What is the impact of Benevolent Sexism on reactions facing unfairness?

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Abstract

Social interactions between men and women are subject to lots of influences, be it during an encounter, on the work place, in an intimate relationship, etc. Moreover, whereas they are in a similar situation, men and women react quite differently. Benevolent sexism is one of the factors that affect men-women relationships.

In this dissertation, an experiment was built in order to study the impacts of benevolent sexism on relationships between men and women in a particular frame: the Ultimatum Game. The authors try to know the impacts of benevolent sexism on women's behaviour during an Ultimatum Game, and that according to the context female participants are in. Female participants played the role of receivers who had to accept or reject offers proposed by photographs of men on the computer screen.

The results of the experiment revealed that the kind of offer (fair, unfair, very unfair), the context (romantic or occupational) and the level of benevolent sexism as well as attractiveness of the photographed male's faces will influence female participants' behaviour and their decision-making process in an Ultimatum Game.

The results will then be discussed and suggestions for future research will be put forward.

TABLE OF CONTENTS

INTRODUCTION

Glick and Fiske (1996) developed the notion of Ambivalent Sexism that is a combination of positive and negative feelings towards women. This form of sexism is composed by a hostile part and a benevolent one. The hostile part is comprised of all the negative feelings that men have toward women, like the fact that they are less competent than men, less strong, more fragile, etc. Moreover, hostile sexists think that women want to control men, through lots of means, like sexuality or feminist ideology, for instance (Glick & Fiske, 2000). The benevolent part of Ambivalent Sexism consists of positive feelings that men possess about women. They consider them as a fragile human being who needs to be protected, physically as well as financially. They also recognise that men depend on women, a dependence that can be defined in terms of a reproductive function. However, these positive feelings are sexists in the sense that women are seen as inferior to men and that they are locked up in restricted roles (Glick & Fiske, 1996) that keep the right order of things, namely that men socially dominate women, and that this justifies the social system in place (Jost & Banaji, 1994).

Several studies showed that benevolent sexism (BS), although positive in appearance, may have deleterious effects on women. It was demonstrated that benevolent sexism, among others, decreases women's performances (Dardenne, Dumont, & Bollier, 2007; Dumont & Dardenne, in preparation) and their impression of competence (Dumont, Dardenne, & Sarlet, in press). Benevolent sexism also has an impact on women in the way they are evaluated. Women who are engaged in non-traditional actions and who do not respect the traditional way of life elicited more hostility to them than women who behave in a traditional way (Hebl, Glick, King, Singletary, & Kazama, 2007; Viki & Abrams, 2002). Moreover, it is worth noting that not only men are holding benevolent attitudes towards women; women also accept benevolent sexism, either as a justification to a restriction (Moya, Glick, Exposito Soledad de Lemus, & Hart, 2007), as a reason to blame women who violate traditional social norms (Viki & Dominic, 2002), or to define women's appropriate behaviour in courtship (Viki, Dominic, & Hutchison, 2003).

Facial characteristics have been the object of several researches in the field of social psychology. It has been demonstrated that the extent to which faces possess a certain level of Afrocentric or Eurocentric features may matter a great deal in everyday interactions. For instance, facial features may activate associated stereotype (Blair, Judd, Sadler, & Jenkins, 2002) and these associated stereotypes may have impacts in the legal field and on the heaviness of legal punishment (Blair, Judd, & Chapleau, 2004a). Moreover, this activation of associated stereotypes that are elicited by facial cues is quite automatic and people are not conscious of using it, which makes it difficult to avoid (Blair, Judd, & Fallman, 2004b). But facial cues are not only associated with racial stereotypes, they also play a part in the activation of gender stereotypes (Mason, Cloutier, & Macrae, 2006).

The Ultimatum Game is a sort of economic game in which two players face each other. Player 1 (the allocator) has to share a certain amount of money and propose his share to player 2 (receiver) who can either accept or reject player 1's proposal. If player 2 refuses the offer made by player 1, neither of them will receive any money. However, if player 2 accepts the share proposed by player 1, they both receive the amount of money determined by the proposal of player 1. Consistent with the economic rational behaviour theory, players in an Ultimatum Game should play according to the Nash Equilibrium (also called perfect equilibrium), holding that player 2 should normally accept all offers since it is positive because he would win money (Güth, 1995). On the contrary, this is not what happens. Receivers are ready to let go money that can be won easily in order to punish a too unfair share of the pie. What is seen in most of the Ultimatum Game is that players 2 reject offers that are a too unfair share of the total amount. Several researchers attempted to explain this "abnormal" reaction. Some explained it by the sense of fairness (Forsythe, Horowitz, Savin, & Sefton, 1994; Bethwaite & Tompkinson, 1996; Harrison & McCabe, 1996; Nowak, Page, & Sigmund, 1996; Pillutla & Murnighan, 1996; Haselhuhn & Mellers, 2005), others showed that physical appearance had an impact (Zaatari & Trivers, 2007), or even the will of punishment (Bolton & Zwick, 1995). Gender has also been found as affecting behaviour (Eckel & Grossman, 2001; Hadgraaf, Van Dijk, Vermunt, Wilke, & De Dreu, 2008; Solnick, 2001) just like age (Murnighan & Saxon, 1998) and physical attractiveness (Solnick & Schweitzer, 1999).

The aim of this dissertation is to know whether all these facts could be associated, whether there is a link between all these elements. We want to know whether we can start

from the fact that facial features can be classified according to the level of BS characteristics they possess, as this is the case for the level of Afrocentric characteristics. We also wonder whether those BS facial cues could have an impact on the way players behave in an Ultimatum Game. Would BS facial cues have an effect on the behaviour players adopt in an Ultimatum Game? If there is an impact, would it be different according to the type of offers and the context in which players are? Would the rejection/acceptation rates of offers vary depending on whether a romantic or an occupational context is activated? Could the fact that the proposed offer is fair, unfair or very unfair make a difference? Moreover, would the participants' level of BS matter in the way they behave in an Ultimatum Game? Would it be different in a romantic context, compared to an occupational one?

In our first section, we will present the literature that could be helpful to know what has been done in the fields we are interested in. We will begin with a quick review of works in the fieldss of stereotyping, racism and sexism. Afterwards, we will introduce Glick and Fiske's theory of Ambivalent Sexism (1996), focusing further on the benevolent part of ambivalent sexism and its effects. In a second part, we will review the studies in the field of facial perception, including the role of skin tone, the impacts of Afrocentric features and facial cues' works. Finally, the Ultimatum Game and the elements that are important in the players' behaviour will be reported, including, among others, the role of emotions, fairness, gender and physical attractiveness.

In our second section we will present the experiment we conducted in order to try and answer these questions, in which an Ultimatum Game was built, composed by 39 pictures of men associated with 39 offers, divided in three types of offers (13 fair ones, 13 unfair ones, and 13 very unfair ones). Participants were assigned to two conditions, i.e. romantic or occupational context. We decided to activate two different contexts in order to test whether the context in which participants are, could have an impact on adopted behaviours, as in Moya, Glick, Exposito Soledad de Lemus, & Hart (2007).

The results of this experiment are presented to help us answer our questions, which would be expressed according to concrete hypotheses.

Finally, those results will be discussed and propositions for futher research presented.

LITERATURE REVIEW

I.   STEREOTYPING

In the perception of others, the process of categorisation comes into play. Categorisation helps individuals avoid the sensation of being snowed under all social informations present in the environment and with which individuals are confronted. This process allows them to classify the world (Leyens & Yzerbyt, 1997). According to Padilla (2008), social categorisation is useful to accentuate similarities between and within groups. "Any social or physical trait that is meaningful to a person and/or group can be the basis for social categorization, and in turn, the categorization can serve as the foundation for social identity."(p.10). Once categorisation is done, the social comparison arises. People who are "less" than others (e.g., less rich, less intelligent, etc.) are negatively evaluated whereas people who are "more" than others are positively evaluated. Once people are categorised, stereotypes and prejudices appear.

Stangor (2000) defines stereotypes as: "beliefs about the characteristics of groups of individuals [...]" (p.1).

The harmonious relationships between people and groups depend, among others, on the ability of recognising individuals as unique. Not being able to treat a person as a distinct entity is a central point of prejudice and stereotyping (Brigham, 2008).

There are several kinds of stereotypes:

– Racial stereotypes
– Gender stereotypes
– Age stereotypes
– Sexual stereotypes (about sexual orientations)
– Stereotypes about fat, mentally sick, HIV-positive people, etc.

(See Stangor, 2000, for a review).

These kinds of stereotypes lead to a certain prejudice, defined by Leyens and Yzerbyt as "un sentiment, généralement négatif, à l'endroit de personnes du seul fait qu'elles sont

membres d'un groupe donné[1] » (p.295). Dion (2003) defined prejudice as "biased and usually negative *attitudes* toward social groups and their members" (p.507) Racial stereotypes lead to racism, gender stereotypes to sexism, age stereotypes to ageism, etc.

In this thesis, we will only speak about racism and sexism because of their interest for our purpose.

1. Racism

Racism can be defined as "a negatively oriented prejudice toward certain groups seen as biologically different and inferior to one's own" (Dion, 2003, p.507)

Every minority group in the United States has always been, and still is, a target of racism and prejudice. Among those targets are skin colour minorities such as Chinese, Black, and Mexican people.

In the US, race has the power, among others, to determine a certain racial group membership, who to marry and where to live, what kind of job one can have, the chances to achieve scholar education and to take part in the political process, etc. (Willis-Esquada, 2008).

In their chapter, New Directions in Aversive Racism Research: Persistence and Pervasiveness, in "Motivational Aspects of Prejudice and Racism", Dovidio and Gaertner (2008) tell us that, according to Kovel (1970, cited by Dovidio & Gaertner, 2008) racism can take two forms: the dominative racism, which is the more explicit form of racism and the aversive racism, which is more ambivalent. There is a simultaneous cohabitation of sympathy toward groups that were victims of injustices in the past and of negative feelings and beliefs about Blacks. The combination of explicit attitudes of equality and negative implicit attitudes is characteristic of attitudes manifested in aversive racism. This form of racism is subtler and more indirect than dominative racism, whereas its consequences are quite similar to those of dominative racism.

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[1] Feeling, generally negative, toward individuals because of their membership to a given group (personal translation)

Dovidio and Gaertner, still in the same chapter, assert that despite the decrease of overtly prejudicial and racist attitudes in the US in the past 40 years, other forms of racism arise. Those other forms share a common basic postulate holding that, despite the fact that most European Americans consider themselves as non-racist and in favour of race equality, they continue to possess, although unconsciously, negative feelings and beliefs toward colour minorities. For example, Devine (1989) showed that, when they couldn't control the use of stereotypes, even low-prejudiced individuals used them and are not aware of using them. Wittenbrik, Judd and Park (1997) also showed that when people were primed with a black prime, an implicit activation of black stereotypes and prejudices appeared.

Discrimination that emerges from aversive racism is complex and influenced by several factors. One of these factors is the nature of the situation. If antidiscrimination social norms are strong in a situation, aversive racists would not discriminate people. On the other hand, if social norms are weak, they would discriminate but in a way that is congruent with their image of being a non prejudiced person (Dovidio & Gaertner, 2008).

To go into more details, see "Motivational Aspects of Prejudice and Racism" (Willis-Esquada, 2008) for a more complete review of concepts and studies in the domain of racism.

2. Sexism

A. *Sexism in General*

Sexism can be defined as negative feelings toward women (Leyens & Yzerbyt, 1997).

As for racism, sexism can be expressed in two different forms: old fashioned sexism and modern sexism (Swim, Aikin, Hall, & Hunter, 1995). The former expresses negative stereotypes toward women, especially about their aptitudes that are minor compared to men's; it holds a difference in the treatment between men and women as well as adhesion to a traditional ideology in which women fill their conventional roles. The modern form of sexism is subtler, as for modern (or aversive) racism, building itself on the denial of the existence of discrimination toward women. Swim *et al*. (1995) developed and validated a scale of modern sexism. The results of their experiment indicated that a distinction between

old-fashioned and modern sexism does exist. This distinction seemed to be more important in men than in women.

Other sexist scales have been developed and validated in the past. One of them was, for instance, the Sex-Role Egalitarian Scale (Beere, King, Beere, & King, 1984) which contains two parallel 19 items forms. These items represent each of five domains of adult living: marital roles, parental roles, employee roles, social-interpersonal-heterosexual roles and educational roles.

Notwithstanding the negative feelings toward them, it has been shown that women are evaluated more favourably than men. Eagly, Mladinic and Otto (1991) found in their results that no negativity toward women was expressed at the emotional level. In fact, it appeared that women were evaluated, by both male and female participants, in a more favourable way than men. But maybe this effect is due to the sample used in the experiment: college student that are well educated and thus maybe less stereotyped.

Despite the interest of all the existing sexist scales, we will only go into details concerning the ASI scale developed by Glick and Fiske.

B. *The Theory of Glick and Fiske*

In 1996, Glick and Fiske introduced the notion of ambivalent sexism. They asserted that sexism, rather than being a relatively uniform antipathy toward women, is marked by a profound ambivalence. "Ambivalence can occur between elements of the same component of an attitude, such as when people possess both positive and negative feelings about a minority group (intracomponent ambivalence), or between two components of an attitude, such as when people possess negative beliefs but positive feelings about junk food (intercomponent ambivalence)." (Olson & Maio, 2003, p.310)

Sexism has for a long time been considered as hostility toward women, ignoring positive emotions that men can feel toward them, that go on an equal level with sexist antipathy. Glick and Fiske (1996) then perceive sexism as a construct made of two components: a hostile part (hostility toward women) and a benevolent part (containing the more "positive" aspects of sexism). They define the benevolent sexism (BS) "as a set of interrelated attitudes

toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone (for the perceiver) and also tend to elicit behaviours typically categorized as prosocial (e.g., helping) or intimacy-seeking (e.g., self-disclosure)"(Glick & Fiske, 1996, p.491). However, BS is not considered as a good thing because, in spite of its apparent positivity, it is linked with the traditional role ideology (in which the male is dominant) and has deleterious effects on women, as we will see later on.

Moreover, benevolent sexism is not felt as being sexism by the individuals it is addressed to. Despite the fact that benevolent sexism suggests a subjectively positive view of the female part of the population, it has common points with hostile sexism (HS): the idea that the female sex is the weaker one and that women need to be taken care of by men. Hostile sexism considers women as incapable of taking care of themselves financially and benevolent sexism offers a possibility to confine women to their household role. Men experience simultaneously a desire of dominance over women and a need of intimate relationship with them, for reproductive purposes. This blend of two opposite feelings does well express the "benevolent" and "sexist" aspects of benevolent sexism.

To sum up, the two parts of sexism "revolve around issues of social power, gender identity and sexuality" (Glick & Fiske, 1996, p.493). Glick and Fiske also proposed to split benevolent and hostile sexism in three shared subparts: Paternalism, Gender Differentiation and Heterosexuality.

Paternalism is a mix of dominance (dominative paternalism) and affection and protection (protective paternalism). On the one hand, women are seen as non-competent human beings, thus a form of masculine authority is required. On the other hand, men are dependent on women (because of the reproduction of species), which pushes them to protect, cherish and take care of women, because of their relative weakness and fragility.

The *Gender Differentiation* accentuates the necessary differentiation between sexes (men are stronger than women) to legitimise the power of men over women (competitive gender differentiation). Yet, because of the reproductive dependence of men on women, women are seen as possessing positive traits that complete men (complementary gender

differentiation). For the benevolent sexists, "the woman completes the man" (Glick & Fiske, 1996, p.493).

Heterosexuality is one of the most important sources of ambivalent feelings of men toward women. The dependence of men on women generates an atypical situation in which members of a dominant group are dependent on members of a dominated group. Men desire women sexually and their motivations are either linked to a true wish of closeness with women (heterosexual intimacy) or to a need of dominating them (heterosexual hostility).

The term of "ambivalence" is used because the authors deemed that the two components of sexism (BS and HS) generate opposite feelings toward the women's group. Although these two constructs are linked, their emotional consequences are contrary, which confirms the ambivalence of this kind of position. Moreover, this ambivalence is made possible thanks to the categorisation of women in two subgroups: women who fulfil their traditional roles, a mother who cooks and takes care of the children, and non-traditional women who violate the traditional ideology (e.g., feminists), who are then disliked by men. On the one hand, this category allows men to think about themselves as non-prejudiced toward the women's group in general because only some women breed their hostility. On the other hand, women who fulfil their conventional roles on one dimension but not in the other trigger ambivalence in men.

Glick and Fiske developed the Ambivalent Sexism Inventory (ASI), which is a 22-item scale composed of two 11-item subscales (HS and BS). They validated it in several studies (Glick & Fiske, 1996; Glick & Fiske, 1997). They found that the presence of hostile sexism and benevolent sexism were repetitively confirmed and reliably measured by the ASI scale. They tested several models – a one-factor (sexism) model, a simple two-factors (without BS subfactors) model and a full model (BS and HS, with three BS subfactors) – and kept the one holding that sexism is made up of two components: hostile sexism and benevolent sexism, which is divided in three subcomponents: Protective Paternalism (PP), Complementary Gender Differentiation (CGD) and Heterosexual Intimacy (HI). This full model is the one which best explains the reality. They compared the ASI with other sexist scales and found

that though HS components measure concepts that are evaluated by other existing scales, BS components measure an aspect of sexism that most of the other scales did not take into account. Discriminant, convergent and predictive validity of the ASI was also confirmed by the studies.

The ambivalence of men towards women is a reality that exists across countries. Glick *et al.* (2000) demonstrated that, across 19 countries, HS and BS are positively correlated constructs, are predictors for respectively negative and positive traits to women, and predict inequality of gender. Moreover, it was revealed that women tended to reject HS more than BS when sexism was higher in their country.

We can ask the question: if men are ambivalent toward women, is the reverse also true? Are women ambivalent toward men? Glick and Fiske (1999) examined the reactions of women toward men. They developed the Ambivalent toward Men Inventory (AMI). As with ambivalence toward women, the authors created a scale, composed of two components, hostility toward men (HM) and benevolence toward men (BM), each of which was composed of three subcomponents: resentment of paternalism (resentment towards men's power and dominance), compensatory gender differentiation (women's positive differentiation from men) and heterosexual hostility (resentment of male sexual aggressiveness) for the HM scale, and maternalism (positive attitudes toward men), complementary gender differentiation (respect for the power of the dominant group) and heterosexual attraction (affection between men and women) for the BM scale. This scale has been validated. Though being very interesting, the concept of ambivalence toward men and its related scale will not be discussed any further.

a. *Effects of Benevolent Sexism*
Research shows that BS can have deleterious effects on women, especially on women's performances.

Dardenne, Dumont and Bollier (2007) explored the insidious effects of BS. The aim of this study is to discern the impact of BS and HS on women's performances. Four experiments were conducted to analyse this impact. In the first study, the tested hypothesis was that BS would not be perceived as sexism, contrary to HS, which would be perceived as sexism by

women. Besides, they hypothesised that BS would be perceived as disagreeable and, since it would not be possible to attribute it to something external, women would feel doubts and a decrease in performances would appear. Female participants were confronted to a hostile, benevolent or neutral description of an opportunity for a job made by a recruiter. Then they had to perform a test composed of 9 problems they had to solve. The results emphasised an effect of the type of sexism on women's performance. The effects were more deleterious in the BS situation, confirming the hypothesis. Moreover, as predicted, BS was not perceived as sexism, in contrast with HS. The second experiment tested the hypothesis that BS would be perceived as equally unpleasant as HS, although it would not be perceived as sexism. BS would also have negative effects on women's performances. The procedure was the same than in the first study except that the instructions were not read but played by accomplices. The participants were asked whether the context was felt as pleasant, and to what extent. The results showed that the two forms of sexism (BS and HS) were perceived as significantly less pleasant than the non-sexist condition. The results of the first experiment were replicated, namely the expression of BS from the recruiter had a negative impact on women's performances at the test. The third experiment was aimed at testing two kinds of BS conditions in order to make sure that weak performance is due to BS and not to other variables. Participants had to read instructions, given by the recruiter, which expressed either BS with help, BS without help or no sexism. The results showed that in both BS conditions women's performances at the test were weaker than the performances in the no sexism condition. The performances in the two BS conditions did not differ significantly from one another. The fourth experiment was conducted to examine the effect of intrusive thoughts that are triggered by BS as well as the impact of gender identification on women's reaction to sexism. The experiment revealed that women who were highly identified to their group performed better than those who were lowly identified. Moreover, a greater number of intrusive thought had been reported in the BS than in the HS condition. The intrusive thoughts played a role of mediator between the manipulation of sexism and performance as well as the number of items attempted. Overall, these four experiments supported the fact that BS, more than HS, has negative impacts on the women's performances. This effect can be thwarted by the identification to a group. We saw that the more a woman is identified with her group, the better she performs at a test. This effect of identification is one of the means to foil the negative effects of BS on women's performances.

Another means is presented in Dumont and Dardenne (in preparation) who conducted a study that aimed at examining the moderator effect of the difficulty of associating negative feelings to sexism as well as implicit activation of the so-called women's incompetence on BS influence on women's performances. The first experiment showed that giving a positive feedback to women about their performance allowed them to feel confident in their performance and especially allowed to keep the performance's level intact even when confronting BS. A positive feedback resulted in a better performance. The second experiment demonstrated that the introduction of hostility in a BS context permitted women to associate negative feelings they feel to this hostility, resulting then in a non decrease in performance. The possibility of attributing unpleasant feelings elicited in a BS situation to the hostile source resulted in a cancellation of noxious effects of BS on performance. Other researchers were interested in different means of combating the deleterious effects of BS on performance but we will not speak about this in this section because it is of no interest for our thesis.

Dumont, Sarlet and Dardenne (in press) realised a study in which the impact of BS on women's autobiographical memory and self-construal were examined. As in Dardenne *et al*. (2007) participants were confronted with a situation of recruitment for a job. Participants were divided into three conditions: HS, BS and no sexism, which were expressed by complementary comments of the job description. Then, the participants accomplished a Reading Span Test (in which they had to read sentences, to tell whether they were grammatically correct and to remember the last word of each sentence). After the test, they were to fill in questionnaires about the thoughts they had during the test. At last, pretending that they were in an independent second study on the autobiographical memory, they were asked to report as many situations in which they felt "silly, incompetent, a less smart than others" (Dumont, Sarlet & Dardenne, in preparation) as possible. The results showed that in the BS condition, women had greater facilities to remember moments when they felt incompetent than in the HS and neutral conditions. In addition, they were confronted with more intrusive thoughts associated to the fact of being incompetent in the BS condition than in the HS and neutral condition during the realisation of a cognitive task.

Overall, all these researches presented here demonstrate that BS can have a negative impact on women, especially on women's performances. Even though BS is not always perceived and recognised as sexism by women, its impact is real and is worth being studied.

b. *When Women Hold BS Beliefs*

Despite the negative impact of BS in women, a question emerges: do women accept BS? If the answer is yes, in which condition would the acceptation of BS appear? Some studies bring an answer to these questions.

For instance, Glick and Fiske (1996) found, among other results described above, that women can hold benevolent beliefs. After that, other researchers took an interest in the benevolent beliefs that women can possess.

Killanski and Rudman (1998) wanted to know if women would accept men's BS while disapproving of HS. Those women are called equivocal egalitarian. They approve BS and disapprove HS in ambivalent sexist men. The hypotheses are then that equivocal egalitarian women exist and that those women high in equivocal egalitarianism would not see HS and BS as positively correlated, would present a positive personal epistemology and would possess traditional personal goals. The female participants had to fill in the ASI (Glick & Fiske, 1996) and an attitudes scale about reality (The Attitudes about Reality Scale, Unger *et al*., 1986, cited in Killanski and Rudman, 1997). After that, they had to read three men's profiles: one BS, one HS and one non-sexist. They had to estimate to what extent they thought the BS and HS profiles described the same person. To finish with, they were asked to write their long term life goals (in ten years from now). The results showed that the BS and HS profiles were not evaluated as describing the same person. In addition, a positive personal epistemology was associated with a greater acceptance of BS. Moreover, the results showed that women holding more traditional goals did not deem BS and HS profiles as depicting the same person. Thus, possessing a positive personal epistemology and having some trouble considering the simultaneous presence of BS and HS in one man leads to a greater acceptance of BS and to an unfavourable reaction to HS men. Thus women who accept BS attitudes but not HS ones exist. Nevertheless, the study showed a preference for non-sexist men over BS men.

Viki and Abrams (2002) conducted an experiment that examined the role of BS in a case of an acquaintance's rape. They wanted to explore the reactions of men and women, and who they would blame for the rape. The participants had to read a text in which an acquaintance's rape was described. In the control condition, no personal information about the victim was given. In the "cheating" condition, the victim is presented as married with children. They hypothesised that the married woman would be blamed more than the woman depicted in the control condition. This effect is predicted to be moderated by BS, increasing then the level of blaming when the level of BS is high. The participants had to read vignettes describing the behaviour of a woman (control or "married mother of three") during a party, followed by the rape of this woman later that night, after having invited a man to her house. After reading the situation, participants were asked to report to what extent they thought the depicted woman was responsible of what happened to her (on a 7-item scale). As predicted, the results revealed that participants blamed the woman who was being unfaithful more than the one whose civil status was unknown. The higher the participants scored on the BS scale, the more they tended to blame the female rape victim if she violated the social norms associated with the expected behaviour of women in general. This suggests that BS plays a role in the attributed responsibility to female rape victims if they had previously transgressed traditional rules of what is the expected conduct of a woman, married and mother of three.

Sibley, Overall and Duckitt (2007) tested the hypothesis that BS would decrease women's resistance to the more hostile forms of sexism. This would especially appear when women are high in BS and high in the RWA scale. "RWA predicts prejudice that is motivated by the desire to preserve traditional values and maintain collective security and cohesion." (p.745). Thus, women high in RWA are hostile to women who violate norms prescribed by BS and are consequently hostile sexists toward these women. The level of RWA is seen as a moderator of BS on HS and not as a direct antecedent of BS. The results showed that women high in RWA supported an ideological system which maintains a status quo in the society, namely the inequality between men and women. This is called system-justifying effect. These women high in RWA punish women who do not respect and who transgress this system of values. It is worthwhile to note that this effect appears in the society of New-Zealand, known to be one of the most egalitarian societies in the world.

Helb, Glick, King, Singletary and Kazama (2007) were interested in examining the reactions towards pregnant women (vs. non-pregnant) in conventional (store client) versus non-conventional (work candidate) roles. The coexistence of benevolent sexist attitudes toward pregnant women that submit to traditional roles and hostile sexist attitudes toward those who violate these roles suggests the existence of an ideological system which prevents pregnant women from entering a professional process that breaks social gender standards. Two studies were conducted; the first examined the reactions of store employees towards conventional (vs. non conventional) pregnant (vs. non-pregnant) women whereas the second one examined reactions of professionally active adults facing fictive pregnant and non-pregnant candidates who postulated for a masculine or feminine job. The results showed, for the first study, that pregnant women were confronted to more hostility when they were job candidates and to more benevolence when they were clients. The second study revealed that reactions toward pregnant candidates were more hostile than toward non-pregnant candidates and that, for the masculine jobs (and not for the feminine ones). Overall, pregnant women who were not in a traditional role were punished by both male and female participants.

What can be deduced from these studies is that women who do not conform to traditional prescribed roles are not well considered by people. They have to stay in their "place" lest being treated in a more hostile manner and attract negative attitudes and considerations from others. BS is thus accepted both by women and men and used to keep the right balance of things in society. BS is a way of justifying the system that put women and men in a power relationship dominated by men. This effect is called *system-justification*, by Jost and Banaji (1994). This refers to "the psychological process whereby prevailing conditions, be they social, political, economic, sexual, or legal, are accepted, explained, and justified simply because they exist" (p.11). Thus, "people will ascribe to themselves and to others traits which are consonant with their social position, whether positive or negative, rather than question the order or legitimacy of the system which produced such arrangements or outcomes. These tendencies towards system-justification occur even when subjects know that the arrangements or outcomes were arrived at arbitrarily and result in negative

consequence for them."(p.11). All this explains why women hold benevolent beliefs and punish those who do not.

c. ***When Women Approve BS***
Two researches demonstrated that women do accept BS in a romantic context.

Viki, Abrams and Hutchinson (2003) took interest in acceptable and accepted behaviours in the field of intimate men-women relationships. They developed a new measure, the "paternalistic chivalry", which is inspired by Glick *et al*. (2000) who say that men high in BS think that a man has to have a woman in his life in order to be happy and complete. Furthermore, men think that women have to be protected and it is necessary for men to take care of their safety. Attitudes that are part of the paternalistic chivalry appear as an exacerbated politeness and behaviours of consideration toward women as well as restrictions to women during the courtship. The authors used the term paternalistic chivalry in order to accentuate the fact that attitudes are both tinged with courtesy and restrictive. They hypothesised that both acceptation of and adhesion to paternalistic chivalry by participants would be influenced by BS rather than by HS. The higher the participants' level of BS, the more they would accept and adhere to paternalistic chivalry. Male and female participants had to fill in the ASI (Glick & Fiske, 1996) and a 16-item scale measuring the paternalistic chivalry, created by the authors. A significant relation between BS and paternalistic chivalry was found, confirming the hypothesis that the higher the participants' degree of BS, the more they are likely to adhere to paternalistic chivalry. Individuals who are high in BS appear to be more favourable to a beliefs system in which women must be treated with courtesy and consideration while their role in the courtship is subject to restrictions.

Moya, Glick, Expósito Soledad de Lemus and Hart (2007) analysed women's reactions to protective restrictions. The authors used scenarios in three experiments. In the first study, the scenario presented a man who does not want a woman to drive a long journey, justifying this by the fact that women are terrible drivers (hostile) or that driving for a long time is tiring and stressful for women (protective). The man described was either the woman's husband or a co-worker. The results revealed that only women high in BS accepted a

protective restriction, but only from their husband or boyfriend. In the second study, the scenario described a realistic but fake situation of an internship proposition centred on the counselling of rapists and wife abusers, to social sciences students. The female participants then received their boyfriends' reactions to this proposition. This reaction was either associated with a hostile justification, a personalised protective justification or no justification at all. Results showed that only female participants high in BS had a positive reaction to their boyfriends' restrictions, with or without justification. Low-BS participants treated the no-justification restriction as much more negative than the hostile justification restriction. However, when a personalised protective justification is offered, most of the participants accept their boyfriends' restriction. In the third study, male and female law students were offered a hypothetic internship which implied interviews of criminals. The participants were acquainted with their partner's refusal about the participation in this internship. The justification of the refusal was either absent or a personalised protective one. Only the female participants received, in addition, a justification based on the female group in general (that the internship is not safe for all women). The results revealed that only BS female participants accepted as a justification to a restriction about the participation in an internship implying interviewing criminals the fact that it is dangerous for women in general. This shows thus that protective paternalism can bring BS women to accept restrictions stemming from a romantic partner.

What we can conclude from this is that women accept BS in a romantic context when it comes from their romantic partner and when women are breaking the social norms holding that women have to submit to traditional roles and possess communal characteristics, as being kind, caring, loving, helpful, sweet, a good mother, a good homemaker, etc.

3. The Role of the Face in Person Perception

Some researchers collected various findings stemming from lots of studies done in the past. These studies had the impact of facial features during the process of person perception as a common theme. These reviews allow us to have a global, but non exhaustive, view of what has been done.

In their paper, Berry and McArthur (1986) review different researches done in the field of ecological approach of McArthur and Baron (1983, cited in Berry and McArthur, 1986) which hold that "facial characteristics may influence impressions if they typically reveal psychological attributes whose detection is important for adaptive functioning"(p.3). The researches the authors review in this paper support the prediction that adults with childlike facial attributes also have childlike psychological qualities. After presenting some of the works in psychology and ethology, they centred their attention on the ecological approach of social perception. They point out the impact of age-related craniofacial changes on social perception, whether seen in the lens of a single characteristic or in a global view. The isolated features that could have an impact are, according to the author, *craniofacial profile changes*, *vertical placement (forehead and chin size)*, *facial shape*, *eye characteristics*, *skin qualities* and *feature length*. For each feature, some of the studies done are presented. For example, in the section concerning the changes of the craniofacial profile, the findings of three studies realised in the eighties are described. They all showed the impact of the changes in the skull's shape, due to age, in the person perception. Both adults and children used these features in their perception of a person in diverse situations. The findings were also supported by some other studies. We also learn that the forehead and the size of the chin have an importance in social perception. The older we become, the more the chin and the forehead are changing. More specifically, the relative size of the chin grows whereas the relative size of the forehead diminishes. And these changes have impacts on the perceived age of the people. At least five research findings are advanced as evidence of the impact of vertical placement of features. In addition, the studies reviewed by Berry and McArthur (1986) emphasize the role of the facial cues' shape on impressions. Without going into details, Berry and McArthur's paper acknowledged the relative influence of eye characteristics, skin qualities and features length on people's social perception. In addition

to this review of studies concerning impact of isolated facial cues, the authors do not leave aside the importance of the combination of all these single features. Even more complex, the impact is fundamental because, when we encounter someone, especially for the first time, we see him or her with a global view. The whole face, with all its different and personal features, is a non negligible element in the impression others have about us.

To summarize, Berry and McArthur's paper (1986) is a good view of what has been done in the field of impact of age-related characteristics in the process of social and person perception.

In a more recent review, Bodenhausen and Macrae (2006) presented some (maybe all) of the studies which would take place in the 5th number of the 24th volume of Social Cognition, concerning the part of the face in person perception. Thanks to this article, we can see which kinds of studies have been done in 2006 emphasizing the importance of the facial features. The authors proposed a short summary of each of the findings. We thus learn that one study offers evidence that social context can have an important role in the perception of affective signals that the face can possess (Hugenberg & Scezny). Another interesting study is the one asking the question of how individuals handle the ambiguity of relevant social group membership (Willandse-Jensen & Ito). The question of the perception's accuracy concerning personality traits (Penton-Voak, Pound, Little & Perrett), the question of the menstrual cycle in facial preferences (Koehler, Rhodes, Simmons & Zebrowitz) are also discussed. Finally, a comprehensive review of the face literature is presented. The findings of Mason, Cloutier and Macrae as well as Blair's will be presented further on in this dissertation's theoretical review.

Maddox (2004) has reviewed research investigating racial phenotypicality bias, which can be defined as "within-category stereotypes prejudice, and discrimination based on race-related phenotypic characteristic of the face" (p.383). We find out that racial bias are the result of the thought that dark skin, flat nose, frizzy hair, full lips are not the preferred facial features. This idea is well known in many societies and is often used in the evaluation of individuals. It thus influences every interaction we have. Individuals are assigned in either social category according to the quantity of phenotypical facial features they hold. The level of similarity of an individual with regard to his category leads to view him through the lens of category

stereotypes and evaluation. This takes a great deal in the social perception process. Maddox, in the same paper, deplores that very few studies have been done with the idea that variation in physical characteristics can affect race perception. This concept has been either ignored or merely rejected in the field of person perception developed by the social psychology approach whereas medical, anthropological, sociological and historical fields contain an important body of works acknowledging the non negligible role of varied physical features.

Nevertheless, some social psychologist researchers studied social perception through the lens of racial features impacts. For example, the role of skin tone (Dixon & Maddox, 2005; Maddox & Gray, 2002; Maddox & Gray, 2004; Uhlman, Dasgupta, Elgueta, Greenwald, & Swanson, 2002), afrocentric features (Blair, 2005; Blair, Judd, Sadler, & Jenkins, 2002; Blair, Judd, & Chapleau, 2004; Blair, Judd, & Fallman, 2004) and facial cues (Martin & Macrae, 2007; Mason, Cloutier, & Macrae, 2006) were taken into account in the process of social perception.

A. *The Role of Skin Tone*

We will present some researches done in the field of the role skin tone plays in the perception of face. These researches emphasise the effective use of skin tone to refine people and race categorisation, the evaluations associated with the variation of skin tone, the impact of the use of skin tone in crime judgments. Of course, what we present here is far from being exhaustive and far from covering all the works done in this field, but it gives us a glimpse that can help us understand the role of skin tone.

Maddox and Gray (2002) conducted two studies that inspected the role of skin tone in the representation and perception of Blacks. In the first study, the participants looked at a discussion between 6 people and had to form impression of the individuals who took place in the discussion. The participants could see who was speaking because every time someone said something, his picture appeared. There were two conditions: the race condition (3 black men and 3 white men) and the skin tone condition (3 light-skinned black men and 3 dark-skinned black men). After completing a filler task (list as many of the 50 United States as

possible), they had to choose between several pictures of discussants to see whom of them made the statement presented below the pictures. They had to do that for all the statements made during the discussion. The first study's conclusion was that people do use race as an "organizing principle in social perception" (p.254). This finding emphasises the fact that some skin tone-based subcategories of Blacks exist. In a second study, participants had to list as many cultural beliefs as possible about a specified group. The groups were dark-skinned and light-skinned black women and men, white women and men, and Native Americans. The results revealed that positive personality traits were associated with light-skinned black individuals and negative ones with darker-skinned ones. In addition, stereotypic traits were attributed to individuals with dark skin whereas those with lighter skin were described with counterstereotypic traits. Counterstereotypic traits are traits that are opposite to stereotype traits of Black, for example lazy, aggressive, athletic, rhythmic, etc. (Devine, 1989). Moreover, the awareness of stereotypes linked with skin tone is present in both black and white participants.

In the same vein, Maddox and Gray (2004, study 1) conducted a research that aimed at proving the link between the skin tone and the social beliefs in memory. In other words, the authors tried to investigate the role variation of skin tone plays in the mental representation of black people. They hypothesised that if the social context allows beliefs that differentiate between light and dark-skinned Blacks to become pertinent, the category salience of skin tone would be enhanced, especially if perceivers possess these beliefs. To test their hypothesis, they manipulated the relevance of the context by using a theme for a discussion. The theme was either about the relations between Black and White in the future (highly relevant) or about what to do on a summer day (lightly relevant). As in Maddox and Gray (2002), the participants looked at a discussion between 6 people and had to form impressions of the individuals who participated in the discussion. There were four conditions in this research: the race condition (3 white men and 3 black men) and three replication of the skin tone condition (3 light-skinned black men and 3 dark-skinned black men, the skin tone of each picture varying across conditions). After the discussion task, they had the same filler task than in Maddox and Gray (2002). Finally, they were asked to perform a so-called memory task, in which they had to attribute each statement made in the discussion to the person who made the statement. The results showed that when the context was highly

pertinent, the participants used the skin tone to organise the discussion. It is important to note that this effect was found among a sample composed by African American, Asian American, European American, Hispanic American and multiracial students, suggesting that the use of skin tone is general among ethnically and racially diverse individuals.

But the skin tone variation is not only used for the Blacks. Ulhman *et al.* (2002) provided evidence of the use of skin tone in the Hispanic population. They conducted a research among Hispanics both in the United States and Chile. In the first study, the Hispanic Americans' implicit and explicit attitudes towards the Caucasian, Hispanic as well as towards Blanco (light-skinned) and Moreno (dark-skinned) subgroups were observed. The authors expected that Hispanic Americans would prefer Blancos over Morenos. They also expected that this preference would be expressed both among Blancos and Morenos, although the effect would be smaller among Moreno participants because they belong to this subgroup. Finally, they hypothesised that Hispanic Americans would not manifest a preference for one subgroup over the other. The explicit measures were a feeling thermometer – participants had to say how they felt about each of the four groups (Caucasians, Hispanics, Blancos and Morenos) on a scale from 0 (*cold/unfavourable feelings*) to 99 (*warm/favourable feelings*) – and 5 semantic differential scales – 7-points scales (from -3 to +3) anchored at either end by opposite adjective pairs (bad-good; ugly-beautiful, etc.). The implicit measures were collected by a Blanco-Moreno IAT (Blanco-pleasant/ Moreno-unpleasant and Blanco-unpleasant/Moreno-pleasant) and a Hispanic-Caucasian IAT (either with Moreno or Blanco pictures representing Hispanics). The results showed skin tone bias only for the implicit measures. In the IAT a strong preference for the light-skinned (Blanco) Hispanics over the darker-skinned ones (Moreno) was revealed. The explicit measures did not reveal such preference. The second study was aimed at determining if the results found in the first study could be replicated in a Latin American country, specifically in Chile. They wanted to demonstrate that the Chileans also prefer Blancos over Morenos, suggesting an implicit skin tone prejudice. But, as in the first study, this effect would be smaller among the Morenos. Finally, they wanted to determine if Chileans would express explicit preference for Blancos over Morenos. The procedure was pretty much the same as in the first study. Globally, the two studies illustrated how the intergroup and intragroup attitudes among Hispanics can be influenced by the colour of the skin. The implicit bias of preference for the lighter skin colour

was present both among American Hispanics and Chileans, although more important in magnitude in the Chilean sample. For the explicit measures, only the Chileans expressed a preference for the lighter skin colour.

Dixon and Maddox (2005) explored the role of race and skin tone on individuals facing a crime story. They examined the impact of the skin tone of a crime perpetrator on the emotional discomfort of the participants as well as their perception and the "memorability" of the perpetrator and his victim. The participants faced a white, a light-skinned black, a medium-skinned black or dark-skinned black perpetrator. The authors hypothesised that the judgments of the crime story in the news would be influenced by "stereotypic associations between Blacks and crime involving violence, aggression, dangerousness" (p.1558) present in memory. These stereotypic associations would be triggered by the view of a black criminal on the news. Moreover, the activation and use of the related stereotype would be amplified by the view of a dark-skinned black perpetrator, compared to a lighter skinned one. The last hypothesis put forward is that people who often watch news on television will apply more frequently the stereotype of black criminal to race and crime phenomena. The participants were asked to watch the TV news and then answer a number of memory items about the news' content. After that, they were asked to report their feeling about the crime story as well as their perception of the perpetrator and victim. Finally, the frequency at which the participants watched the news was assessed by self-report. The results showed that people who frequently watch the news on television are more prone to feel emotional discomfort when they are presented with a dark-skinned black perpetrator, compared to people who watch the television news less frequently. The heavy viewers' perception of the victim was more favourable when the perpetrator was black, whatever the skin tone. The results also showed that, whatever the previous exposure to the news, the participants considered that the perpetrator's memorability is greater when he was a dark-skinned black one.

What we can conclude from this is that it seems that skin tone is used to organise discussion and have stereotype social beliefs associated with it, that individuals prefer a lighter skin tone over a darker one, that this preference can elicit stereotypes and prejudices that are associated with and that can have an impact on social judgments.

B. Afrocentric Features

Afrocentric features are "the features that distinguish African Americans from other groups" (Blair, Judd, Sadler, & Jenkins, 2002, p.7). All the studies we present here are made by Irene Blair and colleagues. As in the section concerning the role of skin tone, the researches we decided to present are not the only ones in the field of use of Afrocentric features, but they are quite interesting for our understanding of the importance of face in social interaction.

Blair, Judd, Sadler and Jenkins (2002) conducted a study that aimed at testing the hypothesis that physical attributes related to a group can directly activate the stereotype associated with this group. In the first study, the aim was to demonstrate, among others, that people can reliably judge the extent to which a face presents Afrocentric features. The faces used in this study were both European American and African American ones. The aim of this first study was also to take a look at the connection between Afrocentric features and baby-faceness and attractiveness, which were prominently present in facial discrimination. For each presented face, the participants had to make three judgment features: baby-faceness, attractiveness and Eurocentric and Afrocentric features. They then had to rapidly classify faces as belonging to the Eurocentric category or the Afrocentric category. The result indicated that the Eurocentric and Afrocentric faces could be reliably classified according to the degree of Afrocentric features they possessed. Three additional studies were conducted aiming at making obvious the fact that participants spontaneously joined together Afrocentric features with the characteristics that are stereotypic of African Americans in the United States' society. In the second study, the participants received a written description of a person. They were then asked to mentally visualise the person who was described in the text. They were then presented with 23 faces (which were constantly categorised as African American in the first study) and they had to say to what extent the photograph could be that of the person who was described beforehand. They had to do this judgment for four different descriptions, always using the same 23 photographs. After that, they were asked to judge the 23 faces according to their attractiveness and the level of Afrocentric features they possessed. Finally, they were asked to judge the four descriptions and say to what extent they thought the person described was nice, to what point they wanted to be friends with him and to what extent they thought that the public in general would think he was typically African American. The results confirmed the hypothesis that the more the African Americans

possessed Afrocentric features, the more they were viewed as likely to fit with the negative stereotypic description (compared to ones who possessed less Afrocentric features). The third study was a replica of the second one with the only exception that the faces used here were exclusively European American ones. The authors expected that, even under this condition, the faces that possessed more Afrocentric features would be judged as having more chances to be the person described in the stereotypic description of African Americans rather than in the counterstereotypic one. This hypothesis was confirmed by the results when there was a control for both the attractiveness of the face and the accessibility of its racial category. The last study was done expecting to show the role of the Afrocentric features when the faces of both racial categories were assessed. The procedure was the same as in the second and third studies, but with both European American and African American faces. The results showed that the Afrocentric characteristics played a role in the participants' judgment of determining whether faces possessed African American stereotypic attributes, regardless of the target's racial category as well as the accessibility of this category. This effect was also found in an intergroup context, which should have increased the perception of intergroup differences and diminished the intragroup variation. Overall, the experiments pointed out the fact that people manifesting more Afrocentric features were more likely to be judged as having more traits that are stereotypic of African Americans than counterstereotypic ones.

In their study, Blair, Judd and Chapleau (2004a) wanted to know if the fact that a person manifesting more Afrocentric features and judged as more stereotypic of African Americans could have an impact in the sphere of criminal sentencing. The results of this investigation found evidence that Blacks and Whites, with an equivalent history of crime, received pretty much the same kind of sentence. However, criminals with more Afrocentric features were more severely punished than those with less Afrocentric features. This effect appeared whether the criminal was black or white. We learn that this use of Afrocentric features is relatively unconscious. People thus cannot control it. The differences in sentencing are not visible when considering the race, because people learned to control their racial stereotype, but are visible when examining within the race. The level of Afrocentric features having an influence then.

Blair, Judd and Fallman (2004b) conducted a research aimed at studying the automaticity of stereotyping based on race and (within-race) Afrocentric features. The results indicated that these two stereotyping processes could be used even under highly restricted resources conditions. These two processes, though, differ in the sense that participants are fully aware that they are using race and can thus control it. On the contrary, participants are not conscious of their use of Afrocentric features and thus, cannot control it, even when the process is fully explained to them and when they have the possibility to recognise the pertinent features. The first experiment started from the idea that the automaticity of a process is assessed by its level of efficiency. If the process is efficient under conditions demanding high attentional resources for another task than the process itself, then it can be considered as automatic (Bargh, 1994, in Blair *et al.*, 2004b). The hypothesis tested in this first study was that the more participants have to use attentional resources (high attentional load), the more race-based stereotyping will be elicited. They used the same procedure as in Blair *et al.* (2002). The participants were distributed in two conditions: high and low attentional load. The participants in the low-load condition had to read four descriptions and then judge the probability of each of 40 faces (20 European Americans and 20 African Americans) to be the person in the description. The participants in the high-load condition, in addition to the judgment task, had to press the spacebar every time the letter sequence GXQ appeared on the picture (on the tee-shirt of the photographed target). The results showed that both race and Afrocentric features influenced the participants' judgment of the target. The African American faces were more frequently associated with the negative stereotypic description than the European American ones. The faces (European or African Americans) possessing the most Afrocentric features were also more frequently associated with a negative stereotypic description. It is worth noting that the attentional load during the task had no impact on the degree to which the participants used the Afrocentric features, suggesting that in contrast with the use of race-base stereotypes, the use of Afrocentric features are used all the time, not regarding the level of attentional resources needed. In the second experiment, the effect of explicitly demanding not to use the stereotype is examined. The participants were asked to avoid the use of stereotypes in the task. The results showed an impact of this instruction of suppression only for the race-based stereotypes. No effect was found for the Afrocentric features' use. In a third experiment, they wanted to know whether the explicit explanation of the specific associations that

participants had to avoid could moderate the use of race-based stereotypes and Afrocentric features. Moreover, they changed the instructions by adding the fact that the use of both positive and negative stereotypes should be avoided. They randomly assigned participants into three conditions: suppression of race-based stereotypes, suppression of Afrocentric features stereotypes and no suppression (in which participants were not asked to avoid the use of stereotyping). The instructions turned out to be efficient in the race condition but not in the Afrocentric features condition, even though participants were clearly asked not to use these features. They were incapable of doing so. Finally, the fourth experiment used the same procedure than in the other studies, but before performing the judgment task, participants had to assess the level of Afrocentric features each of the 40 faces (used in the previous experiments) possessed. They were then separated into two conditions: suppression of Afrocentric features stereotypes and no instructions of suppression. In the judgment task, the faces used were not the same as in the previous experiment (because they were used in the first step of the fourth experiment) but were highly similar to them. Once again, the results revealed that the suppression of Afrocentric features stereotypes did not show a moderator effect on the use of these characteristics, even though participants did prove that they could reliably identify Afrocentric features on the 40 faces of the first step of the experiment.

Finally, Blair (2006) wanted to know if the extraction and the use of Afrocentric features are possible and efficient in case of inverted faces. A pilot study was conducted to assure that people could correctly perceive the pertinent facial characteristics when the faces were upturned. The results of this pilot study demonstrated the ability of the perceivers to extract pertinent characteristics from inverted faces to determine race, degree of Afrocentric features and attractiveness, when they had their attention focused on these characteristics. For the study, the participants had to read four descriptions and assess to what extent 30 faces could be the person depicted in the description. The comparison between inverted faces condition and upright faces showed that the stereotyping resisted to the inversion of the faces. But, as in the other researches of Blair et al (2002, 2004a, 2004b), the effect was found only for race-based stereotypes and not for Afrocentric features stereotypes.

What we can learn from all these studies is that people seem unconscious of the process of stereotyping based on the use of Afrocentric features and thus are incapable of not using the Afrocentric features when they are forming impressions of others. This is true not only for African American faces but also for European American ones. This effect was found in the criminal sentencing area, where people attributed a heavier sentence to those with more Afrocentric features, and whatever the race category.

C. *Facial Cues*

Sczesny and Kühnen (2004) demonstrated that physical appearance could have an impact on leadership competence attribution. They found that the more one has a masculine facial appearance, the more one will be assessed as being leadership competent. This effect of physical appearance seems to be quite robust because, even if people are motivated not to use this kind of gender stereotype, their judgment is clearly influenced by this bias.

Afrocentric features are thus not the only cues we use in the face when we meet someone. Other facial cues, such as hair colour, nose length, eye shape and so forth, are exploited to determine the race, sex, and age of individuals we encounter. In this section, we will present two researches which studied the impact of facial cues in social interactions. Again, other researches exist in the field of the facial cues impact that take place in this section, but the ones we present here are sufficient to illustrate our topic.

The first research we will present was conducted by Mason, Cloutier and Macrae (2006). The purpose was to determine whether the mere presence of faces could enhance the accessibility of sex categories and gender stereotypes. The first experiment examined the possibility of people classifying faces in relation to sex despite the determination of ignoring it. The participants faced a computer screen on which a name (masculine or feminine) was written surrounded by four pictured faces (either 1 face + 3 blurred faces; 2 faces + 2 blurred faces or 4 faces) in each corner of the screen. The associated name-pictures were either consistent (e.g. feminine name and women's pictures) or inconsistent (e.g. masculine name and women's pictures). The participants were asked to tell whether the name was feminine or masculine and had to ignore the photographs surrounding the names. The results revealed that the classification of the names by sex was moderated by the presence of the

face(s). The higher the number of faces incoherent with the name (1, 2 or 4), the more the interference level was important. This result suggested that despite the desire of paying no attention to the faces, the facial cues played a part in the perceivers' behaviour. In the second experiment, the procedure was the same as used in the first one but instead of listing names by sex, they had to classify words as stereotypic of men or women. The intention of this experiment was to find out whether the mere exposure to a face could be sufficient to trigger stereotypes associated with it and whether the number of faces presented could have an impact on the degree of interference (as in the first experiment). The results partially confirmed the expectations. The mere presence of a face was enough to trigger gender-related information and the stereotypes that were associated with it. Yet, this effect was not modulated by the number of faces presented on the computer screen. The overall results for this research proved that merely being exposed to faces could elicit sex categories and gender stereotypes. This is of importance because it means that the face can impact the social interactions of individuals and thus influence their behaviour in such interactions.

The second research we wish to present was carried out by Martin and Macrae (2007). They wanted to know whether a face with or without hair could have an impact on measures of sex categorisation. They looked at the ease with which information could be extracted from faces by varying the visibility of the face (by blurring it gradually). They hypothesised, on the basis of one of their researches (Macrae & Martin, in press, cited in Martin & Macrae, 2007), that "if the spontaneous categorisation is driven by the detection of a dominant sex-specifying cue, then the removal of the cue should impede the emergence of this effect" (p.809) (i.e., category activation). To test this hypothesis, the participants had to establish whether a face presented was a masculine or a feminine one. The 288 presented faces were either with or without hair. The same face was seen by the participants twice, once with hair, once without hair. The degree to which the faces were blurred varied. Half of the participants were primed with masculine or feminine faces (with or without hair, with a varied degree of blurring) before starting the recognition task. The prime-target association was either coherent (both masculine faces) or incoherent (masculine prime with feminine target). The results revealed that, for the priming categorisation, participants were faster to determine the target face's gender when the association between target and prime was

coherent. This effect did not appear when the face had no hair. We can deduct from this study that participants were capable of identifying the sex of the blurred face, but only if sex-related facial cues were present. Thus the automatic categorisation of faces is impaired when facial cues, such as hair, are absent. Only the explicit categorisation is not impaired by the removal of hair. Thus, we can learn from this study that the automatic categorisation is inevitable when sex-specifying cues are present. But when these cues are removed, the automatic categorisation does not occur. This proves the importance of facial cues in the person perception process.

II.   THE ULTIMATUM GAME

1. What Is the Ultimatum Game?

The principle of the Ultimatum Game is that a proposer offers a way to share money with the receiver. The latter can either accept or refuse the deal. If he accepts, both players will receive the money according to the kind of split. If the receiver refuses the proposer's offer, then both will not receive any money. The kind of offers varied from fair to most unfair.

In general, fair offers are more or less 45% of the total initial monetary amount. Unfair offers are about 30% of the total initial amount and most unfair offers are just 20% of the total amount. Koenig & Tranel (2007) say that "rational actor" (p.951) models predict that the receiver would take on whichever offer of money. The perfect equilibrium principle in the Ultimatum Game holds three postulates (Bolton & Zwick, 1995):

"P1: each player prefers having more money to having less

P2: first movers know P1

P3: first movers can calculate the optimal offer" (p.97)

Thus, the proposer makes an offer that cannot be refused by the receiver (because of P1) and then offers the smallest amount of money allowed. The receiver should accept because of P1. But across diverse studies, this does not seem to be the case (Forsythe, Horowitz, Savin, & Sefton, 1994; see Thaler, 1988 and Güth, 1995, for a review). Camerer (2003) says that "offers are typically around 50% of the total amount, and 50% of lower offers are rejected" (p.1673), acknowledging that players do not play according to the perfect equilibrium. He does not specify exactly from which percentage on offers are not accepted. Güth and Schmittberger (1982) assert that offers of about 20% of the total sum are rejected in more or less 50% of the cases.

2. The "Abnormal" Players' Economic Behaviour

In his review, Güth (1995) noticed that, across the studies he conducted, "the main tendencies observed were that responders are willing to sacrifice substantial amounts to punish a greedy proposer and that this is well anticipated by most proposers who, on average, ask only for 1/3 of the cake" (p.331). According to all the researches cited by Koenig & Tranel (2007), "the *irrational* rejection of unfair offers in the Ultimatum Game in normal individuals is driven by an emotional response to unfair treatment" (p.951). The fact that we are human beings explains why we prefer receiving nothing rather than being swindled. Humans are not driven by a rational cognitive process in case of unfairness.

3. The Role of Emotions

Camerer (2003) says in his paper that a new field of study is called "behavioural economics", using the great progresses in psychology and neurosciences. This field acknowledges the great impact of emotion and psychological processes on decision-making.

Sanfey, Rilling, Aronson, Nystrom and Cohen (2003) have found that unfair offers draw out activity in brain areas connected with emotion and cognition, emphasising then the important role of emotion in decision-making. These findings permit integrating emotion and cognition into economic models as important influences in the daily decision and choices process.

Knoch, Pascual-Leone, Meyer, Treyer and Fehr (2006) found that the disorder in the right dorsolateral cortex has consequences on subjects' willingness to accept unfair offers. People with this kind of disorder are more willing to accept unfair offers. Both plausible hypotheses presented in this research emphasised the fact that the Ultimatum Game is related to emotional reactions.

Crockett, Clark, Tabibnia, Lieberman and Robbins (2008) demonstrated that "manipulating 5-HT functions, which has long been implicated in social behaviour, can selectively alter reactions to unfairness in a laboratory model of self-regulation." (p.1739). Reprisals to unfairness are greater when the 5-HT levels are lowered.

Koenig & Tarnel (2007) showed that the ventromedial cortex, associated with emotion regulation, is critical for normal economic behaviour. Once this brain area is damaged, people tend to have a "hyper-irrational rejection of unfair Ultimatum offers" (p.954). Thus, these findings suggest that the decision-making behaviour could be modified by a damaged emotion controlling area. In this study, people with VMPC lesion were more irrational than normal individuals and brain-damaged (outside of VMPC) subjects. They accepted even less unfair offers than the irrational normal person.

Haselhuhn and Mellers (2005) examined what kind of payoffs would procure pleasure to players in the Ultimatum Game and whether these payoffs would induce more cooperation from them. In order to find out, the authors asked the participants to choose, among several offers, which ones they preferred. They also asked participants to imagine what pleasure they would feel from each potential payoff. We could see from the results that participants who took their pleasure in generous offers tended to be fairer in their proposals and thus lead to more cooperation and less selfishness. We also could observe that the participants who used what the authors called the "strategic pleasure", that is "the expected pleasure of an offer (either accepted or rejected)" (p.26) were more strategic and thus more selfish in their behaviours. They did not feel any or not much pleasure when they were confronted to fair offers. On the contrary, the participants who derived pleasure from fairness tended to play in a fairer manner and then used a "non-strategic pleasure", that is the imagined pleasure of an accepted offer" (p.26). These participants were more cooperative and less selfish than the ones using a strategic pleasure. This shows us that emotions have a great influence on cooperation. The more people felt pleasure from fairness, the fairer they would play.

All these studies are evidence for the non negligible role of emotions in the decision-making involved in the Ultimatum Game.

4. The Role of Fairness

In a less brain-related view, lots of researchers studied the role of (un)fairness (Forsythe, Horowitz, Savin, & Sefton, 1994; Bethwaite & Tompkinson, 1996; Harrison & McCabe, 1996; Nowak, Page, & Sigmund, 1996; Pillutla & Murnighan, 1996; Haselhuhn & Mellers, 2005), and punishment (Bolton & Zwick, 1995) in bargaining experiments.

Bethwaite and Tompkinson (1996) distributed a questionnaire to participants asking them what they were willing to offer or to accept in an Ultimatum Game on a $10 basis. The authors wanted, among others, to determine what exactly comes into play in an Ultimatum Game. Is it envy, selfishness, fairness or altruism? They used a questionnaire instead of a real game observation because it is a better way to know the participant's game intentions. The inconvenient is that because it is about intentions and not actions, it is difficult to know exactly what the participants would really do in a real Ultimatum Game. The results showed that over half of the participants expressed an interest in fairness which represented more than those who were driven by envy or altruism. Fairness seemed to be a motivation in an Ultimatum Game play.

Some other researchers studied the role of fairness in the Ultimatum Game.

Pillutla and Murnighan (1996), for instance, found that unfairness led to anger and then to a greater probability of rejecting offers. When receivers could assess the fairness of their offers and attribute the responsibility of unfairness to the perceiver, rejection of offers were more frequent. In addition, they found that anger better explained the rejections than the perceived unfairness of offers. Despite the fact that anger was a better explanation of rejection, the experiment showed that unfairness had an impact on the decision-making process of the players.

However, Forsythe *et al*. (1994) found out that perception of fairness by itself could not fully explain the willingness of the players to make non-trivial offers. But how could we explain this "abnormal" behaviour if fairness was not the motive of rejecting offers? Forsythe *et al*. (1994) proposed that there are different types of players. Some are "pure gamesmen and others are concerned (to varying degrees) with fairness" (p.362). This is proposed to be present in both proposer and receiver players.

In a same way, Harrison *et al*. (1996) discovered that the hypothesis of fairness could explain data but was not sufficient. They found that the taste of fairness was not a satisfactory explanation of the players' behaviour in bargaining games without taking into account the expectations of the players. When players knew the beliefs, rationality and motives of other players, they were more willing to accept lower offers.

Nowak *et al.* (2000) found that fairness could explain behaviour when information of what kind of players participants were playing with was available. Their results revealed that when participants learned that other players would know which kind of player they were, the tendency to only accept a fair offer was visible. If receivers accepted low offers, they knew that proposers would know about it and then made only small offers in the future. The receivers wanted to have the reputation of somebody who only accepted fair offers, so they tended to reject too small offers. Proposers knowing this reputation could tend to make more fair offers. This effect was not visible when participants could not find out what kind of player they were playing with.

Nevertheless, when punishment of the unfair proposer is possible, fairness is a good explanation of the "non reasonable" reactions of receivers. Bolton and Zwick (1995) proposed that a player could want to punish proposers who were offering a too unfair part of the pie. Thus, the "preference for more money is modified by a preference for disagreement over amounts he [the receiver] perceives as small relative to his playing partner's share" (p.100). When the offer of a proposer was evaluated as unfair by the receiver, the rejection of this offer was a way to punish the unfair behaviour of the proposer. The perception of fairness thus surpassed the common sense of the perfect equilibrium.

5. The Effect of Gender

Gender can also have an impact on the decision-making process in the Ultimatum Game.

Solnick (2001) examined gender differences in the Ultimatum Game. When the players' sex was known, receivers acted differently. Men were offered more money than women, especially from women proposers. Women were thus more generous towards men than towards women. This effect was also observed in men but in a less strong way. It was also revealed by the results that women never rejected an offer made by men. However, when two women faced each other in the game, the rejection rate was higher (23%). Despite the fact that they accepted all the men's offers, women chose higher minimum acceptable sums than men. Thus women acted in a different way when facing a male or a female counterpart.

Eckel and Grossman (2001) did not find exactly the same results. Rather than showing a greater generosity toward men than toward women, results of their study revealed that women played in a "solidarity" way. The offers made by women were less often rejected and female receivers rejected offers less often than men. Results also revealed that men acted in a "chivalrous" way. When facing a woman, they accepted their proposals more often and proposed them a more generous share of the pie.

Small, Babcok, Gelfand and Gettman (2007) studied reactions of men and women in negotiations. Five studies were conducted. The first was aimed at discovering whether individuals would demand more money in a situation where the possibility of negotiation was not made explicit. Thus, it was expected that only individuals who could initiate a negotiation would receive more money than the initial monetary payment, whereas negotiation was not an offered explicit possibility. The participants had to carry out a task. At the end of it, instructions told them that they would be paid between 3$ and 10$. The experimenter entered the room and gave the participants 3$ and asked if 3$ was ok. If the participants asked for more, they received 10$ because they entered negotiation. If they did not ask for more, they received 3$. The results revealed that, despite a weak percentage of greater payment, men asked significantly more often than women to receive more than the proposed payment of 3$. This effect is due neither to task performance nor to perceived performance. Women are less comfortable in a situation of initiating negotiation because the language used to initiate is not linked to the language they are used to speak, namely

politeness and kindness. The fourth study showed that women were more comfortable in a situation where the possibility of asking, rather than negotiating, for more money was offered. The gap between men and women demanding for more money was thus reduced to nothing. This effect was explained by the fact that women were at ease in a situation in which the language used was more polite and kind, which was more appropriate for them. We also learn from the third study that women evaluated the situation of negotiation as more intimidating than the situation of asking. But when the notion of power was primed, women did not see a difference between negotiating and asking. Women evaluated negotiation as less intimidating after a prime of power. Overall, this research suggested that the difference between men and women concerning the initiation of negotiation depended on conditions (asking or negotiating) and context.

To continue on the power impact in the Ultimatum Game, Hadgraaf, Van Dijk, Vermunt, Wilke and De Dreu (2008) investigated the impact of power differences and related expectation in social decision making. The results of this research revealed that when power was favourable to proposers, they allocated lower offers. Surprisingly, when the receivers were powerless, offers were more generous. This could be explained by the fact that when individuals were powerless, a feeling of social responsibility appeared. The proposers were more generous when receivers were powerless than when they possessed less power. On the other hand, receivers preferred to be weakly powerful than not powerful at all. They also expected to be treated more favourably when having weak power than when having none. Allocators were driven by a social responsibility norm holding that the powerless could not be abused. Receivers, on the contrary, thought that even weak power would bring them more than total absence of power.

Macfarlan and Quinlan (2008) conducted a study in Dominica that aimed at looking at the effects of family and kin on altruistic behaviours. Results highlighted an effect of gender in the Ultimatum Game. The participants played a classic Ultimatum Game, once as allocators, once as responders. The relationships between the members of the village were expected to influence the level of the offers and the level of the players' acceptation. Strong relationships between the members would be positively linked to making offers and inversely linked to acceptation. Although the hypothesis was not globally confirmed, the authors found a difference between men and women. For instance, results revealed that the

number of brothers had a different impact according to the fact that the participant was a man or a woman. The more brothers women had, the lower their offers tended to be. The opposite was observed in men, the more brothers they had, the greater their offers tended to be. The same effect was observed when the number of grandparents and the father's presence in the village were taken into account. Women tended to make less important offers than men the higher the number of grandparents and brothers was, as well as when the father was present in the village.

6. The Effect of Facial Attractiveness

As already hinted at in the facial cues section, physical appearance can have a great impact on social interactions. Facial attractiveness has also been studied as having an impact on relationships between men and women. Here we will present some studies which took into account the effect of attractiveness in social exchange and in (Takahashi, Yamagishi, Tanida, Kiyonari, & Kanazawa, 2006) Ultimatum Game. Although they also present gender-effect, we decided to leave them in this section, in order to organise our report.

In 1971, Kahn, Hottes and Davis examined the behaviours of men and women in the Prisoner's Dilemma. Half of the participants could win more money by choosing cooperation and the other half could win extra money by choosing the competitive option. In the first study, 40 participants were paired with same-sex partners whereas in the second study, 80 participants played with persons of the opposite gender, whose physical attractiveness changed. The results of the first study indicated that men were more cooperative than women, who were more competitive. Men seemed to be more motivated by a greater benefit (allowed by the cooperative solution) than women, who chose the competitive option more often. Women were however more cooperative when they were paired with a man rather than with a woman. Even though it was just a tendency, women were more likely to cooperate when facing an attractive rather than an unattractive partner. Only for ugly women the significant effect of physical attractiveness appeared. Those women played in a more cooperative way when their partners were attractive men rather than unattractive ones.

Solnick and Schweitzer (1999) also studied the effect of gender and physical attractiveness, in the Ultimatum Game. They hypothesised that attractive people would be offered more money than less attractive ones. Moreover, they expected attractive people to ask for more money than unattractive ones. They also hypothesised that men would receive more money from their partner than women and that they also would ask for more money than women. Interactions between attractiveness and gender were expected too, namely that the difference between offers made to attractive men and unattractive ones would be greater than the difference between offers proposed to attractive women and unattractive ones. The same hypothesis was expressed about the difference between the demands of attractive and unattractive men and women. The results of their experiments showed that, in general, attractive individuals were proposed a greater amount of money than unattractive ones. The same effect appeared for men, who received more money than women. The results also revealed that offers were less often rejected when they came from men rather than women and from attractive rather than unattractive players. Even though more was asked from them, attractive men were treated differently than other players, namely they received more money and their offers were more often accepted.

Takahashi, Yamagishi, Tanida, Kiyonari and Kanazawa (2006) also found an effect of attractiveness in social exchange. The games they used were not the Ultimatum Game but they implied cooperation and the results could be interesting for our presentation. They found that attractive men were less cooperative than unattractive ones. This effect of self-attractiveness was not found in women. Albeit this study did not speak about the effect of physical attractiveness of player 1 on behaviour of player 2, it demonstrated that physical attractiveness did have an impact on the way people might play and behave in a situation implying cooperation and interactions with others.

7. Other Effects

In a totally different way, Zaatari and Trivers (2007) found that body symmetry has an impact on behaviours during an Ultimatum Game play. This study is an evidence of the impact of physical appearance (body symmetry) in an Ultimatum Game. The more symmetrical the body of a Jamaican player, the less cooperative he was. Symmetrical Jamaican men were less cooperative and made less generous offers than asymmetrical Jamaican men.

Murnighan and Saxon (1998) studied the behaviour of children in the Ultimatum Game. The results showed that younger children proposed a more generous share of the pie than older ones. Furthermore, the more they grew in age, the less they tended to accept lower offers (except for college students). In general, girls were more generous and fairer than boys. Thus, age seemed to have an effect on the type of behaviour players would have when playing an Ultimatum Game.

Henrich (2000) demonstrated that the culture, in which players are, could matter a great deal in the way they would play an Ultimatum Game. He found some evidences to prove that people from Los Angeles did behave differently than the Machiguenga, who live all the way through the south-eastern Peruvian Amazon's tropical forests. Their expectations of fairness and punishment were quite different from those of Los Angeles people. The Machiguenga did not expect any kind of equality in the share of the money, neither as allocator, nor as receiver.

Fairness is thus an explanation of the players' behaviour in an Ultimatum Game but does not seem to be the only one. The participants are not driven by a sense of fairness only; behaviours can also be explained by anger, source of pleasure, age, type of players, players' expectations, players' culture and players' physical appearance.

III.   HOW ARE ULTIMATUM GAME, BENEVOLENT SEXISM, AND FACE REGOGNITION RELATED?

As we learn from the facial cues section (p.34), facial characteristics of men and women have an impact on other people's judgment. Moreover, we have learned that this use of facial characteristics is relatively unconscious and people usually can't help it (Blair *et al.* 2002, 2004a, 2004b). We think that facial cues associated with sexism (BS or HS) are also used by individuals although they are not aware of that use.

Research on the Ultimatum Game has shown that one is influenced by the physical appearance of the people one is playing with (Zaatari & Trivers, 2007). We thus start from the idea that if physical appearance and facial features matter a great deal on other people's judgments, then so would benevolent and hostile sexist facial cues. We therefore suggest that those facial cues present on male faces would influence relationships with women, especially the women's attitude to men. The extent to which male faces possess BS or HS facial cues would have an impact on the women's judgments of men.

Being a part of the physical appearance, attractiveness is thought to matter a great deal in the decision-making process. According to Solnick and Schweitzer (1999), men and attractive people were treated differently by participants, although no significant differences were found between proposals and the minimum acceptable amount attractive people made. The results of their study revealed that attractive people were offered more money than unattractive ones, but more money was asked from them. Men also were offered more money than women, but less was asked from them. Women were more generous in their offers than men. We also notice that rejection rates were more important for men and for attractive people. In addition, offers were also less often rejected when they came from men than when they were made by women. Offers were also less often rejected when they stemmed from attractive rather than unattractive people. Globally, what is interesting to remember from this study, is that being attractive has an impact because one will be offered more money than if one is unattractive. This effect is also true when one is a man rather than a woman. Being a man and, an attractive one at that, would lead women to act in a certain way in the Ultimatum Game.

Lots of factors may have an influence on how players would behave in an Ultimatum Game. We therefore suggest that the decisions players would make in an UG will be influenced by the BS facial cues of player 1 (male proposer). In addition, it was repeatedly demonstrated that the individuals' BS level has an important effect on their behaviour. We thus propose that decisions made in the UG will be influenced by the BS level of the second player (female receiver). Being inspired by the results of Sarlet and Dardenne (in preparation) and those from Bodart's thesis (2008) stating that the subcomponents of BS (PP, CGD, IH) can each have a distinct effect, we suggest that the three subcomponents of BS would have their own consequence on the decision making process. The impact of PP would not be similar to the one of IH and CDG.

As Moya *et al*. (2007) have demonstrated in their study, context has a non negligible effect on the acceptation of men's BS restrictions to women. We thus think that behaviours and decisions in the UG would be different according to the context players would be in. Women would react differently depending on whether they are in a romantic or an occupational context.

Furthermore, fair and very unfair offers generally have a clear rate of rejection/acceptation. Offers that share the pie in a fifty/fifty part have a quite high acceptation rate. Very unfair offers in contrast present quite a high rate of rejection because players would rather get nothing than being fooled. Even if we have learned from the gender effects' section in the Ultimatum Game that most of the time, women do not reject men's offers (Solnick, 2001), we nevertheless think that rejection rates for very unfair offers would be high and clearly marked. Unlike fair and very unfair offers, unfair ones could be considered ambiguous because one cannot really decide whether this kind of offer is fair or very unfair. Decisions would be difficult to make and thus rejection/acceptation rates may be less clear. Consequently, we consider that it would be in that kind of offers that the previously discussed influences in the UG (facial cues, context, players' and faces' level of BS, and attractiveness) would help players make a decision.

IV. HYPOTHESES

Starting from the links made in the previous section, we elaborated several hypotheses:

1. Because unfair offers are ambiguous[2] (the participants do not know exactly whether the offer is a fair one or not), we predict that when confronted with unfair offers, the participants will take more time deciding, whether to accept or reject it.

   We expect that a contextual effect will appear only when unfair offers are presented. We also expect that fair and very unfair offers would initiate clear reactions (a high percentage of acceptation in the former and a weak percentage of acceptation in the latter); so the next hypotheses will focus on unfair offers only.

   Attractiveness has been shown as having an influence on the way of playing in an Ultimatum Game (Solnick & Schweitzer, 1999). In the exact same direction, we expect that physical attractiveness of allocators would impact the decision making process of women receivers.

2. The more the pictured male's face is attractive, the greater the acceptation of unfair offers.

   When we prime a romantic context, the idea of intimacy is activated. In intimacy, women expect men to be kind and helpful with them (Rudman & Heppen, 2003; Moya *et al*., 2007). Thus, we expect that in a romantic context, when the participants receive an unfair offer (ambiguous situation), they will feel a gap between the kind of offer and their expectations. This result leads us to our third hypothesis.

3. There would be less acceptation in the romantic context than in the occupational context when controlling for attractiveness.

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[2] This term results from a discussion between my faculty advisor, Benoit Dardenne, Marie Sarlet, and me.

Sarlet and Dardenne (in preparation, study 3) have shown that women prescribe more Protective Paternalism in a romantic context than in an occupational one. They have also shown that in a romantic context, PP is seen more as intimacy than paternalism when women are strongly in need for Heterosexual Intimacy. Hence, they would expect kindness and help from men in a romantic context and ambiguous offers would not meet this expectation. Our fourth hypothesis stems from this statement.

4.

a) In a romantic context, the higher the level of participants on the subscale of intimate heterosexuality (IH) in the ASI (Glick & Fiske, 1996, see Dardenne *et al.*, 2006, for a French validation), the greater their rejection of unfair offers, when controlling for attractiveness. The remaining faces' characteristics (Hostile Sexism, Protective Paternalism, and Complementary Gender Differentiation) will not be a subject for any hypothesis.

b) In a romantic context, the higher the level of participants on the subscale of IH in the ASI, the shorter the delay in reacting to reject an unfair offer.

c) In a romantic context, the higher the faces' characteristics on the subscale of intimate heterosexuality (IH) in the ASI, the greater the rejection of unfair offers by the participants. The remaining faces' characteristics (HS, PP, and CGD) will not be a subject for a hypothesis.

d) In a romantic context, the more participants score high on the IH subscale of the ASI and the higher faces' characteristics on the subscale of intimate heterosexuality (IH) in the ASI, the shorter the delay will be in reacting to reject unfair offers.

Sarlet and Dardenne (in preparation, study 1) found that both men and women prescribe more paternalism in a romantic context than in a professional one. Thus, women expected PP from men in a romantic context and not in a professional one. Hence, we offer our fifth hypothesis.

5.

   a) In an occupational context, the higher the level of participants on the subscale of protective paternalism in the ASI, the greater the rejection of unfair offers by the participants.

   b) The higher the PP's level of participants, the shorter the delay in reacting to reject unfair offers.

RESEARCH SECTION

I. METHOD

1. Participants

Forty-nine female students of the University of Liège were recruited on the campus. Another participant was a kindergarten teacher. The University students came from several different faculties (psychology, political sciences, law, social sciences, etc.). The average age was 21.88 years with a SD of 2.06. We first told them that they were about to participate in a 25 minutes experiment that consisted in a little bargaining computer game in which they were to accept or refuse offers from other players. We told them that they also had to fill in three questionnaires. If a female participant could do it in next 25 minutes, we took her to a lab at the Faculty of Psychology. If she had no time, we arranged to meet when she could come and meet us. We exchanged our respective cell phone numbers to keep in touch. We used those numbers to remind each other the time and place of our appointment.

Once we were in the lab, the participants first signed a statement of agreement[3] to the effect that they accepted to take part in the experiment. We told them that they could quit the experiment whenever they wanted, without even giving a reason. The participants were randomly assigned to one of the two conditions (romantic versus occupational context).

2. Materials and Procedure

Once the statement of agreement signed, we told each participant that we had built software in which we had placed photographs of real people we photographed previously. We also told them that we had asked those persons to make a € 20 offer. We explained that those people were playing a game in which they were given € 20. We insisted on the fact that these € 20 were not real, that they belonged to no-one. We added that they would play a game in which they would choose whether to accept or to reject offers that these previously photographed real people had made.

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[3] The agreement was obtained in a way approved by the University of Liège committee of ethics

After that, we asked the participant if she would agree to be photographed so we could continue the experiment, and if she could write us an offer in case the roles were reversed, that is, if she was the one receiving the € 20 and was to share them with another player. We insisted on the fact that this other player could be anyone, someone she might know or not, a girl or a boy, thin or fat, big or small, handsome or not, etc. We wanted to know what kind of offer she would make[4]. For the picture, we asked each participant to go and stand against the door so we could have a white background. We asked the participants to be photographed and to write an offer because we wanted the experiment to be as realistic as possible. We told the participants that they would face an actual player who would make them real offers, thus we asked them to do exactly the same thing so they could believe the game was real.

After the picture was taken and the offer written, we invited the participant to complete two questionnaires before starting the game. The first questionnaire was made up of demographic information (age, major orientation or occupation, year of study and sex) and 14 items of identification of the woman's group[5]. The second questionnaire was a French version of the Ambivalent Sexism Inventory (Glick & Fiske, 1996, see Dardenne, Delacolette, Grégoire, & Lecoq, 2006, for a French validation). The ASI is a 22-items scale composed of two 11-item subscales. One subscale will measure hostile sexism and the other will measure benevolent sexism, which is divided into three subcomponents: Protective Paternalism (PP), Complementary Gender Differentiation (CGD) and Heterosexual Intimacy (HI). The Cronbach's alphas for the subscales were .86 for the 11 HS items and .90 for the 11 BS items. These alphas are in line with those found in Glick and Fiske (1996).

A. *Context Manipulation*

Once the two questionnaires were completed, we said that we would install the software on the computer. In order to prime participants with either a romantic or an occupational context, we feigned to be a little embarrassed about the installation of the software. Our explanation was that we had some questions to ask before doing anything stupid that could

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[4] This was interesting to ask because the kind of proposal made by the participants could have an impact on the further behaviour in the Ultimatum Game (Bethwaite & Tompkinson, 1996; Forsythe *et al.*, 1994; Nowak *et al.*, 2000; Solnick, 2001; Solnick & Schweitzer, 1999).

[5] We did not use this information in the results, so we will not talk about it in details.

erase the data because of a wrong manipulation of the software. So we proposed to the participant that in the meantime she could pre-test some pictures which were totally independent from the study. We said we wanted to do that at the end of the experiment but that now was a great time to do so, so we wouldn't waste any time later on. All the participants accepted to do the pre-test while we went out of the lab for an alleged question.

The participants were to describe in two words either occupational pictures or romantic pictures. This false pre-test was built to put participants either in the occupational context or in the romantic one. This was important to test our hypothesis about unfair offers being less accepted in a romantic context than in an occupational one. Each of the alleged pre-tests was composed of seven pictures which were tested beforehand. We chose seven pictures which turned out to have the highest evaluation in each context, that is, the seven pictures which were the most representative of an occupational context and the seven which were the most representative of a romantic context.

B. *Ultimatum Game*

After some time, which varied according to the experiments, we re-entered the room and waited for the participant to finish the pre-test. We then installed the Ultimatum Game and told the participant all the instructions for the game were written on the screen but if she had any question, we would give her all the information she needed. We also told her she might be presented only with female photographs or only male photographs, due to the important amount of pictures we collected, especially from past experiments. We told her that was in part due to the random order programmed in the software. We also said that we told her this, because we did not want her to be surprised to see only male photographs. We stressed this point because we wanted to keep some consistency throughout the experiment. We were supposed to have asked all kinds of people, both male and female, to have their picture taken, so we needed to make sure they would not wonder "why did the experimenter take my picture whereas only men are pictured in the game?"

The ultimatum game is a game in which player 1 offers a way to share money with player 2. Player 2 can either accept or refuse the deal offered by player 1. If player 2 accepts, both

players will receive the money according to the kind of split. If player 2 refuses player 1's offer, then both will not receive any money. In our experiment, player 1 was in fact the computer. Thus, the offer presented to the participants did not come from other players. We made up 39 different offers and included them in the software.

The Ultimatum Game we used in our experiment was built (using Inquisit software) according to the one used in the Crockett, Clark, Tabibnia, Lieberman and Robbins' study (2008). Our offers[6] fell into three fairness categories: 13 were from 40% to 50% of stake (fair), 13 from 27% to 33% of stake (unfair) and 13 from 18% to 22% of stake (most unfair) as in the study by Crockett *et al.* (2008).

We used 39 pre-tested pictures of males. They were pre-tested on either benevolent or hostile facial cues. For each picture, the participants were asked to complete the French version of the ASI (Dardenne, Delacollette, Grégoire, & Lecoq, 2006), and asked to say to what extent they found the pictured man attractive, chivalrous, domineering and to what extent the pictured man would attract their attention if they encountered him in a public place.

The game began with some instruction pages, and then a trial game was presented to help participants understand exactly how to use the keyboard. The participants were presented with a screen showing the following sentence: "Player A received € 15 and decided to split them as follows: X for you and X for him. Do you accept his offer?" No pictures were presented here. They could respond by pressing 1 to accept or 2 to refuse. The trial game was composed of 5 instances of offers. These offers were not the same as those used in the real game. They received proposers' offers were a division of € 15 (see Appendix). The stakes were € 7, 6, 5, 3, 2 out of 15, presented randomly across the subjects. After each participant's decision, a screen would appear with the amount of money they received for 2000ms ("You received X euros" if they pushed 1 and "You both received 0 euros" if they pushed 2).

Once the trial game was over, participants were given the instructions one more time before beginning the Ultimatum Game. In each session, the participants played 39 games. First, one of the 39 pre-tested pictures appeared and stayed on the screen for 3000ms. Then, on the

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[6] All the materials (offers, pictures, pre-test questionnaires, etc.) are available in the Appendix.

next screen, the participants faced the very same pictures with the amount of the stake and the amount of the offer (see Appendix). In addition to the screen with the amount of money received after each of their decisions (as in the trial games), the participants were to press ENTER to go on to the next picture, so they could take their time between the pictures without interfering with the delay in reacting. All 39 offers and 39 pictures were randomly presented, only once per experiment. Throughout the experiments, there was a possibility for any given picture to be presented with the same offer more than once. We could not control it because of the random order programmed in the software. Only for two participants was picture number 1 presented twice with a different offer. We chose to keep only the offer and the reaction time which appeared first in the game in the data file.

At the end of the experiment, the participants were debriefed and thanked[7].

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[7] The participants were asked to fill in a third questionnaire after playing the Ultimatum Game. This questionnaire was composed of items from diverse scales. 6 items came from the SDO scale (Pratto, Sidanius, Stallworth, & Malle, 1994), 7 from the Interpersonal Trust Scale (Rotter, 1967) and 13 from the Propensity to Trust Survey or PTS (Evans & Revelle, 2008). The data from this third questionnaire were not used in the analysis because of their complexity.

II.   RESULTS

The data of two participants were not taken into account in the analyses as their data were unusable because of their strangeness (thus, n=23 in romantic context and n=25 in occupational context). Two decisions were missing in the remaining data, as explained in the above Ultimatum Game section. We therefore based our analysis on 1870 decisions ((39x48)-2).

Because the goal of our experiment was to know how long the participants would take to make a decision, either to accept or reject a proposed offer, removing outliers (reaction times which are too long or too short) could eliminate the reaction times that are responsible for the effect we could or wanted to find *(Ratcliff, 1993)*. Because we did not build a task in which participants had to be as fast as possible, we do not consider long reaction times as outliers and we will keep them in our analyses.

1. Manipulation Check

At the end of the experiment, we asked the participants to evaluate on a 7-point scale (1/romantic context to 7/occupational context) to what extent the photographs presented in the alleged pre-test made them think about a romantic or occupational context. The univariate analysis of variance (ANOVA) showed that the context was correctly primed, $F(1, 46) = 485$, $p<.001$, $\eta^2 = .91$. The participants reported that the photographs made them think about the romantic context when they were primed with romantic-related pictures (*M* = 1.43, *SD* = 1.1), and that the photographs made them think about the occupational context when they were primed with occupational-related pictures (*M* = 6.76, *SD* = .44).

2. Reaction Times

We used a 2(context: romantic vs occupational) × 3(offer: fair vs unfair vs very unfair) one-way analysis of variance (ANOVA) with reaction time as dependent variable, variable of context is in between-subject and variable of offer is in within-subject. Here we found a global effect of the kind of offer, $F(2, 1864) = 18.96$, $p < .001$, $η^2 = .02$. It took more time for the participants to make a decision (rejection or acceptation) when facing an unfair offer ($M = 4917$, $SD = 3707$) than when facing a fair offer ($M = 4171$, $SD = 3097$) or a very unfair offer ($M = 3804$, $SD = 2803$). Post hoc analysis for the kind of offer showed that the reaction times in unfair offers condition significantly differed from those in fair offers condition, with $p < .001$ and in very unfair offers condition, with $p < .001$. The reaction times in fair offers condition significantly differed from the reaction times in very unfair offers condition, with $p < .05$. However we did not find any significant global context effect, $F(1, 1864) = 1.49$, $p = .2$, ns, $η^2 = .001$. Participants took the same time to make a decision (rejection or acceptation) in a romantic context ($M = 4202$, $SD = 3132$) than in an occupational context ($M = 4384$, $SD = 3364$). The interaction between context and offer variables was not significant, $F(2, 1864) = .76$, $p = .47$, ns, $η^2 = .001$.

Table 1

Reaction Times according to Context and Type of Offer

	Type of Offer			Total
Context	Fair	Unfair	Very Unfair	
Romantic	4178	4694	3734	4202
				‖
Occupational	4164	5122	3869	4384
Total	4171 <	4917 >	3804	

When we take a look at *Table 2*, we can see that, as predicted, in the condition of unfair offers (ambiguous situation), there was no significant difference between reaction times for both acceptation and rejection, t(620) = -.593, *p*=.56, *ns*, whatever the context. The

participants took the same time to reject (*M* = 4837, *SD* = 3257) than to accept (*M* = 5014, *SD* = 4193) an offer. In the fair condition, there was a significant difference between the reaction times for rejection and acceptation, t(624) = 6.18, *p*<.001. The participants were quicker to accept an offer (*M* = 3892, *SD* = 2672) than to reject it (*M* = 6155, *SD* = 4778). In the very unfair condition, the difference between the reaction times for rejection and acceptation was almost significant, t(620) = -1.61, *p*=.1, *ns*. Participants tended to be quicker to reject an offer (*M* = 3765, *SD* = 2805) than to accept it (*M* = 4639, *SD* = 2681).

Table 2

Participants' Reaction Times Means to Accept or Reject Offers

	Type of Offer		
Decision	Fair	Unfair	Very Unfair
Acceptation	3892 (n=549)	5014(n=281)	4639(n=28)
Rejection	6155 (n=77)	4837(n=341)	3765(n=594)

We can note that the n are only comparable in the unfair condition (n=281 and n=341). In the fair condition, almost every participant accepted offers and in the very unfair condition, almost everyone rejected offers.

To test our fourth hypothesis, we performed stepwise linear regressions entering reaction times as a dependent variable.

A. Romantic Context

As a first step, we entered facial attractiveness, the data from the faces' on BS subscales (PP, IH, CGD) and the participants' data on the BS subscales (PP, IH, CGD). As a second step, we wanted to look at the interaction between the data from the faces' and the participants' data.

a. Rejection

The regression revealed a significant effect of the participants' level on the IH subscale in the ASI, β = -.21, t(23) = -1.9, p=.05. The higher the participant scored on the IH subscale, the less time they took to reject the unfair offers. Thus, the faster they rejected unfair offers. Contrary to our prediction, no significant effect of the level of faces' characteristics on the subscale of IH in the ASI was found, β = -.07, t(23) = -.43, p=.66, ns. No other significant effect was found either.

The second step of our regression analysis did not show anything significant. Adding the interactions changed the model's significativity. R square in the first step was .08, with F = 1.99, p = .06. When we added the interactions, R square became .01, with F = .70, p = .55. Because adding interactions did not improve the model, we thus decided to stay in the first step and not go any further.

b. Acceptation

The regression showed a significant effect of the participants' level on the PP subscale in the ASI, β = -.29, t(23) = -2.23, p=.03. The higher the participants scored on the PP subscale, the less time they took to accept unfair offers, that is, the faster they accepted unfair offers. The analyses also revealed a tendency in the analysis of level on the CGD subscale in the ASI, β = -.17, t(23) = -1.58, p=.11, ns. The higher the participant scored on the CGD subscale, the less they tended to take time to accept an unfair offer, that is, they tended to be faster to accept the offer. These non predicted results will be discussed later on, in the discussion section. However, we did not find any significant effect for the participants' level on the IH subscale in the ASI, β = .10, t(23) = .74, p=.46, ns.

The second step of our regression analysis did not show anything significant. Adding the interactions changed the model's significativity. R square in the first step was .13, with F = 2.39, p = .03. When we added the interactions, R square became .05, with F = 2.01., p = .12.

Because adding interactions did not improve the model, we thus decided to stay in the first step and not go any further.

B. *Occupational Context*

We performed an analysis which was similar to the romantic context to test our fourth hypothesis, using the same variables (subjects' data, faces' pre-test on BS subscales data and facial attractiveness). As a first step, we entered the facial attractiveness, the data from the faces' on the BS subscales (PP, IH, CGD) and the participants' data on the BS subscales (PP, IH, CGD). As a second step, we wanted to look at the interaction between the data from the faces' and the participants' data.

a. *Rejection*

The regression revealed a marginally significant effect of the participants' level on the CGD subscale in the ASI, β = -.32, t(25) = -1.86, p=.06. The higher the participant scored on the CGD subscale, the less time they took to reject the unfair offers. Thus, the faster they rejected unfair offers. We found no significant effect of the participants' level on the PP subscale in the ASI, β = .18, t(25) = .88, p=.38, *ns*. Our hypothesis is thus not confirmed. Although the effect is not significant, we can see that it suggests that the higher the participant scored on the PP subscale, the more time they tended to take to reject the unfair offers. No other significant effect was found.

The second step of our regression analysis did not show anything significant. Adding the interactions changed the model's significativity. R square in the first step was .04, with *F* = .91, p = .5. When we added the interactions, R square became .01, with *F* = .31, p = .82. Because adding interactions did not improve the model, we thus decided to stay in the first step and not go any further.

b. *Acceptation*

The regression showed a significant effect of the participants' level on the IH subscale in the ASI, β = -.24, t(25) = 2.52, p=.01 as well as a significant effect of the participants' level on the CGD subscale in the ASI, β = -.25, t(25) = -2.49, p=.01. The higher the participants scored on the IH and CGD subscales, the less time they took to accept unfair offers, that is, the faster they accepted unfair offers.

The second step of our regression analysis did not show anything significant. Adding the interactions changed the model's significativity. R square in the first step was .09, with $F = 2.06$, $p = .05$. When we added the interactions, R square became .02, with $F = .97$, $p = .41$. Because adding interactions did not improve the model, we thus decided to stay in the first step and not go any further.

3. Rejection/ Acceptation

We performed a 2(context: romantic vs. occupational) × 3(offer: fair vs. unfair vs. very unfair) ANOVA with acceptation/rejection as dependent variable and context (between-subjects) as well as kind of offer (within-subjects) as independent variables. As expected, the context had a significant effect, $F(1, 1864) = 4.8$, $p<.05$, $\eta^2 = .003$, as well as the kind of offer, $F(2, 1864) = 813.4$, $p<.001$, $\eta^2 = .46$, on decision-making. The Context × Kind of offer interaction had a significant effect, $F(2, 1864) = 2.9$, $p=.05$, $\eta^2 = .003$.

The post hoc analyses showed that the kinds of offer significantly differ from one another. Fair offers ($M = .88$, $SD = .33$) significantly differ from unfair offers ($M = .45$, $SD = .49$), with $p<.001$, and from very unfair offers ($M = .05$, $SD = .21$), with $p<.001$. Unfair offers significantly differ from very unfair offers, with $p<.001$. We also learn that there is less acceptation in the romantic context ($M = .44$, $SD = .49$) than in the occupational context ($M = .48$, $SD = .50$). There is no significant difference between the romantic and occupational contexts in the fair condition, $F(1, 624) = .29$, $p=.59$, ns, as well as in the very unfair condition, $F(1, 620) = .026$, $p=.87$, $ns.$ In line with our expectations, the effect of context is present only in the unfair offers condition, $F(1, 620) = 5.6$, $p=.02$. We also predicted that only in the unfair condition would a difference appear between acceptation and rejection of offers. Thus, we can see in *Table 3* that there is less acceptation in the romantic context ($M = .4$, $SD = .5$) than in the occupational context ($M = .5$, $SD = .5$). The unfair condition is thus the one of interest.

Table 3

Level of Acceptation of Offer according to Type of Offer and Context

	Type of offer			Total
Context	Fair	Unfair	Very unfair	
Romantic	.87	.40	.04	.44
	‖	∧	‖	
Occupational	.88	.50	.05	.48
Total	.88	.45	.05	

We also performed a logistic regression in the unfair offer condition because it is a more appropriate analysis than ANOVA. We will report the parameter estimate b and its Standard Error (SE) for both romantic and occupational contexts. b is an estimator of the change in the logit caused by a unit change in the independent variable. A value of 0 indicates that the variable does not influence the independent variable. The Wald statistic and its corresponding p are commonly used to test the significance of b. The Odds Ratio (OR) is the natural log of b; an OR of 1 indicates that the independent variable has no effect. Consequently, 95% Confidence Interval (CI) does not contain the value of one.

We wanted to know whether there was a significant difference between the contexts in the unfair offer cells. The analysis revealed that there is a significant effect of the context in the unfair offer condition (b = .39, SE = .16, Wald = 5.61, *p* =.02; OR = 95% CI [1.07, 2.028]), while controlling for attractiveness. The acceptation rate in the romantic context is significantly different from the one in the occupational context. A significant effect of attractiveness is also found (b = .12, SE = .04, Wald = 8.58, *p* = .003; OR 95% CI [1.04, 1.213]) only in the unfair offers condition. The more attractive the faces are, the greater the acceptation of unfair offers.

To know exactly what could explain this effect in the unfair cells, we tested our fourth and fifth hypotheses. We performed a stepwise logistic regression entering acceptation/rejection as a dependent variable.

A. *Romantic Context*

As a first step, we entered the facial attractiveness, the data from the faces' on the BS subscales (PP, IH, CGD) and the participants' data on the BS subscales (PP, IH, CGD). The regression revealed a significant effect of attractiveness (b = .16, SE = .06, Wald = 5.82, p=.02, OR = 95% CI [1.03, 1.33]). So, the higher the level of attractiveness of the face, the greater the acceptation of unfair offers by the participants. An effect of the participants' level on the IH subscale in the ASI (b = -.68, SE = .06, Wald = 5.82, p<.001; OR = 95% CI [.36, .72]) as well as an effect on the CGD subscale in the ASI (b = .48, SE = .15, Wald = 9.75, p=.002; OR = 95% CI [1.19, 2.17]) were found, but not for the PP subscale in the ASI (b = .14, SE = .19, Wald = .61, p = .4; OR = 95% CI [.80, 1.66]). The higher the participants scored on the IH subscale, the more they rejected unfair offers. Conversely, the higher the participants scored on the CGD subscale, the more they accepted unfair offers. Contrary to our prediction, no significant effect of the level of faces' characteristics on the IH subscale in the ASI was found (b = -.11, SE = .29, Wald = .15, p=.7; OR = 95% CI [.51, 1.58]).

As a second step, we wanted to look at the interaction between the data from the faces' pre-test and the participants' data. The interaction between the score of the subject on the IH subscale and the level of faces' characteristics on the IH subscale was not significant (b = .21, SE = .17, Wald = 1.61, p=.2; OR = 95% CI [.89, 1.72]). The interaction between the score of the subject on the CGD subscale and the level of faces' characteristics on the CGD subscale was not significant either (b = .06, SE = .18, Wald = .10, p=.7; OR = 95% CI [.74, 1.51]). The final interaction, between the score of the subject on the PP subscale and the level of faces' characteristics on the PP subscale, was not significant either (b = -.34, SE = .24, Wald = 2.09, p=.1; OR = 95% CI [.44, 1.13]). Since the analyses revealed no significant effect for any of the interactions, we will stick to the first step and will not go any further.

B. Occupational Context

We performed an analysis which was similar to the romantic context, using the same variables (subjects' data, faces' on BS subscales data and faces' attractiveness). The regression analysis found a significant effect for the participants' score on PP subscale in the ASI (b = .47, SE = .23, Wald = 4.12, p=.04; OR = 95% CI [1.02, 2.51]), but not in the predicted direction. In fact, we expected that the higher participants scored on the PP subscale, the more they would reject the offers. The analysis revealed instead that the higher participants scored on the PP subscale, the more they accepted the offers. The analysis however did not reveal a significant effect either for the participants' score on the IH subscale in the ASI (b = .15, SE = .16, Wald = .87, p=.3; OR = 95% CI [.85, 1.58]), or for the participants' score on the CGD subscale in the ASI (b = -.29, SE = .17, Wald = 2.77, p=.09; OR = 95% CI [.53, 1.05]). No effect of facial attractiveness was found in the occupational context (b = .05, SE = .06, Wald = .7, p=.4; OR = 95% CI [.93, 1.18])

As in the romantic context, we proceeded with a second step in the logistic regression. We also wanted to look at the interaction between the data from the faces' pre-test and the participants' data. The interaction between the score of the subject on the IH subscale and the level of faces' characteristics on the IH subscale was not significant (b = .05, SE = .15, Wald = .13, p=.7; OR = 95% CI [.79, 1.42]). The interaction between the score of the subject on the CGD subscale and the level of faces' characteristics on the CGD subscale was not significant either (b = -.14, SE = .20, Wald = .50, p=.4; OR = 95% CI [.59, 1.28]). The final interaction, between the score of the subject on the PP subscale and the level of faces' characteristics on the PP subscale, was not significant either (b = .15, SE = .29, Wald = .27, p=.6; OR = 95% CI [.66, 2.05]). Since the analyses revealed no significant effect for any of the interactions, as in the romantic context, we'll stick to the first step and will not go any further.

III. DISCUSSION

Benevolent sexism does have a non negligible impact on the players' behaviour during an Ultimatum Game, but the effects are not similar according to the context the participants are immersed in whether in relation to the level of BS that participants possess or the extent to which male faces possess faces' characteristics associated with BS. Moreover, attractiveness also does impact the way participants are playing and making a decision. But how do these elements exactly impact the way people act in an Ultimatum Game?

The main objective underlying this report was to investigate the influences that come into play in an Ultimatum Game. Does context matter? Can BS levels have consequences on the players' behaviour? Will attractiveness be determining in the players' choices when it comes to choosing between accepting or refusing an offer? And what can be said about the type of offer?   Would unfair, very unfair and fair offers have the same rates of rejection/acceptance?

The literature we have reviewed in the previous sections helped us formulate several hypotheses concerning the different impacts that could be observed in an UG condition and their exact implications on the players' behaviour.

In this section, we will discuss the results that emerged from the experiment we have conducted. We will first review the hypotheses that have been confirmed. Then we will present the results we did not expect but which surfaced from our experiment. In a third section, we will consider the limitations of our study and what could be done in future research to go further in the field we have tackled in this dissertation.

1. Hypotheses Confirmed by the Results

Our first hypothesis predicted that facing unfair offers, the participants would take more time to make a decision, whether to accept or reject a proposed offer. As we have seen in the results section, reaction times were significantly longer in making a decision when the participants were facing an unfair offer as compared to fair and very unfair offers. As already hinted at, unfair offers, because it is difficult to really determine whether they are fair or very unfair (the first half being near the lowest fair offers and the second part being close to the higher very unfair ones) could be considered as ambiguous and then lead to more difficult decision making, which thus resulted in longer reaction times. One possible explanation would be that they were astonished by the offers and then took more time to make a decision as to whether accept or reject an unfair offer.

Our second hypothesis concerned the effect of attractiveness of the pictured faces on the acceptation rates of offers. Evidences for the confirmation of the hypothesis were partially found. We expected a global effect of attractiveness, whatever the context. A global effect was found, but further analyses revealed that the effect of attractiveness was present only in the romantic context. The participants accepted significantly more unfair offers when they stemmed from an attractive rather than unattractive man in a romantic context.

Our third hypothesis introduced the difference that could be observed depending on whether players were in a romantic or an occupational context. Participants accepted unfair offers significantly more often in a romantic context than in an occupational one. We believe that because women expected to receive a "financial support" from men in a romantic context, the fact that their expectations were not met could upset them and hence lead them to refuse the proposed offers. In an occupational context, the participants rejected the offers half of the time, which does not differ from chance. We suggest that there was a contrast effect. They expected something and yet, they did not receive it.

Our fourth hypothesis focused on what happened in the romantic context. The first two sub-hypotheses, concerning the score of the participants on the IH subscale in the ASI were confirmed. The first one had to do with the rejection rates of unfair offers. We have found that the higher participants scored on the IH subscale, the more they rejected unfair offers. Because of their great need for intimacy and because of their expectations regarding help,

care and financial assistance that are linked with the behaviour men are supposed to express in a romantic environment were not fulfilled, the female participants were not satisfied with the amount proposed by the men on the pictures and then decided to reject this inadequate offer. This frustration was also confirmed by the results associated with our second sub-hypothesis showing that the higher the level of participants on the IH subscale, the shorter their reaction times in rejecting an unfair offer. This effect of rejecting unfair offers in a romantic context could be associated with the punishment of unfair behaviour found in Bolton and Zwick's results (1995). Because men did not do what they were expected to do, women, accordingly, punished them for their inappropriate behaviour.

The last two sub-hypotheses of the fourth hypothesis, dealing with the level of faces' BS characteristics and the interaction between the BS level for the participants and for the faces, and the two sub-hypotheses of the fifth hypothesis, dealing with the rejection rate and reaction times in rejecting offers in the occupational context, were not confirmed by the results.

2. Unexpected but Interesting Results

A. For Protective Paternalism (PP)

a. Occupational Context

As already hinted at in the previous section, results did not produce any evidence confirming our fourth hypothesis. However, the results showed a significant effect in the opposite direction of hypothesis 4a: the higher the participants scored on the PP subscale of the ASI, the more they accepted unfair offers in an occupational context. This is a surprising result because we believed that women would want to be treated equally with men at work and not to be under the financial care of men in this situation. However, we observed the opposite effect. Based on the results from Sarlet and Dardenne (study 3, in preparation), stating that women report more prescription of PP in an occupational context when they are high in need of PP, this result may be explained. The more women are in need of PP, the more they would accept financial help from their male colleagues. Even if women prescribe more PP in a romantic context than in a professional one (Sarlet & Dardenne, study 1, in

preparation), the participants' level of PP would have an impact and lead female participants to accept unfair offers. Maybe it would be interesting to look at the behaviour of low-PP participants to see if the opposite can be found, too. If women are low in PP, would they reject unfair offers more often than women who are high in PP?

Hypothesis 4b is not confirmed either, but results showed a tendency in the opposite direction, too: the higher the participants scored on the PP subscale, the more they tended to take time to reject unfair offers. This opposite tendency could be explained by the fact that they did not expect any financial help in an occupational context, as opposed to the expectation of help in the romantic context. Therefore, they tended to take more time to reject offers because they did not want to punish the men for being out of their supposed role as protector which makes sense in a romantic context. Maybe with a larger sample we could find a more precise effect.

b. *Romantic Context*

In the romantic context, the higher the participants scored on the PP, the less time they took to accept the offers. This effect was not predicted, but the fact that it appeared is not really a surprise. Indeed, even if they did not say anything about the effect of the women's level on the three subscales of BS, Moya *et al*. (2007) found that high-BS women are likely to accept protective restrictions from their romantic partner. Viki *et al*. (2003) showed that people who are high in BS are more likely to accept paternalistic chivalry, holding that men need a woman in their live to be complete but they also have to protect and take care of them. Our participants' need for protective paternalism can thus explain the likeliness of them accepting unfair offers in a romantic context. Moreover, because men normally protect and look after their romantic partners, it makes sense that women accept their financial help, even though it was not a totally fair one.

B. *For Complementary Gender Differentiation (CGD)*

a. *Occupational Context*

An almost significant effect was found for the participants' level of CGD in the occupational context. The higher the participants scored on the CGD subscale, the less they tended to take time to reject unfair offers. Surprisingly, the higher they scored in CGD, the less they took time to accept an offer. It seems that, whatever their response, they were quick to make a decision.

b. *Romantic Context*

The higher the participants scored on the CGD subscale, the more they accepted unfair offers. We could explain this by the fact that women high in CGD express dependence on men, in order to reproduce themselves, and because they were in a romantic context, they tended to do what they were supposed to do to find a potential partner. Even if the men they faced were not real persons, the idea of looking for a partner may be activated and the women could act accordingly. In the same, even if not significant, vein, results revealed a tendency going into the direction that the higher the level of CGD in participants, the less they are likely to take time to accept an unfair offer. Maybe this effect would be greater if we had a larger sample, with more subjects for every condition.

C. *For Intimate Heterosexuality (IH)*

In the occupational context, the higher the participants scored in the IH subscales, the less time they took to accept unfair offers. One might have expected, as shown in Sarlet and Dardenne (in preparation), women in an occupational context to want more equality with men and then to act accordingly, that is, to refuse any help from a man in a work context. Besides, as Moya *et al*. (2007) have demonstrated, women do not accept protective justification to a restriction coming from a colleague. It was also demonstrated that BS is better accepted when it comes from a romantic partner rather than from a colleague. Thus, the fact that women who scored high in the IH subscale accepted unfair offers faster is quite surprising. Maybe this could be explained by the fact that women expressing a high need for intimacy would be engaged, maybe not entirely consciously, in the search of a partner in order to find the intimacy they are looking for. Because the occupational context was not a real one, but just a condition the participants were immersed in, and because the money

71

was not real and not proposed by a real person, elements which would activate the need of equality in the work place and allow the participants to act accordingly were not present in our experiment. In addition, because our participants were University students, they only possessed an a priori about the professional world and all the elements associated with it are not echoed in their minds.

D. *For Face Attractiveness*

The hypothesis about attractiveness was only partially confirmed. In effect, as introduced before, women accepted more unfair offers coming from attractive rather than unattractive men only in the romantic context. This result is, to a degree, in line with those Solnick and Schweitzer (1999) found. Female participants rejected unfair offers less often when they stemmed from attractive men rather than from unattractive ones. The fact that this effect only appeared in the romantic context could be explained by the fact that a romantic context activates the idea of searching for a partner. We hypothesised that women would refuse unfair offers more often in a romantic context because their expectancies had not been met. Maybe the attractiveness of their partner would surpass the frustration they first felt and then lead them to accept offers from an attractive potential partner. Moya *et al.* (2007) showed that protective restrictions were accepted by women when they came from a romantic partner. Viki *et al.* (2003) found that people could accept a system in which women are treated with courteousness and kindness, but in which they have restricted roles in an intimate relationship. Maybe attractiveness activates all these beliefs concerning the men and women's role in a romantic situation and thus it leads women to enter that role and accept financial help from a man who is supposed to help them in this particular context.

3. Conclusion

It seems that, globally, women who are high in CGD in a romantic context and high in PP in an occupational one accept unfair offers that come from men. Reaction times are also significantly shorter when it comes to accepting unfair offers coming from men when women are high in PP in a romantic context and high in IH in an occupational context. We could connect these results with those found in Solnick (2001) and Solnick and Schweitzer

(1999) that asserted that women never reject offers coming from men, even if in our experiment, very unfair offers were highly rejected. In a same vein, as Eckel and Grossman (2001) demonstrated, women are more likely than men to accept proposed offers and thus their tendency to accept unfair offers, in certain conditions (context and participants' BS subscales scores) may be due to this fact. Maybe the results could be explained by the greater cooperation of women in social exchange and economic games, but only when facing male partners (Solnick, 2001; Kahn et al., 1971). Another explanation could be that women are more averse to risk than men (Eckel & Grossman, 2002), thus they would accept more unfair offers because it is more cautious to do that than risking not having anything. Nevertheless, like Eckel and Grossman (2002), we do not think that the aversion of loss plays a role in the way women behave. If loss aversion was an element of choice, a weak rejection rate should have appeared for all the offers, and this was not what happened. As in most studies about the UG (see Güth, 1995 for a review), the participants did not accept offers that were below 20% of the total amount. They thus were not led by fear of losing money.

Our results also showed that the context the participants were in mattered a great deal in the way they acted in an Ultimatum Game. In effect, we saw that according to the fact they were primed with a romantic or an occupational context, the results were quite different. Unlike Moya et al. (2007) and Sarlet and Dardenne (in preparation) have reported, the romantic context led to significantly less acceptation of unfair offers than the occupational one. However, when we took into account the effects of the three subscales of BS separately, we saw that according to the level of PP and CGD in participants, the acceptation rate of unfair offers changed. In effect, when participants were high on these two subscales of BS, the acceptation of unfair offers varied with them, namely more offers were accepted, and they were accepted faster.

We also found an effect of the pictured male faces' attractiveness. The more attractive they were, the greater the acceptation rate. This is in line with the results of Solnick and Schweitzer (1999), revealing that the rejection rate for offers coming from attractive men were weaker than those coming from unattractive men. Thus, we can conclude that physical attractiveness of male players plays an important part when women players have to decide whether to accept or reject the offers generated by those men.

4. Limitations of our Research and Suggestions for Subsequent Experiments

First of all, it is important to tackle the abnormal size of the n. We had no other choice but to decide to take into account not the number of participants but the number of decisions made, thus 39 offers for 48 participants. The results should consequently be handled carefully. The design we had did not allow us to use better statistics. The design was not conducive to other statistics because we took into account both the subjects and faces' data and these variables did not vary, they were static. In the first place, we wanted to use the same design as in Blair *et al.* (2004b), but they had only one non-varying variable whereas we had two.

A. *Personal Observations*

One limitation in our experiment had to do with the lack of research in studying the impact of BS or even sexism in general in an UG or the impact of facial features in an UG. It was thus difficult for us to find papers that could have been relevant. However, it has been interesting to find links between all the fields we introduced here. There were some studies that considered the gender impact in the UG field but not the participants' level of sexism. As for facial features, except for facial attractiveness, we did not find any studies dealing with that effect.

Another limitation concerns our sample. First of all, the number of participants in each of the conditions (romantic and occupational) was not sufficient. Ideally, each of the conditions should contain at least 30, or even 40, participants in order to have better statistics and clearer results. Moreover, our sample was constituted by students (except for one) and they also had only a limited knowledge concerning the world of work.

As already mentioned in the previous section, this lack of knowledge could be a key factor. It would thus be interesting to conduct the same study with people who are professionally active. We could also imagine conducting the experiment with women facing real men. We could go further and do it with real colleagues in a real workplace. This idea might be difficult to apply because of all the variables we would have to control (like attractiveness,

affinities between colleagues, positive or negative feelings, power and domination from one to another, hierarchical positions, possible tensions and vengeances, etc.). Nevertheless, doing it with real people, who would be the experimenter's accomplice, could be interesting since playing with an actual person can have an impact on a future relationship with the male proposers. For example, if a woman is single, the fact that she accepts or rejects offers could be explained by her search for a romantic partner or attractiveness, etc. Reputation may also have a role to play in the participants' behaviour, as in Nowak *et al.* (2000), where participants did not want to accept offers that were too low for fear that they would be classified as "good receivers" to whom low offers can be proposed and would always be accepted. Hence, making the context more realistic may lead to other behaviours than those observed in our experiment. In addition, Sanfey *et al.* (2003) demonstrated that the reactions in an UG significantly differ according to whether the players are facing a real partner or a computer partner. The rejection rate was significantly more important when offers came from a human partner rather than from a computer.

Here it is not really a limitation, but just a questioning. At the beginning of the experiment, when we explained its unfolding, we gave as an example a fair share of the pie (i.e. "you're going to face a picture below to which a sentence like "this person received € 20 and decided to share it as follows: 10 for you and 10 for him" will appear"). Our question is: Couldn't this element of fairness have some sort of impact on the way the participants would play from then on? What about the offer they made just after the explanation? Maybe that every time we present an equitable share of the pie as an example, this would lead participants to play in a fair way subsequently. So, we could imagine an experiment in which we would propose either a fair, unfair or very unfair share of the total amount as an example, and examine whether it could have an influence on the way players would go on playing. It would be interesting to study this both for player 1 (who will propose an offer according to the given example) and player 2 (who will accept the kind of offer presented as an example). For instance, if the example offer is a fair one, maybe player 1 (allocator) would make a fair proposal and player 2 would accept only fair offers. If the example is an unfair proposal, maybe player 1 would propose more unfair offers and player 2 would be more likely to accept unfair offers than if the share is a fair one. Maybe players would expect more unfair offers after an unfair example and then accept them more easily than if offers were

fair. This subject is not linked to our experiment but it could well be interesting for further research to know whether players would act according to the reciprocity principle.

To conclude this paragraph about our personal observations, we want to point out one of our key points, namely the fact that the subjects' data stemming from the subscales of BS in the ASI helped us to find effects that would not have appeared if we had only considered the BS scale globally. As in Sarlet and Dardenne (in preparation) and in the dissertation of Bodart (2008), we did find significant results when we considered the IH, CGD and PP subscales separately. Although they come from the same global scale, their consequences were not the same and not going into the same direction. For instance, we saw that, in the romantic context, the level of the participants on the IH, PP and CGD subscales did not have the same impact. The higher they scored on the IH subscale, the more they rejected unfair offers, whereas the higher they scored on the CGD subscale, the more they accepted unfair offers. Or that, in the occupational context, PP and IH scores had an impact on the acceptation rate of unfair offers, but CGD did not. So, it is worth analysing the separate impacts of the three BS subscales in a future research.

B. *Participants' Comments*

The following limitations stem from remarks that participants made at the end of the experiment.

The first one has to do with why would they refuse money that can be won so easily? Our proposition is to make the reward real. In the United States or in the United Kingdom, as far as we know, participation in an experiment is rewarded by course credits or monetary payment. If money, or any other form of reward (as in Murnighan & Saxon, 1998, where they used M&M's), was involved, would the participants' behaviour be different? Would we witness the appearance of an effect as in Eckel and Grossman (2002), in which women took less risk facing real payoff? When female participants received real money and could gamble it and choose between five different options, with different risk levels, they chose a riskless option four times more than men. Thus, with real payment, would women play differently and would our results show another kind of behaviour?

A second limitation stemming from the participants' remarks has to do with the impact of the trust the men in the pictures could generate on the behaviour of female participants. One participant in our experiment emphasised that she decided whether to accept or reject an offer according to the trust she perceived in the men's eyes. As Emery (2000) introduced it, "important visual signals arise from the face. The face provides a plethora of social information about an individual's gender, age, familiarity, emotional expression and potentially their intentions and mental state. The eyes are very important components of the face that can provide this information, especially information about emotional and mental states." (p.582) A look is an important channel which gives access to the soul and the personality of other people. As Carl Havelange (1998) says, "l'œil de l'homme est l'image de son âme"[8] (p.82). Moreover, decoding the language of the eyes would have an impact on daily social interactions. And visual contact facilitates the understanding of others and the attribution of mental states to these others (Macrae, Hood, Milne, Rowe, & Mason, 2002). Eyes have an important impact on interactions and relationships people have with each other (Mason, Tatkow, & Macrae, 2005). In addition, it was demonstrated that people judge other people as trustworthy and attractive when their visual contact is direct rather than indirect (Bayliss & Tipper, 2006; Mason, Tatkow, & Macrae, 2005). For most people, the look in the eye influences the evaluation of other people's personalities (Bayliss & Tipper, 2006). We think that the pictured men's look may have an impact on the trust women would place in them. Hence, it would be interesting to take this element into account and study its impact, because "un regard peut aussi punir, encourager ou établir une domination"[9] (p.88, Hall, 1971). It would then be interesting to assess the level of trust in the faces with a question like "do you trust this man in the picture?"

A third remark leads us to wonder about the succession of unfair offers. At the beginning, offers are accepted, but "enough is enough ". One of our participants pointed this out. As for the order effect in the questionnaire, could the effect of presentation offer exist and matter? Maybe we should control this impact? According to Perreault (1975) the order of the questions may be a positive element which may improve the quality of the research tool, but it could also be a negative factor tending to bias the answers. He also refers to order-effect as the position of an item which would influence the respondent's reaction to this item.

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[8] The eye of the man is the reflection of his soul (personal translation)
[9] A look can also punish, encourage or establish a domination (personal translation)

Several studies showed that order-effect has an important impact on the way participants would answer. The fact that one question comes before another one will change the result, as in the case of political surveys (Alspach & Bishop, 1991; Bishop, Oldendick, & Tuchfarber, 1984; Crespi & Morris, 1984). The order of offers might therefore have an impact on the acceptation/rejection rates. Several fair offers followed by an unfair offer may lead to a rejection of this offer, whereas if this offer has been presented after very unfair offers or unfair offers, it might be accepted. We could choose the order of presentation manually but it would be a time-consuming task. And with 39 offers, the balance of the order of presentation may lead to infinite possibilities. Moreover, we wanted to present the offers randomly in the first place. And randomisation is a way proposed by Perreault (1975) to fight the order-effect, so maybe we do not have to change anything about the presentation of the offers.

Finally, we can envision the impact of the participants' socioeconomic status. Górniak (1999) emphasised it, the attitudes to money may be influenced by the socioeconomic status and age of the participants. So, according to the way money is considered, the acceptation/rejection rates could change. If participants are, for instance, richer than others, would they refuse offers below the 50% share of the pie more often? And would participants who originate from a less favoured background be likely to accept a greater number of offers than those who belong to a more favoured environment? It might be interesting to take this variable into account.

CONCLUSION

At the beginning of our dissertation, we asked ourselves several questions to which our experiment partially allowed us to find some answers.

We conducted an experiment in which we used an Ultimatum Game that we built in order to explore the different influences on the behaviour of the different players. We focused on the behaviour of the receivers, the computer playing the role of the allocator. We used pre-tested photographed male faces. We assessed their level of attractiveness as well as their level on ASI scale (HS, BS and its three subscales, PP, CGD and IH). We also measured the level of the participants on all of the Ambivalent Sexism Inventory subscales (HS, BS, IH, CGD, and PP) using the ASI (Glick & Fiske, 1996; see Dardenne, Delacollette, Grégoire, & Lecoq, 2006, for a French validation). We divided the participants into two context conditions, romantic and occupational. We then performed several analyses that permitted us to test our different hypotheses.

As we saw previously, hypotheses 1, 2, 3, 4a, and 4b have been confirmed. In effect, our results revealed that when facing unfair offers, participants took more time in making a decision, whether to accept or reject proposals, than when they faced fair offers or very unfair ones. Our first hypothesis was thus confirmed. An effect of attractiveness was found in the romantic context even though we expected a global effect, whatever the context. This effect partly confirms our second hypothesis. We also learned that the acceptation rate was lower in the romantic context, compared to the occupational one, as expressed by our third hypothesis. Finally, we found that the participants' level of IH has an impact both on the rejection rate and on the reaction times. We have demonstrated that when participants scored high on the IH subscale of the ASI (Glick & Fiske, 1996), their rejection of unfair offers was high and quick.

Some of our hypotheses did not find any evidence which would have allowed us to confirm them. Sure enough, neither the effect of BS facial characteristics possessed by the photographed male faces nor the effect of the interaction between the BS data of the participants and the BS data of the faces were proved as existing. Our results did not reveal any effect of any BS facial characteristics. Even when we took the facial characteristics associated with the three subscales of BS separately, those facial cues did not impact any

decisions in the Ultimatum Game we built. Quite coherently, we did not find an interaction between the BS data of the participants and those of the male faces.

Alternatively, some unexpected but really interesting results came out of our analyses. First of all, our fifth hypothesis was not confirmed in the expected direction, but an effect in the opposite direction was found. In effect, the higher the score of participants on the PP subscale, the more often they accepted unfair offers. The second sub-hypothesis of our fifth hypothesis was not confirmed either, but, even if not significant, the results suggested an opposite effect of the one expected. Other interesting results were found. In the romantic context, it was revealed that the participants' level on the PP and CGD subscales mattered a great deal. The higher they scored on the PP subscale, the less they took time to accept unfair offers. The higher their level of CGD, the higher their acceptation rate was. In a professional context, the participants' IH and CGD scores influenced the reaction times of accepting unfair offers. The higher participants scored on these two subscales, the quicker they were to accept unfair offers.

Finally, some tendencies were found. Even if the tendency in the occupational context was closer to reach significance than the one in the romantic context, the participants tended to be faster to take a decision when facing unfair offers when they scored high on CGD subscale. This element of result has to be handled with caution because these are only tendencies and we do not know exactly how to understand them.

All together, our results brought some responses to our initial interrogations about the potential effects on the behaviour players would adopt in an Ultimatum Game.

We can conclude our experiment by saying that the way players would act in an Ultimatum Game will depend on the type of offers that are proposed, the context in which the game takes place, the participants' level on the three subscales of the BS scale, and the allocators' attractiveness.

We can summarise our findings in these terms:

Offers that are fair and very unfair will be respectively highly accepted and highly rejected, whatever the context.

Unfair offers will be less accepted in a romantic context than in an occupational one.

In a romantic context, a high level of IH in receivers would lead them to be faster to reject unfair offers, whereas a high level of PP would lead them to be quicker to accept unfair offers. The attractiveness of the allocators' faces as well as a high level on CGD subscale for receivers will lead to a greater acceptation of unfair offers.

In a professional context, scores on the IH and CGD subscales will impact on the time players take to accept unfair offers. The higher receivers score on these two subscales, the faster they will be to accept unfair offers. The level of PP in players will have repercussions on their acceptation rate. The higher the level of PP, the more players will accept unfair offers.

As we asserted in the discussion part of this dissertation, future research is needed to help us going further in the interrogations we introduced. Because it seems that our experiment is integrated in quite a new field of research, lots has to be done and several other questions could arise. First of all, it would be interesting to be sure of the reproducibility of the results, and that, by maybe using a greater sample. Influences that could explain the differences of behaviour in economic games as well as in different contexts are important to be analysed in order to know and understand them better. Once acknowledged, we could intervene in order to reduce negative differences between people in general, and between men and women in particular.

Our results could be an additional element that could enrich the knowledge permitting the continuation of the struggle against sexism in our society and could help to understand the differences between men and women in daily interactions somewhat better.

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APPENDIX

APPENDIX CONTENTS

APPENDIX 1: Activation of Context

Nous allons vous présenter un certain nombre de photos.

Imaginez que vous deviez décrire ces photos à d'autres personnes qui ne les voient pas.

Donnez deux mots qui décrivent le mieux chacune des photos.

Veuillez cliquer sur la touche CONTINUER pour commencer.

Continuer

Merci d'écrire les deux mots les plus représentatifs pour chacune des photos qui vont suivre dans l'espacement blanc prévu à cet effet.

Continuer

Donner deux mots qui décrivent le mieux cette photo

Continuer

APPENDIX 2: Romantic Context Activation

APPENDIX 3: Occupational Context Activation

APPENDIX 4: Ultimatum Game

Bienvenue dans le jeu de l'Ultimatum Game.

Voici les règles:

Pour chaque partie, nous allons octroyer une somme globale à la personne avec qui vous allez jouer.

Ce joueur devra alors décider de quelle façon il désire partager cette somme globale entre lui et vous.

Il vous dira alors combien il veut garder pour lui et combien il décide de vous donner.

Vous serez alors libre d'accepter la façon dont il a partagé la somme globale entre lui et vous ou de la refuser. Votre rôle sera donc de décider si vous acceptez cette offre ou si vous la refusez.

Si vous ACCEPTEZ l'offre, vous devez appuyer sur la touche 1+ENTER du clavier. Dans ce cas, vous et l'autre joueur aurez les sommes d'argent convenues.

Si vous REFUSEZ l'offre, vous devez appuyer sur la touche 2+ENTER du clavier. Dans ce cas, ni vous ni l'autre joueur ne recevez d'argent.

Veuillez cliquer sur la touche CONTINUER pour commencer.

Continuer

Imaginons, par exemple, que nous avons donné une somme globale de 5 euros à l'autre joueur.

Ce dernier décide de vous donner 1 euro et de garder 4 euros pour lui.

Vous avez la possibilité d'accepter ou de refuser cette offre.

Si vous ACCEPTEZ cette offre : vous devez appuyer sur la touche 1+ENTER du clavier. Vous aurez alors la somme de 1 euro et l'autre joueur aura la somme de 4 euros.

Si vous REFUSEZ cette offre : vous devez appuyer sur la touche 2+ENTER du clavier. Vous aurez alors la somme de 0 euro et l'autre joueur aura également une somme de 0 euro.

Continuer

Nous allons maintenant vous présenter quelques offres en guise d'entrainement.

Appuyer sur la touche 1+ENTER si vous ACCEPTEZ l'offre et sur la touche 2+ENTER si vous la REFUSEZ.

Si vous refusez l'offre qui vous est faite, ni vous, ni l'autre joueur ne recevez d'argent.

Continuer

Le joueur A a reçu 15 euros et il décide de les partager comme suit : 6 pour vous et 9 pour lui.
Acceptez-vous son offre?

oui   non
1   2

Vous avez reçu 6 euros

Vous avez tous les deux reçu 0 euro

De nouveau, pour chaque partie, nous allons octroyer une somme globale à la personne avec qui vous allez jouer.

Ce joueur devra alors décider de quelle façon il désire partager cette somme globale entre lui et vous.

Il vous dira alors combien il veut garder pour lui et combien il décide de vous donner.

Vous serez alors libre d'accepter la façon dont il a partagé la somme globale entre lui et vous ou de la refuser. Votre rôle sera donc de décider si vous acceptez cette offre ou si vous la refusez.

Si vous ACCEPTEZ l'offre, vous devez appuyer sur la touche 1+ENTER du clavier. Dans ce cas, vous et l'autre joueur aurez les sommes d'argent convenues.

Si vous REFUSEZ l'offre, vous devez appuyer sur la touche 2+ENTER du clavier. Dans ce cas, ni vous ni l'autre joueur ne recevez d'argent.

Veuillez cliquer sur la touche CONTINUER pour commencer. | Continuer |

95

Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,55 pour vous et 11,45 pour lui.
Acceptez-vous son offre?

oui   non

1 — 2

Vous avez reçu 8,55 euros

Appuyer sur ENTER pour passer à la photo suivante

APPENDIX 5: Ultimatum Game Pictures
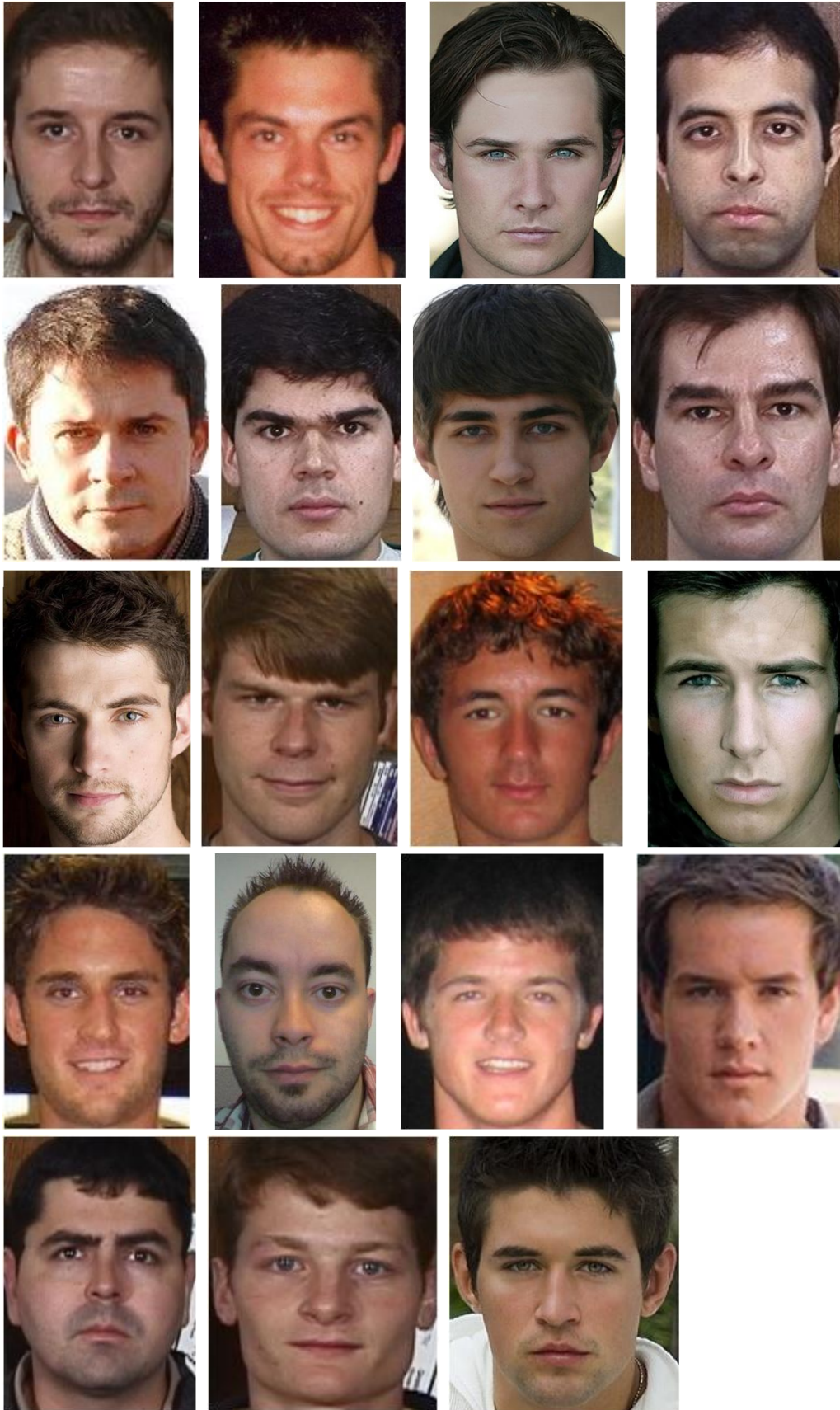
APPENDIX 6: Offers (Example and Actual Game)

EXAMPLE:

" Le joueur A a reçu 15 euros et il décide de les partager comme suit : 7 pour vous et 8 pour lui. Acceptez-vous son offre?"

" Le joueur A a reçu 15 euros et il décide de les partager comme suit : 3 pour vous et 12 pour lui. Acceptez-vous son offre?"

" Le joueur A a reçu 15 euros et il décide de les partager comme suit : 5 pour vous et 10 pour lui. Acceptez-vous son offre?"

" Le joueur A a reçu 15 euros et il décide de les partager comme suit : 2 pour vous et 13 pour lui. Acceptez-vous son offre?"

" Le joueur A a reçu 15 euros et il décide de les partager comme suit : 6 pour vous et 9 pour lui. Acceptez-vous son offre?"

ACTUAL GAME :

Fair Offers

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 10 pour vous et 10 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9,85 pour vous et 10,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9,70 pour vous et 10,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9,55 pour vous et 10,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9,40 pour vous et 10,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9,25 pour vous et 10,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 9 pour vous et 11 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,85 pour vous et 11,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,70 pour vous et 11,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,55 pour vous et 11,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,40 pour vous et 11,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8,25 pour vous et 11,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 8 pour vous et 12 pour lui. Acceptez-vous son offre?"

Unfair Offers

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 7 pour vous et 13 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6,85 pour vous et 13,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6,70 pour vous et 13,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6,55 pour vous et 13,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6,40 pour vous et 13,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6,25 pour vous et 13,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 6 pour vous et 14 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5,85 pour vous et 14,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5,70 pour vous et 14,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5,55 pour vous et 14,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5,40 pour vous et 14,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5,25 pour vous et 14,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 5 pour vous et 15 pour lui. Acceptez-vous son offre?"

Very Unfair Offers

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 4 pour vous et 16 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3,85 pour vous et 16,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3,70 pour vous et 16,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3,55 pour vous et 16,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3,40 pour vous et 16,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3,25 pour vous et 16,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 3 pour vous et 17 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2,85 pour vous et 17,15 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2,70 pour vous et 17,30 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2,55 pour vous et 17,45 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2,40 pour vous et 17,60 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2,25 pour vous et 17,75 pour lui. Acceptez-vous son offre?"

"Cet homme a reçu 20 euros et il décide de les partager comme suit : 2 pour vous et 18 pour lui. Acceptez-vous son offre?"

APPENDIX 7: First Questionnaire

APPENDIX 8: Ambivalent Sexism Inventory (Glick & Fiske, 1996 ; Dardenne, Delacollette, Grégoire, & Lecoq, 2006, for a French Validation)

Vous trouverez, ci-après, une série d'affirmations concernant les hommes et les femmes et les relations qu'ils/elles peuvent entretenir dans notre société. Indiquez dans quelle mesure vous êtes d'accord ou pas d'accord avec chacun des énoncés en utilisant la notation suivante :

0	pas du tout d'accord	3	légèrement d'accord
1	plutôt pas d'accord	4	plutôt d'accord
2	légèrement pas d'accord	5	tout à fait d'accord

.... 1. Quel que soit son niveau d'accomplissement, un homme n'est pas vraiment "complet" en tant que personne s'il n'est pas aimé d'une femme.

.... 2. Sous l'apparence d'une politique d'égalité, beaucoup de femmes recherchent en fait des faveurs spéciales, comme un recrutement en entreprise qui les favorise.

.... 3. Lors d'une catastrophe, les femmes doivent être sauvées avant les hommes.

.... 4. La plupart des femmes interprètent des remarques ou des actes anodins comme étant sexistes.

.... 5. Les femmes sont trop rapidement offensées.

.... 6. Les gens ne sont pas vraiment heureux dans leur vie s'ils ne sont pas engagés dans une relation avec une personne de l'autre sexe.

.... 7. Les féministes veulent que les femmes aient plus de pouvoir que les hommes.

.... 8. Beaucoup de femmes ont une espèce de pureté que la plupart des hommes n'ont pas.

.... 9. Les femmes devraient être protégées et être aimées par les hommes.

.... 10. En général, une femme n'apprécie pas à sa juste valeur ce qu'un homme fait pour elle.

.... 11. Les femmes recherchent le pouvoir en ayant le contrôle sur les hommes.

.... 12. Tout homme devrait avoir une femme qu'il adore.

.... 13. Les hommes sont "incomplets" sans les femmes.

.... 14. Les femmes exagèrent les problèmes qu'elles rencontrent au travail.

.... 15. Quand une femme a réussi à faire en sorte qu'un homme s'engage envers elle, elle essaie souvent de le tenir en laisse.

.... 16. Quand les femmes perdent une compétition honnête contre un homme, elles se plaignent pourtant d'être l'objet de discrimination.

.... 17. Une femme parfaite doit être mise sur un piédestal par son compagnon.

.... 18. Il y a beaucoup de femmes à qui cela plaît d'exciter les hommes en semblant sexuellement intéressées pour ensuite refuser leurs avances.

.... 19. Les femmes, comparées aux hommes, ont tendance à faire preuve d'un plus grand sens moral.

.... 20. Les hommes devraient subvenir financièrement aux besoins des femmes, quitte à sacrifier leur propre bien-être.

.... 21. Les féministes ont des demandes tout à fait exagérées concernant les hommes.

.... 22. Les femmes, comparées aux hommes, ont tendance à être plus cultivées et à avoir plus de bon-goût.

APPENDIX 9: Final Questionnaire