organizational dimension

Examination of the various professions encountered in the study showed that the

situation was perceived more difficult by individuals holding jobs requiring few qualifications and within a context of precariousness (e.g. cashier or night watchman with short term contract).

This kind of work context matched one type of company categories as defined by Uhalde [42]: "dual company". They are characterized by "consuming low-skilled workers, offering simple products on markets submitted to large variations in terms of demand. Their competitive advantage lies in low prices and flexibility of production capacity. The dual company adapts to these constraints by the establishment of a neo-taylorian work organization, combining reinforced control of work, downstream production flow management and high work flexibility (schedules, replacements, assignment on workstations...). The human resource management also establishes a dualisation between employees maintained in precarious jobs and a 'core' of employees enrolled in courses of qualification and promotion. Socially, the dual company is a poor and frozen world: A minority of employees is actor, the constrained relationships of domination-submission type prevail as well as professional identities marked by withdrawal." [42].

Among the cases studied, 72% were concerned by an out-group job among which 54% were identified as working in a dual company.

The ϕ coefficient assessing correlation between "working in a 'dual' type company" and receiving aggressive comments from the management due to Goth details at work (J02) exceeds .77 ($p < .01$). Among subjects working in dual company, 71% perceived a negative assessment of their competencies due to Goth details (J07).

Indeed, the dual company works with a staff of supervision which must necessarily install a system of domination-submission in one way or another, and which expects subordinates' professional identities marked by withdrawal. When an employee is seen as "deviant" in the team as it is most often the case of Goth subjects, only one perspective appears possible: preserving the situation. In this case, regardless of the efforts made by the Goth subject to improve contact, relationship and quality of the work done, the confrontation just can be effective except if all what makes the Goth is abandoned (appearance and mind).

5. CONCLUSION

Studies undertaken with members of the Goth subculture in France and examined through statistical, qualitative, and inductive analyses of interviews, have shown an effective clothing-based discrimination at work towards them in particular conditions: working with colleagues whose culture is that of the "majority" (The outgroup) as defined by Moscovici [25]. Data have shown that this discrimination was amplified when the job was done in a company of dual type as defined by Uhalde [42], where domination-submission relationships prevail and where professional identities marked by withdrawal are expected by management.

Despite the prior position of an alternative subculture to stand apart from the dominant social culture of the society thus fostering at the outset the premise of discrimination by differentiation, data collected suggested that discrimination could proceed of the combination of several socio-psychological mechanisms: a belief that appearances do matter at work, mainly elaborated by mass media, and a typed Goth look to which people associate easily negative imaginary traits and behaviors; a negative appearance-based judgment biased by "horn effect" and a consecutive task congruent selection moving towards a negative competencies assessment, especially when no shared values are perceived by the outgroup (inter-group judgment) in a society where compliance to the majority may be expected; a resulting confrontational context developed from an opinion task conflict but expressed in terms of aptitude task, making thus vain Goth subjects' efforts to resolve the conflict.

The main limit of this study is that some of the conclusions remain at the stage of assumptions. Studying the outgroup standpoint regarding Goth subculture would be welcome. It would help us to validate or not some of our hypothesis, to eventually characterize the profile of people preferentially inclined to adopt this clothing-based discrimination and to better understand how the possible resulting conflict is generated.

ACKNOWLEDGEMENTS

The author would like to thank Dr. Helen A. Green, Dr. Catherine Nicholson, for their advice and Mrs. Laetitia Roulliac for her contribution.

The author is also warmly grateful to all participants of the observations and interviews.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. The Economist. Dress codes. Feb.-March 2015;414(8927):44.
2. Shepherd J. Strike threatened after teacher is fired for wearing trainers. The Guardian; 2008. Available:<http://www.theguardian.com/education/2008/dec/29/trainers-tower-hamlets-teacher>
3. Cavico FJ, Muffler SC, Mujtaba BG. Appearance discrimination in employment: Legal and ethical implications of "lookism" and "lookphobia". Equality, Diversity and Inclusion: An International Journal. 2012;32(1):83-119.
4. Pogontseva D. Modern Social Phenomenon of the Appearance Discrimination. Annales Universitatis Paedagogicae Cracoviensis. Studia Sociologica. 2013;(V/1):108-114.
5. Warhurst C, Van den Broek D, Hall R, Nickson D. Great expectations: gender, looks and lookism at work. International Journal of Work Organisation and Emotion. 2012;5(1):72-90.
6. Myers D, Abell J, Sani F. Social Psychology. 2nd ed. New York: Mac graw Hill; 2014.
7. Discrimination in the European Union: Perceptions, Experiences and Attitudes. Special EUROBAROMETER 296. 2008. Accessed July 2015. Available:http://ec.europa.eu/public_opinion/archives/ebs/ebs_296_en.pdf
8. Discrimination in the European Union in 2012. Special EUROBAROMETER 393; 2012. Accessed July 2015. Available:http://ec.europa.eu/public_opinion/archives/ebs/ebs_393_en.pdf
9. Amadieu JF. Le poids des apparences [The weight of appearance]. Paris: Odile Jacob; 2002.
10. Katz S. The importance of being beautiful. Down to earth sociology. 1995;8:301-307.
11. MacDougall M, Riley SC, Cameron HS, McKinstry B. Halos and Horns in the Assessment of Undergraduate Medical Students: A Consistency-Based Approach. Journal of applied quantitative methods. 2008;3(2):116-128.

12. Fournier V. Les nouvelles tribus urbaines [New urban tribes]. Chêne-Bourg (CH): Ed. Georg; 1999. French.
13. Darley JM, Gross PH. A Hypothesis-Confirming Bias in Labeling Effects. *Journal of Personality and Social Psychology*. 1983;44(1):20-33.
14. Rothbart M, Taylor M. Category labels and social reality: Do we view social categories as natural kinds? In: Semin G, Fiedler K, editors. *Language, interaction and social cognition*. London: Sage. 1992;11-36.
15. Shandron G, Morchain P, Yzerbyt V. Le rôle de la fonction explicative dans la genèse des stéréotypes [The role of the explanatory function in the genesis of stereotypes]. *Cah. Int. de Psy. Soc.* 1996;31(3/96):11-23. French.
16. Knapp ML, Hall JA. *Non verbal communication in human interaction*. Fort Worth: Harcourt Brace; 2001.
17. Macrae CN. Social cognition: Categorical person perception. *British Journal of Psychology*. 2001;92:239-255.
18. Fiske ST, Neuberg SL. A continuum model of impression formation, from category-based to individuating processes: Influences on information and motivation on attention and interpretation. *Advances in experimental social psychology*. 1990;23:1-74.
19. Lorentz Ch, Leguay St, Steing O, Tale A. *Carnets Noirs: Acte 1, La scène internationale [Black notebooks: Act 1, The international scene]*. Paris: K-Inite; 2003. French.
20. Lorentz Ch, Glénadel M, Leguay St, Camus O, Ambre, Tale A, Blay Y, Lachaud M, Vignat R, Badin O, Adam C, Steing O. *Carnets Noirs: Acte 2, La scène francophone [Black notebooks: Act 2, The French scene]*. Paris: E-dite; 2006. French.
21. Durafour A. *Le milieu Gothique [The Gothic milieu]*. Paris: Ed. Le Manuscrit; 2005. French.
22. Rigaux Ph. *Continent Dark*. Paris: Ragace; 2009. French.
23. Nosulenko V, Samoykenko E. Psychological methods for the study of Augmented Environments. In: Lahlou S, editor. *Designing User Friendly Augmented Work Environments*. London: Springer Verlag. 2009;213-236.
24. Martin PY, Turner BA. Grounded Theory and Organizational Research. *Journal of Applied Behavioral Science*. 1986;22(2): 141-157.
25. Moscovici S. *Psychologie sociale et relations à autrui [Social psychology and relation to the Other]*. 5th edition. Paris: Armand Colin; 2005. French.
26. Moscovici S. *Psychologie des minorités actives [Psychology of active minorities]*. Paris: PUF; 1979. French.
27. De la Haye AM. *La catégorisation des personnes [Categorization of people]*. Grenoble: Ed. PUG; 1998. French.
28. Fine G A, Kleinman S. *Rethinking subculture: An interactionist analysis*. *American Journal of Sociology*. 1979:1-20.
29. Garland J, Hodkinson P. 'F** king Freak! What the hell do you think you look like?' Experiences of Targeted Victimization Among Goths and Developing Notions of Hate Crime. *British Journal of Criminology*. 2014;54:613-631.
30. Moscovici S, Doise W. *Dissensions et consensus - Une théorie générale des décisions collectives [Dissentions and consensus: A general theory of collective decisions]*. Paris: Presses universitaires de France, Collection Psychologie Sociale; 1992. French.
31. Morchain P. Valeur et perception stéréotypée des groupes [Value and stereotyped perception of groups]. *Cahier de l'URMIS*. 2006;0-11. French.
32. Stathi, S, Crisp RJ. Intergroup contact and the projection of positivity. *Int. J. of Intercultural Relations*. 2010;34:580-591.
33. Bourdieu P. *Raisons pratiques – Sur la théorie de l'action [Practical reasons - on the theory of action]*. Paris: Le Seuil; 1994. French.
34. Cavico F J, Muffler SC, Mujtaba BG. Appearance discrimination in employment: Legal and ethical implications of "lookism" and "lookphobia". *Equality, Diversity and Inclusion: An International Journal*. 2012;32(1):83-119.
35. James HR. If you are attractive and you know it, please apply: Appearance based discrimination and employers' discretion. *Val. UL Rev*. 2007;42:629-673.
36. Mahajan R. *Naked Truth: Appearance Discrimination, Employment, and the Law*. *Asian Am. Law J*. 2007;14:165-203.
37. Rubin S. *Performance Appraisal: A Guide to Better Supervisor Evaluation Processes, Panel Resource*. National Society for Internships and Experiential Education. Washington, DC US. 1982:Paper No.7.
38. Fiedler FE. A contingency-model of leadership effectiveness. *Advances in*

- Experimental Social Psychology. 1964;1:149-190.
39. Spisak BR. The general age of leadership: Older-looking presidential candidates win elections during war. PLoS One. 2012;7:e36945.
40. Little A, Roberts SC. Evolution, appearance, and occupational success. Evolutionary Psychology. 2012;10(5):782-801.
41. Pérez JA, Mugny G. Influences sociales. La théorie de l'élaboration du conflit [Social influences. The conflict development theory]. Neufchâtel, Paris: Delachaux & Niestlé; 1993. French.
42. Uhalde M. La sociologie de l'entreprise et l'action [Sociology of enterprises and action]. In: Sardas JC, Guenette AM, editors. Sait-on piloter le changement ? [Does anyone know how to manage change?] Paris: L'Harmattan; 2004. French.
43. Eng J. Sample Size Estimation: How Many Individuals Should Be Studied? Radiology. 2003;227(2):309-313.
44. Snedecor GW, Cochran WG. Statistical methods. (8th ed.) Ames, Iowa: Iowa State University Press; 1989.

APPENDIX

Pre-estimation of sample size

This appendix presents statistics analysis regarding pre-estimation of sample size considering that the study was designed to measure a characteristic in terms of a proportion.

Eng [43], based on Snedecor and Cochran's book [44], suggested equation (A-1) for sample size pre-estimation regarding this kind of study:

$$N = 4(z_c)^2 \left(\frac{p(1-p)}{p^2} \right) \quad (A-1)$$

Where:

- z_c is the standard normal deviate corresponding to the selected significance criterion p of confidence interval,
- p is a pre-study estimate of the proportion to be measured,
- D is the accuracy expected regarding the proportion or the minimum expected between the expected proportion and the proportion obtained in a previous study.

The values of z_c for bilateral (two-tailed statistics) and unilateral (one-tailed statistics) significance criteria are given in Table A1.

Table A1. Standard normal deviate z_c and corresponding significance criteria p

Significance criteria p	Bilateral	Unilateral
.01	2.576	2.326
.02	2.326	1.960
.5	1.960	1.645
.1	1.645	1.281

For example, when applied to the present study, as we found that, during preliminary informal exchanges (§2.1) one person over nine did not complain about difficulties encountered by themselves at their workplace, we estimated that the proportion to be measured could be $p=88.8\%$, representing the proportion encountering difficulties amongst cases. We assumed that this value could be concerned by an inaccuracy equal to ± 1 case over $9-1=8$, thus $\pm 12.5\%$ leading to $D=0.25$.

Seeking a confidence interval of 0.9 related to $p=.1$ for bilateral statistics, we have $z_c=1.645$. Applying eq. A-1, this gives the number of cases to be considered: $N_c=17.1$.

© 2016 Fauquet-Alekhine; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
 The peer review history for this paper can be accessed here:
<http://sciencedomain.org/review-history/12488>