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The Influence of Mood States and Relational Ambiguity on Justice Judgments

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Trabalho efetuado sob a orientação do
Professor Doutor José Keating
e coorientação da
Professora Doutora Joana Arantes

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DECLARAÇÃO

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A Influência dos Estados de Humor e Ambiguidade Relacional nos Julgamentos de Justiça

Resumo

Algumas investigações sobre a influência dos estados de humor nos julgamentos de justiça sugerem que estados de humor positivos levam a julgamentos de justiça mais positivos e estados de humor negativos levam a julgamentos de justiça mais negativos (Bodenhausen, Sheppard, & Kramer, 1994). Este efeito pode interagir com a ambiguidade percebida numa relação social. Em situações de ambiguidade relacional, os julgamentos de justiça servem como uma estratégia compensatória para a diminuir, uma vez que permitem desvalorizar os aspetos injustos de uma relação (Bos & Lind, 2002). Em situações não ambíguas, a avaliação da justiça é caracterizada pela existência de um limiar até ao qual a injustiça na relação pode ser tolerada: mas, quando este limiar é ultrapassado, os aspetos justos da relação são ignorados e a relação é considerada completamente injusta (Gilliland, Benson, & Schepers, 1998). O objetivo deste estudo foi compreender qual o papel do estado de humor e da ambiguidade da relação social nos julgamentos de justiça. As nossas hipóteses foram: a) na relação menos ambígua (i.e. comercial), o estado de humor tem uma menor contribuição nos julgamentos de justiça e por isso os julgamentos são menos extremos; b) na relação mais ambígua (i.e. relação íntima) os estados de humor dão uma contribuição maior para os julgamentos de justiça, sendo usados como informação. Por isso os julgamentos de justiça são mais extremos. Os participantes ($N= 109$) foram divididos aleatoriamente por dois grupos: um grupo assistiu a imagens positivas e o outro grupo assistiu a imagens negativas. Em seguida, atribuíram um julgamento de justiça (escala de 1 a 9) a cada uma das vinhetas exibidas (2 x injustiça na relação comercial; 2 x injustiça na relação amorosa). Os resultados não indicaram diferenças significativas entre os grupos.

Palavras-chave: julgamentos de justiça; estados de humor; ambiguidade da relação social.

The Influence of Mood States and Relational Ambiguity on Justice Judgments

Abstract

Some research about the influence of mood states on justice judgments suggests that positive mood states lead to more positive justice judgments whereas negative mood states lead to more negative justice judgments (Bodenhausen, Sheppard, & Kramer, 1994). This effect may interact with the perceived ambiguity in a social relationship. In situations of relational ambiguity, justice judgments function as a compensatory strategy to diminish the perceived ambiguity, given that they allow the devaluing of the unjust aspects of the relationship (Bos & Lind, 2002). In non-ambiguous situations, the justice evaluation is characterized by the existence of a threshold up to which the injustice in the relationship can be tolerated: but, when that limit is crossed, all the just aspects of the relationship are ignored and the relationship is considered completely unjust (Gilliland, Benson, & Schepers, 1998). The purpose of this study was to understand the role of mood states and of the ambiguity of the social relationships in justice judgments. Our hypothesis were: a) in the commercial, less ambiguous, situation, mood states have a smaller contribution in the justice judgment process. Therefore, justice judgments are less extreme; b) in the intimate relationship, more ambiguous, situation mood states have a greater contribution in the justice assessment process. Thus, justice judgments will be more extreme. Participants (*N*= 109) were randomly assigned to two groups: one viewed positive images and the other viewed negative images. Afterwards they attributed a justice judgment (scale from 1 to 9) to each of the presented vignettes (2 x injustice in the commercial relationship; 2 x injustice in the intimate relationship). The results did not show significant differences in the justice judgments between the two groups.

Justice Judgments: the Rationalist/Emotionalist Debate

Justice judgments influence many important behaviors in daily life. Understanding how people form them is a crucial issue for understanding how humans think, feel, and behave in their social contexts (Bos, 2003; Cropanzano & Folger, 1989, 1991; Cropanzano & Greenberg, 1997; Folger & Konovsky, 1989; Greenberg, 1990).

The classical definition of justice judgments, according to Colby, Kohlberg, Gibbs, Lieberman, Fischer & Saltzstein (1983), is that they are evaluations about the necessities and well-being of others and about situations in which the well-being of the other person seems to be a matter of human rights.

The process by which justice judgments are made is a theme that has been explored in the psychological literature essentially through two different perspectives: one claiming that justice judgments are the product of reasoning and the other stating that justice judgments are the result of emotions that emerge when thinking about or experimenting some situation.

The first, a rationalist perspective, proposes that justice judgments are built on rational thinking and are therefore, formed consciously (Kohlberg & Candy, 1969). The second, following an intuitive or emotional point of view, proposes that justice judgments are formed in an intuitive way, in which subjects use their emotions as an informational basis to build them (Clore, Schwarz & Conway, 1994).

Only after evaluating a certain situation in terms of its justice emotionally, people may try to justify and adjust their evaluation rationally (Haidt, 2001).

The Influence of Mood States on Justice Judgments: the Mood-as-Information Model

Exploring this emotional perspective, some authors have been investigating the influence of mood states on the formation of justice judgments (Sinclair & Mark, 1991, 1992; Bodenhausen, Sheppard, & Kramer, 1994). Bodenhausen's research suggests the following hypothesis: positive mood states can lead to more positive justice judgments and negative mood states can lead to more negative justice judgments (Bodenhausen, Sheppard, & Kramer, 1994).

Several studies show robust evidence that mood states may influence a wide variety of evaluative judgments, including those regarding justice (e.g. Abele & Gendolla, 1999, Clark & Williamson, 1989; Clore, Schwarz & Conway, 1994; Isen, Daubman & Nowicki, 1987; Mayer, Gaschke, Braverman & Evans, 1992).

People rely on their affective, cognitive, and somatic experiences as a source of information (Schwarz & Clore, 2007). Mood states may influence the person's affective

response to a stimulus, thus functioning as an input or a piece of information that helps the formation of the justice judgment (Schwarz & Clore, 1983).

The use of affective experiences as an aid to information processing is explained by the *mood-as-information model* (Clore & Parrott, 1991). This model proposes that the experience of negative emotion can be interpreted as a threat to the person's goals. In that case, the situation calls for an attentive processing and examination, virtually considering all aspects (positive and negative) of the situation (Bless et al., 1996; Bless & Fiedler, 2006; Schwarz & Clore, 1983; Schwarz, 1990). Positive feelings or moods, conversely, may indicate a secure environment that facilitates the accomplishment of goals. Hence they are usually associated with more heuristic processing and increased reliance on the top-down use of pre-existing knowledge structures (e.g., Bless et al., 1996).

Justice Judgments under Certain or Uncertain Conditions

Certainty and uncertainty are particularly interesting dimensions of emotions because various researches indicate that they might be related to different modes of information processing (Tiedens & Linton, 2001; Weary & Jacobson, 1997).

All persons have been in situations in which they are truly certain about the nature of the social or environmental context, interpersonal relationships or even their own moods. There are, however, situations in which people experience uncertainty about these or other dimensions (Tiedens & Linton, 2001).

Uncertainty and ambiguity are very unpleasant states that people seem to always want to resolve (Lind & Bos, 2002).

The justice and uncertainty management literature suggests that the influence or weight of justice increases under conditions of uncertainty. In the case of uncertainty, people seem to trust more the available information about the fair aspects of the situation (Lind & Bos, 2002). Thus, the perception of justice in a certain interaction provides informational cues that increase in value when the person is experiencing personal uncertainty about self-esteem, mortality, social identity and relations within a group, due to the lack of other kinds of available information (Bos et al., 1997).

In ambiguous contexts - here defined as contexts in which the behaviors of the people interacting with each other are not formally defined, like in romantic relationships - the inherent processes to the formation of justice judgments can work as a compensatory strategy: all the available information about justice and injustice is considered and taken into account in the final evaluation about justice (Lind & Bos, 2002). In these situations, justice judgments have

the function of solving, or at least reduce, ambiguity and uncertainty by integrating all the available information and balancing unjust aspects with just ones, a process that allows the person to minimize or tolerate minor injustices (Lind & Bos, 2002).

In contexts of certainty or non-ambiguity, the certainty about the expected behavior in a given situation, increases expectations about fair treatment and, because the situation is socially well defined, making social norms clear, decreases the costs of rejecting or not tolerating an unfair treatment (Lind & Bos, 2002). Similarly, Gilliland and colleagues (1998) suggest that evaluations of justice are characterized by the existence of a threshold of injustice up to which it can be tolerated, but when that threshold is reached or crossed, all the justice present in the situation is ignored and it is judged as clearly unfair (Gilliland et al., 1998). An example of a non-ambiguous relationship used in this study is a commercial relationship. In commercial relationships, the role of the people interacting and what each person is expected to do, is very well defined. Therefore, justice judgments do not have to play a compensatory role because one has the information needed to evaluate the situation.

Taking now into account Haidt's idea that justice judgments are formed in an intuitive way (Haidt, 2001) and use emotional information (Clore, Schwarz & Conway, 1994) it is worth exploring whether and how these two variables – ambiguity/non-ambiguity and mood states (positive or negative) – are combined to provide information to the judgment to be made.

Justice Judgments: the Role of Ambiguity and Mood States in Information Processing

There are a few studies that show evidence that mood states (Bodenhausen, Sheppard, & Kramer, 1994) and the ambiguity about the role of a person in a certain relationship (Bos & Lind, 2002) influence justice judgments. Bos (2004) hypothesized that in information-uncertain conditions, people in a positive affective state show more positive justice judgments than those in a negative affective state. His results were congruent with this prediction.

It seems reasonable to argue that both mood and ambiguity influence justice judgments. But how? Apparently, the information processing in ambiguous situations is similar to the information processing in negative mood states and the same occurs for non-ambiguous situations and positive mood states, the first requiring a more cautious and systematic approach and the other a more heuristic approach relying upon previous experiences.

Therefore, it might be that in more ambiguous situations (i.e. romantic relationships), mood states are used as information with the purpose of diminishing the ambiguity of the context. On the other hand, in a less ambiguous situation (i.e. commercial relationships),

individuals may tend to use less of the information provided by the mood state, because they already have enough available information to evaluate the situation.

Significance of the Study

As argued by Sinclair and Mark (1992), there has been little research on the role of affect in the process of forming justice judgments.

Even though there is some literature about the influence of mood states and of the ambiguity of the social context in justice evaluations, to the best of our knowledge we did not find any social psychological studies that explored the relationship between these two variables (mood states and ambiguity of the social context). Compared with the domains of moral psychology or philosophy, social psychology seems to have paid less attention to the affective qualities of justice judgments (Bos, Maas, Waldring & Semin, 2003).

Besides, studies about justice judgments have focused, typically, the organizational context and group functioning, and it seems relevant to study judgments in the context of other types of social relationships and try to understand them at the individual level.

Given that the perception of justice seems to be an essential requisite to the efficiency of commercial relations (Greenberg, 1990), that can also be true for other types of interpersonal relationships. Thus, it appears to be relevant to try to understand more about justice judgments in this type of interpersonal relationship and therefore knowing better about the well-being, satisfaction and maintenance of intimate relationships.

Our Study

The main goals of our study were: a) understand if in more ambiguous situations (i.e. intimate relationships), mood states are used as information, to reduce the perceived ambiguity and b) in less ambiguous or non-ambiguous situations (i.e. commercial relationships), participants use less or don't use at all the information provided by the mood state, as they have access to all information they need to form a justice judgment.

With this in mind, the main hypothesis for this study were: a) in the commercial situation, mood states influence less the justice judgment process. Therefore, justice judgments are less extreme; and b) in the intimate relationship situation, mood states have more influence on the justice assessment process. Thus, justice judgments will be more extreme. The third hypothesis can be viewed as a consequence or product of the previously presented ones: c) if the ambiguity of the situation defines or contributes to the information processing used to form

justice judgments, the justice judgments made by the same participant may not be correlated when compared between two different contexts.

The study involved a mixed between and within participants design. The participants were induced into a positive or a negative mood state through the exposure to one of two videos (one designed to induce negative moods and the other designed to induce positive moods).

This induction technique has proven its effectiveness in several experiments (see Westermann, Spies, Stahl, & Hesse, 1996).

The images were selected from a database adapted to the Portuguese population (IAPS). This was the between subject part of the experiment.

Participants were also presented with a questionnaire about their current intimate relationship quality. We chose to present this questionnaire before the visualization of the video. Otherwise, and according to our theoretical model, we suspect that the ratings of the romantic relationship quality could be influenced by the mood induction technique.

Similarly to other experiments (Abele & Gendolla, 1999), to evaluate the effectiveness of the mood inductions (independent variable), participants rated their mood state only after the assessment of the justice judgments in both contexts (commercial relationship – non-ambiguous and intimate relationship – ambiguous) which is the dependent variable of this study. This was intended to prevent that the effect of the mood induction was minimized by eliciting the participants thinking and rationalizing about their mood state.

To elicit the justice judgments we used vignettes which stories varied in terms of the nature of the presented relationship (social context) and situations of injustice. This allowed us to control the ambiguity of the unjust situations.

Vignettes have been largely used in justice research. It has been used since the pioneer investigations of Kohlberg, presenting them in the form of dilemmas, and had been used since then. In this study, the vignettes were not designed in the form of dilemmas but in the form of stories, because the purpose of their use was not that participants made a decision about their action in that situation. Instead, the purpose was that the participants assessed the degree of injustice or justice of the presented situation.

Methodology

Participants

The sample consisted on a total of 109 participants ($n = 109$). In terms of age, our sample ranged between 18 and 48 years old ($M = 22.16$ years; $SD = 5.11$). Of those 93 (85.3%) were woman, and 16 (14.7%) were man.

All participants were Portuguese. Regarding their self-reported sexual orientation, 99 (90.8%) were heterosexual, 3 (2.8%) were homosexual and 7 (6.4%) were bisexual.

Most participants reported being currently in an intimate relationship: 67 (61.5%) were in a romantic relationship and 42 (38.5%) were not. Regarding the civil status of the participants, 105 (96.3%) were single, 2 (1.8%) were married, 1 (0.9%) were divorced and 1 (0.9%) was in a de facto union.

Concerning the group of participants that were actually in a romantic relationship, the majority were involved in a dating relationship ($n = 60$; 55%), followed by de facto union ($n = 4$; 3.7%) and marriage ($n = 2$; 1.8%). Finally, 1 participant reported being in a casual relationship (0.9%).

Regarding the duration of the intimate or romantic relationship, most subjects were in a relationship for more than three years ($n = 30$; 27.5%), followed by the subjects that were in a relationship between one and three years ($n = 24$; 22%), 6 that were in a relationship between three and six months (5.5%), 5 were in a relationship between six months to a year (4.4%) and 2 participants were in a relationship for less than three months (1.8%).

Of all the sample, 89 (81.65%) were psychology students in the University of Minho and the other 20 (18.35%) were participants who took the experiment online (*via Qualtrics*) and were not psychology students. These subgroup of the sample was recruited through the social network Facebook.

All subjects participated voluntarily and there wasn't any kind of monetary reward. In the case of psychology students, the experiment was done in exchange for curricular credits only.

We had to use these two forms of data collecting so that we could ensure at least the minimum number of participants needed for the magnitude effect to be accomplished (*min*=101 participants).

There seemed to be no particular reason for analyzing data independently since the experiment was equal in both recruiting forms. The same experimental design and procedure was used by participants outside the University and in the laboratory booths.

We used the online platform *Qualtrics* to collect the data, both online and in the soundproof booths in the Human Cognition Laboratory of the Psychology School at the University of Minho.

All participants were randomly assigned to two conditions: negative mood states ($n= 56$) and positive mood states ($n= 53$) (between subjects design). All of them judged the same 4 vignettes, 2 representing situations of injustice in commercial relationships and the other 2 representing unjust situations in the intimate relationship domain (within subject design).

Measures

Demographic and Intimate Relationship Questions

Participants answered several demographic questions, including: age, sex, nationality, profession, in case that the profession was "*Student*", participants had to indicate in what course they were. They also answered about their sexual orientation (heterosexual, homosexual or bisexual). In the same set of questions, participants were asked if they were currently involved in a romantic or intimate relationship (e.g., casual, dating relationship, marriage …). Those who answered affirmatively to this question specified the duration of the relationship ("less than 3 months"; "3 months to 1 year"; "between 1 year and 3 years"; "more than 3 years").

Perceived Relationship Quality Components Inventory (PRQC)

Subjects that were currently involved in a relationship completed the Perceived Relationship Quality Inventory (Fletcher, Simpson, & Thomas, 2000; Portuguese version translated and validated by Silva, Saraiva, Albuquerque, & Arantes, submitted).

This measure allowed us to capture de perception of our participants about the quality of their current intimate relationship. This was relevant to try to understand and possibly explain possible differences in the justice judgments about the intimate injustices, given that the current intimate relationship may function as a reference to the justice judgments (i.e. could I tolerate or deal with this in my relationship? – this might be a common question we ask ourselves when judging a certain situation).

Thus, participants rated their current relationship and their current partner on 18 items. These 18 items were divided in 6 different components about the perceived relationship quality (relationship satisfaction, commitment, intimacy, trust, passion, and love). Each component

was evaluated through three items. All this items were rated on a 7-point Likert scale (1 = "not at all" and 7 = "extremely").

These results were calculated in a total mean score of all items, and also six means corresponding to each component.

Higher scores suggested a greater perceived quality of the relationship.

Mood induction images (IAPS – International Affective Picture System)

To induce negative and positive mood states in our participants, we chose to use picture stimuli instead of words or music, because research shows evidence that images are processed faster (Houwer, Hermans & Eelen 1994) and are better remembered than words (e.g., Potter et al., 2004).

Taking into account the purpose of the mood induction in this study, it seems relevant to note that the IAPS (Ito, Cacioppo & Lang, 1998) is the set of picture stimuli most commonly used in research to investigate the effects of mood elicited by pictures on cognitive processing (e.g., Pinheiro, Liu, Nestor, McCarley, Goncalves, & Niznikiewicz, 2013b; Van Berkum, De Goede, Alphen, Mulder, & Kerstholt, 2013).

The original IAPS version (Ito, Cacioppo & Lang, 1998) is composed by 1,182 different pictures (e.g., faces, animals, landscapes, people, objects, erotic scenes or mutilations) which vary in terms of their valence, arousal and dominance ratings. It is a reliable measure based on a dimensional theoretical view of emotions (e.g., Bradley & Lang, 1994; Bradley, Codispoti, Sabatinelli, & Lang, 2001; Osgood, Suci, & Tannenbaum, 1957; Russell, 1980). The IAPS was validated to European Portuguese by Soares et al. (in press), making it relevant for our purposes.

The pictures were selected from the database following a set of criteria previously defined to build a 3 minute video, in which each picture was presented for 6 seconds. The criteria relative to the valence dimension were: a) negative videos could only contain pictures with valence ranging between 1 and 3 points; b) positive videos could only contain pictures with valence ranging between 7 and 9 points.

Arousal classification were not defined as rigidly because the arousal provoked by the negative pictures was higher than any of the classifications of arousal of the positive images.

The dominance dimension was lower in the negative pictures than in the positive pictures so, concerning dominance, we selected the pictures in the same way we did for the arousal dimension.

Vignettes

To elicit the justice or injustice assessments, we used 4 vignettes, which narrated brief stories of injustice in two different contexts: 2 stories concerning commercial relationships and 2 concerning intimate relationships. Every vignette was written carefully to display situations of relational injustice.

All participants have read and evaluated the total of four vignettes.

According to our literature review, the commercial situations are a representation of more formally defined interactions, thus, implicitly being lower in ambiguity. On the other hand, intimate relationships represent a less formally defined context, thus, being more ambiguous, even though there are, of course, social, culture and gender roles that orientate people's assumptions and behaviors to that respect. Nevertheless, this is a more ambiguous context because the attitudes and behaviors of a person in an intimate relationship are possibly more related to a personal point of view of what is the fair thing to do in a certain situation than in a commercial context.

We opted for the use of vignettes because it represents more reliably situations of the daily life and the reality of the participants. Also, they are more approximated to what would actually be a judgment in real life (Alexander & Becker, 1978). Moreover, by maintaining the stimulus constant over the experiment to all participants, we ensured that the justice or injustice judgments answers are comparable between participants relatively to each context.

Justice judgment scale

To evaluate the vignettes described above, or to assess the justice judgments about them, we used a 9 point Likert-scale (1 – Extremely Unjust"; 5 – "Neither Unjust or Just"; 9 – "Extremely Just"). This length of the scale seemed to be enough to capture the possibly different injustice or justice evaluations of the participants.

Even though the vignettes were constructed to elicit only injustice judgments, we chose to represent justice in the scale so that all possible judgments were captured.

Open-ended question (motives to the justice judgments)

Besides the hypothesis proposed to our study, we wanted to ensure that the justice judgments were well understood by us. Thus, to each context's justice judgments (two times) we asked the participants the following question: *"What were the motives that made you decide about the justice judgments you made regarding this situations?".*

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Profile of mood states (POMS)

This instrument was selected to evaluate the effect of the mood induction method.

It is based on the original version of POMS by McNair, Lorr & Droppleman (1981). It was translated to Portuguese by Viana & Cruz (1994), and validated to this population by the same authors.

We chose the shortened version, which is composed by a total of 22 items with the purpose of assessing the subjective mood state of the participants (Cruz et al., 2008). The items were answered in a 5 point Likert-scale (0 – "Not at all" and 5 – "Extremely").

This instrument evaluates six independent dimensions of humor: a) depression, b) tension/anxiety, c) fatigue, d) vigor, e) irritability/hostility and f) confusion (Cruz & Mota, 1977).

By analyzing these results it was possible to obtain a total mean score (considering all items) and a score for each dimension. Most importantly, it was possible to reach a Total Humor Disturbance, calculated through the sum of the negative scales (tension/anxiety; depression, fatigue, confusion and irritability) and the subtraction of the score obtained on the positive scale (vigor) (Cruz et al., 2008).

This was important to us so that we could certificate that the experimental manipulation of the mood state had the intended effect on participants.

Procedure

Before arriving to the laboratory, participants were already told by e-mail that the study was about justice judgments and social psychology. After arriving at the laboratory, the respondents entered the booth where the experiment was run.

They were only advised that the computer would give all instructions but to ask the researcher if they had any doubt about it.

The first slide of the experiment instructed the participants for the possible appearance of shocking pictures. Additionally it informed they could leave the experiment at any moment they decided.

First, they answered several demographic questions and, if they answered affirmatively to the question *"are you currently in an intimate relationship?"* they also answered a few questions about their intimate relationship (type of relationship and time with that partner). After that, the respondents took the PRQC (Perceived Relationship Quality Components Inventory), which was composed by a total of 18 items.

The first experimental part of the experiment was the mood-induction procedure. Participants were randomly assigned to one of two conditions: negative or positive mood state. We induced mood through the exposure to 30 pictures collected from the IAPS database (Soares et. al, in press) and each picture was presented for 6 seconds. The negative mood induction video had pictures which valence ranged between 1 and 3 points (in a scale of 10 points, being 1= most negative and 10=most positive) and the positive mood induction video had pictures ranging, in terms of the valence dimension, between 7 and 9 points. Examples of the picture contents are, for the negative condition: mutilations, accidents, people with visible illnesses, etc. For the positive condition: animals, beautiful landscapes, happy families, etc.

After watching the pictures, thus being in the correspondent mood state, the first pair of vignettes were presented, and, for each one of those, there was a related scale to assess the injustice or justice of the situation (1 corresponding to "Extremely Unjust"; 5 corresponding to "Neither Unjust or Just" and 9 corresponding to "Extremely Just"). Once they had finished assessing the first pair of vignettes, they were asked *"What were the motives that lead you to decide about the justice judgments you made regarding this situations?"* and they had to answer this question in a few lines.

Then, the second pair of vignettes were presented and the procedure was repeated.

Each pair of vignettes corresponded to a certain context: commercial relationship and intimate relationship. Thus, the open ended question was related to the motives for the evaluation of injustice/justice to the matching context. The appearance of the sets of vignettes were randomized between contexts and between the vignettes on the same context (counterbalanced). This was intended to prevent for possible contamination effects.

Next, participants had to respond to the Profile of Mood States (POMS- short version), composed by 22 items. This was made so that we had the possibility to compare the data from the samples in the two mood induction conditions, therefore checking for the effectiveness of our experimental manipulation.

Finally, participants were asked to give their feedback about the experiment and to give their opinion about what should be changed in future versions of this experiment. Objectively, what we've instructed was: *"Please, describe how it was for you (what you thought and felt) by participating in this experiment. In this space, you can also make suggestions about what you think that should be altered in the experiment. Knowing how you felt throughout the experiment is very important to us"*.

The purpose of this ending was essentially, to give the participants an opportunity to express any discomfort caused by the procedure, given that they were exposed to unjust

situations and, in some cases to the negative pictures. There are several studies showing evidence that if people feel they have been exposed to some kind of injustice, the opportunity to have a voice about it and to be listened about their experience reduces significantly the emotional repercussion about that same experience (Lind, Kanfer & Earley, 1990).

When the participants finished the whole experiment and came out of the booth, the experimenter asked each subject how they were feeling and how the experiment went, to ensure that the participants were feeling normal before they leave.

Data Analysis

The data were exported from the *Qualtrics* platform to an Excel spreadsheet and the analyses were conducted with the Statistical Package for Social Sciences (SPSS; v. 21).

We used Spearman correlations and non-parametric tests given that none of the variable distribution were normal.

A criterion of $p < .05$ was used for significance tests.

Results

Perceived Relationship Quality (PRQC)

The perceived quality of the relationship of the participants who were, at the time of the data collection, in a romantic relationship ($n = 64$) was reported to be generally very positive. The total mean score of the PRQC was M (0.87) = 6.21. The less satisfied participant scored 1.44 and the most satisfied participant scored 7.00 (maximum possible score) on the PRQC.

Confirming that the sample was very homogenous in the PRQC scores (most participants were very satisfied) we didn't run more data analysis considering this variable because there were no differences to find between relationship satisfaction and other variables of the study (e.g., justice judgments), since we had no significant variation in the perception of relationship quality by our participants.

In this study, this scale demonstrated a very good internal reliability ($\alpha = .0.97$).

Justice Judgments, Mood States and Social Contexts (t test differences)

To test our main hypothesis for this study, we examined the differences between the justice judgments in both contexts (commercial and intimate relationships) for the two experimental conditions (positive and negative mood states).

We did not find any significant differences when comparing the justice judgments of both contexts between groups (positive and negative mood states): $t = 0.23$; $p = 0.82$.

Table 1

Results related to the t test for independent samples, regarding the two experimental groups (negative and positive mood states) for the justice judgments in both contexts

	Negative Mood State ($n = 56$) M (SD)	Positive Mood State ($n = 53$) M (SD)	t (107)	P
Commercial Justice Judgments	2.48 (1.23)	2.36 (1.12)	0.55	0.64
Intimate Justice Judgments	2.40 (1.06)	2.34 (1.00)	0.31	0.76

Additionally we found no statistically significant differences between the mean scores of the commercial justice judgments and the intimate relationships justice judgments irrespective of group ($t_{(108)} = 0.39$; $p = 0.70$).

Relation between justice judgments, mood state, and relational ambiguity

To better understand these results, we chose to analyze the data of each vignette (2 x commercial relationship context and 2 x intimate relationship context), using Spearman correlations. We found a statistically significant positive correlation between the justice assessments of the vignette we named "Concert" (commercial context) and the justice judgments of the vignette we named "Partner goes Partying by Night" (intimate context), with an $r = 0.31$ and a $p = 0.001$. Results also showed a positive correlation between the "Broken Computer" justice judgments (commercial context) and the "Diseased Partner" (intimate relationship) justice judgments: $r = 0.23$ and $p = 0.016$.

Table 2

Correlations between the average justice judgments of all 4 vignettes (n = 109)

	Concert	Broken Computer	Partner goes Partying by Night	Diseased Partner
Concert	1.00	.14	.31**	.31**
Broken Computer	.14	1.00	-.01	.23*
Partner goes Partying by Night	.31**	-.01	1.00	.24*
Diseased Partner	.31**	.23*	.24*	1.00

Note: **p < .01; *p < .05.

There was also a significant positive correlation between the commercial relationship and the intimate relationship justice judgments: $r = 0.29$; $p = 0.011$.

Further exploration of these correlations lead us to incorporate the mood state variable, to better comprehend the relationship between the justice judgments evaluations, their corresponding context or level of ambiguity and the mood states of our participants.

Regarding the positive mood state condition, we found no significant correlation among commercial and intimate relationship justice judgments ($r = 0.14$; $p = 0.31$). On the other hand, there was a significant positive correlation between the justice judgments of the commercial context and the intimate relationship context, when participants were in the negative mood state condition ($r = 0.41$; $p = 0.02$).

Effectiveness of the Mood Induction Technique (POMS)

To support a very important part of our method and procedure, we needed to check for the effectiveness of the use of the pictures (IAPS) in priming the subjects for negative and positive mood states.

The Profile of Mood States (Mota and Cruz, 1997) allowed us to assess the mood states of the participants by the end of the experiment, showing a Total Humor Disturbance score of each subject. We expected to find higher scores of humor disturbance in the negative mood state group and comparatively lower scores of humor disturbance in the positive mood state group.

The Total Humor Disturbance presented an *M (2.56)* = 4.85 in the negative mood state condition and an *M (2.07)* = 4.05 in the positive mood state condition. The differences between

these scores in both groups showed a marginally significant difference with $t = 1.79$ and $p = 0.08$. The POMS scale demonstrated good internal reliability: $\alpha = 0.828$.

Discussion

The primary goal of this study was to understand the role of ambiguity on the way that participants process information to form justice judgments. Similarly to other authors (Bodenhausen, Sheppard & Kramer, 1994; Forgas, 1998; Haidt, 2001; Schwartz & Clore, 1983) we posited that mood states can play an important part on the final assessments of justice, given that moods may be used as pieces of information. This compensates the lack of concrete and relevant external information.

Our hypothesis for this study were: a) in the commercial situation (non-ambiguous), mood states would have a smaller contribution in the justice judgment process. Therefore, justice judgments would be less extreme; b) in the intimate relationship situation (ambiguous), mood states would have a greater contribution in the justice assessment process. Thus, justice judgments would be more extreme and c) if the ambiguity of the situation contributes to the information processing used to form justice judgments, the justice judgments made by the same participant might not be correlated when compared across the two contexts.

The results of the study did not confirm our main hypotheses. That might be due to a number of different reasons.

The influence of mood states (negative or positive) on justice judgments, did not present the differences we were expecting. According to Abele & Gendolla (1999) there is some literature proposing that there can be a contrasting effect between affective states and evaluative judgments: judgments are made in contrast to the presented stimuli affective valence or direction.

That might be one possible explanation for our results: the effect of our experimental manipulation regarding mood states was marginally effective, but it was accomplished by using pictures which valence, for the negative moods, was extremely low and the pictures had truly disturbing content. Considering this contrasting effect (see Manstead, Wagner & McDonald, 1983), it might be true that participants didn't felt so negatively towards the injustice situations that were presented, after being exposed to such negative stimuli.

Even though we did not have results that directly support this hypothesis it might be one explanation. Moreover, one reason to clarify the merely marginal effects of our mood inducing technique might be the fact that we only tested for the mood state in the very end of the

experiment. Thus, the mood inducing pictures had been seen about fifteen to twenty minutes before this evaluation. Given that there were a considerable number of tasks after participants saw the pictures, it is plausible to say that, by the end of the experiment, the effect of the mood induction was not very strong.

Furthermore, some research shows that, to be relevant, the mood state induction stimuli must be salient or exceed a threshold of salience to the participants (Siemer & Reisenzein, 1998).

With our mood induction technique, it is possible that it might be true for the negative mood state group but not for the positive mood group. This might be due to a significant difference between the power of the valence and arousal of the images: in the negative pictures case, valence was minimal and arousal was maximum. For the positive pictures, valence was high but not maximum and arousal was medium. This happened because IAPS (*International Affective Picture System*) was our main resource for gathering the pictures, given that it is the only picture database adapted and validated to the Portuguese population, and there were no positive pictures that had the same arousal and valence ratings as the negative ones.

Our results have also showed that only when the mood was negative was there a significant correlation between the average scores of the justice judgments of both contexts. This can be at least partially explained by the previous hypothesis about the relevance and impact of the mood induction images, which might have had a stronger impact on participants in the negative mood condition.

We have also posited that the average justice judgments of the two contexts would be significantly different due to the level of ambiguity present in the two different contexts (commercial relationship and intimate relationship).

On this topic, research suggests that, in more ambiguous situations, similarly to the approach on information processing used when in a negative mood state, people tend to use a more systematic and careful form of information processing (Bodenhausen, Sheppard, & Kramer, 1994). Lind & Bos (2002) proposed that, this type of information processing allows people to disregard minor injustices by considering all aspects of the situation, and therefore being more comfortable in that environment, perceiving it as less ambiguous. We expected that, in this study, people used this cognitive strategy concerning the intimate relationship situation (more ambiguous) and also, that people used their mood state as information to compensate for the lack of available information.

Even though we expected more extreme justice judgments in the case of ambiguous situations (due to the possible use of mood as information) our results suggest that the

contribution of the cognitive strategy of compensatory information processing is more salient and more of an important resource to resolve ambiguity than the integration of mood as an input of information.

Concerning the non-ambiguous situation - commercial relationship - Gilliland (1998) proposed that justice judgments can be formed algebraically, with people accounting for the amount of justice or injustice present in the situation and, if the injustice is more significant or in higher quantity, all the justice present in the situation is disregard and the situation is considered totally unjust. Lind & Bos (2002) proposed that, when the situation is non-ambiguous, people don't have the need to use a very systematic form of processing information, and that the justice judgments may be characterized by a threshold of injustice that can be tolerated. After crossing that threshold, similarly to Gilliland's proposal, all justice is ignored.

Also, we expected that, in non-ambiguous situations, participants wouldn't need to use their mood state as information, hence the justice judgments wouldn't be so extreme.

Concluding, it might be that our results are showing us that there is a balancing effect between the use of mood as information and the type of information processing: in ambiguous situations, people tend to be more careful in their information analysis and, although mood offers an input to this process, it is compensated by the use of a systematic information processing. In the case of non-ambiguous situations, it might be that the fact that people don't need to use that careful information processing may potentially make them more vulnerable to the mood state information. Thus, in both situations (ambiguous and non-ambiguous), justice judgments might become more similar because of the combined effect of these two variables (information processing and mood states).

Our results also showed a significant correlation between the vignettes of the commercial relationship and intimate relationship. We propose that this correlation happened because the first correlated pair of vignettes ("Broken Computer" and "Diseased Partner") are more relative in terms of the motives that lead to injustice: in the "Broken Computer" case, it was possible to attribute the injustice to the policy of the store rather than directly to the employee and in the case of the "Diseased Partner" situation, the injustice could be attributed to external constraints to the relationship, and not to the partner him/herself. Both situations are examples of the disruption of informational justice, which concerns the use of honest and adequate explanations for decisions (Colquitt, 2001; Greenberg, 1993a). On the other hand, the vignettes "Concert" and "Partner goes Partying by Night" also presented a correlation, but, in this case, that might be due to the fact that, in both cases, there was an implicit or explicit commitment or promise that was broken or disrespected. These situations are examples of a

disruption on interpersonal justice which is about the sincerity and respectfulness of communication (Bies & Moag, 1986).

These results might possibly be explained by attribution processes underlying the judgment processes (see Weiner, 1995; Schwartz & Clore, 1993).

Our results also showed a positive relation between the average justice judgments in the two different contexts, when we analyzed all the sample together. Although this does not corroborate one of our hypothesis, this might encounter other lines of previous investigations on this theme: it might be that a person who judges more severely or more tolerantly in one context might also do it in others. There is some literature showing that individual traits, attitudes and beliefs for example, contribute to the justice judgments evaluations (Colquitt, Scott, Judge, & Shaw, 2006). That might be one explanation for this correlation result.

Limitations

First, in spite of our carefulness in designing and pretesting the stories of the vignettes, after reviewing the justice judgments results, we verified that there was a correlation between certain vignettes. Those effects might be due to the fact that the same person may do the justice judgments in a certain way being conditioned by individual variables, but, it may also be that the vignettes presented the same type of injustice: two represented informational injustice and the other two presented relational injustice. Thus, we conclude now that, to accomplish our main purpose – understand the role of the contextual ambiguity on justice judgments – the type of injustice present in the vignettes has to be controlled.

Second, to support or refute the hypothesis we advance to justify the absence of significant differences between our experimental groups – that the information processing type (more systematic on ambiguous situations and more global and simplified on non-ambiguous situations) overpowers the use of mood states as information to form justice judgments – it would be necessary or at least interesting to have recorded the reaction times of our participants when answering our justice judgment scale. As referred previously, in this investigation we used the online software *Qualtrics* to collect the data. This program offers useful tools to implement our experimental procedure, but, unfortunately we could not gather this specific type of data (reaction times).

Conclusion

Generally, the results of our study provide important cues for further investigation in this area, mostly in a methodological perspective. The mood state manipulation was effective and the mood induction pictures have served its purpose well in this experiment.

Regarding the use of vignettes to elicit justice judgments, in this experiment, they were a useful and effective resource, even though, in a posterior analysis and reflection concerning our data, we think that the vignettes should have been constructed varying in contextual ambiguity aspects only, with the purpose of having a more reliable comparison between justice judgments made in different ambiguity conditions.

Further investigation should have these aspects in consideration and also, if the purpose is to test for the information processing type depending on the contextual ambiguity levels and to understand the integration of mood as information in the formation of justice judgments, measuring reaction times would be a valuable contribution to better comprehend this process.

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