Feeling better in the presence of others: It may depend on whether you are a man or a woman

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Previous research has suggested that it is good to have other people around us. Indeed, there seems to be a generally positive impact of the presence of others on individuals' physical and psychological well-being. In the current work, we examine if these positive experiences may be promoted by the mere presence of nonsignificant others in our environment, during a brief period. Specifically, in two experiments, we compared how being in the presence of others (co-action) versus being alone impacts how participants feel at the moment (mood, Experiment 1) and how satisfied they feel about their lives (general well-being, Experiment 2). In Experiment 1, we also manipulated the nature of the task (i.e., demanding/ threatening *vs.* nondemanding). Both experiments revealed that participants feel more positive when in the presence of others. However, important gender differences occurred: mood enhancement for women (vs. men) only occurred when the task was nondemanding. In the case of life satisfaction, only women were sensitive to the presence of others. We discuss how these effects inform the social facilitation literature.

Key words: Social facilitation, Well-being, mood, Gender differences.

Introduction

We are social beings. The desire to form interpersonal attachments has been described as a fundamental human motivation (for a review, see Baumeister & Leary, 1995). The (un)fulfillment of such a need leads to important consequences for the individual's psychological and physical well-being. Previous research has repeatedly shown a positive impact of others (perceived as sources of social support) on individuals' psychological and physical well-being. However, in general, these studies only take into consideration the (actual or perceived) behavior of significant others (e.g., partner, family, friends) not referring to the mere presence of others. Moreover, although the mere presence of others is assumed to activate arousal (Zajonc, 1965; Blascovich et al., 1999), previous research still has not linked this variable with a pleasant or an unpleasant experience. To empirically address this question, we started by examining participants' feelings when performing a short task (an isolated life episode) alone or in the presence of nonsignificant others (e.g., mere presence situations, such as co-action). We then addressed the impact of social presence on how participants report their general life satisfaction.

Understanding the impact of nonsignificant others in our environment is important, as it should not be assumed that the impact is, by default, positive. More specifically, even though social presence is likely to lead to more positive feelings when it activates feelings of belonging or connection (Begen & Turner-Cobb, 2015), it is also prone to activate social comparison processes (e.g., Aiello & Douthitt, 2001), which by itself is not positive. Furthermore, it may even be associated with an experience of uncertainty and threat, which may lead the affective experience to be dependent on individuals' task performance. Hence, we argue that the idea that the presence of others guarantees a more positive affective state is far from being tautological, and thus constitutes a relevant question to be empirically addressed.

In the following sections, we will review previous research and demonstrate that it is yet to be fully understood how the mere presence of other people in our environment impacts how we feel.

How social presence influences our feelings

Evidence from different fields suggests that others influence our feelings in different ways. Two of these approaches are directly relevant to understanding how others in our environment may influence our feelings and how we subjectively experience wellbeing. Bellow, we briefly review them in order to understand what should be expected to occur when we perform a task alone versus in the presence of others.

The impact of social presence

The impact of social presence on one's behavior was one of the main topics of the initial approaches to social psychology (for a review, see Geen, 1995; Guerin, 1993). Allport (1924, 1967) describes the effects of social presence as facilitation effects, suggesting that co-action (i.e., a situation in which the participant performs a task in the presence of other people who are performing the same task) increases the number of correct responses. However, considering that the presence of others has also been shown to inhibit or impair responses (e.g., Gates & Allee, 1933; Pessin, 1933), the definition of social presence effects includes either inhibition or facilitation of performance in different tasks.

Although co-action was the first operationalization of social presence, various alternatives have been subsequently proposed, including the presence of an audience (Cottrell et al., 1968), an evaluator (Cottrell et al., 1968), a passive observer (e.g., Dashiell, 1935), a mannequin (Rajecki et al., 1977), a robot (Riether et al., 2012), or an avatar (Hoyt et al., 2003). Nonetheless, since Zajonc's (1965) work, data has suggested that the mere presence of another person may be sufficient for social presence effects to occur (for a review, see Figueira & Garcia-Marques, 2019).

In its inception, the effect was found in behavioral tasks (for a review, see Bond & Titus, 1983), such as turning reels (Triplett, 1898), sports performance (Forgas et al., 1980), and driving (Baxter et al., 1990). But social facilitation effects are also found with cognitive tasks, such as card sorting (Griffin, 2001), paired associations (Matlin & Zajonc, 1968), and Stroop tasks (Fernandes et al., 2019; Huguet et al., 1999). However, to the best of our knowledge, no study (cf. Cooper et al., 1992[1]) has addressed the question of whether social facilitation effects occur regarding the feelings that individuals report when in the presence of others (*vs.* alone). There is direct evidence to support the hypothesis that social presence is likely to influence (either positively or negatively)

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[1] Although Cooper et al. (1992) included a manipulation of the social context (i.e., participants were either in isolation or in the presence of friends or strangers) in their experiments, their research focused on the relevance of friendship, and the results are inconclusive regarding social facilitation. The results are only clear in showing that participants in the presence of friends report higher life satisfaction than those in the presence of strangers.

our affective experience, since it activates affective physiological correlates (for a review, see Derks et al., 2008; Fischer et al., 2003). Still, it is not clear how individuals use such activation to report their feelings when in the presence of others.

In this seminal work, Zajonc (1965) assumed that the presence of others promotes an experience of arousal. Importantly this experience of arousal was conceptualized to be related to a drive, and not to an affective state. More specifically, it was assumed that this experience had the function of alerting people to be prepared to respond with an available response (i.e., habitual, well-learned), leading them to provide a correct response for simple and familiar tasks (and incorrect responses for complex or ill-learned, unfamiliar tasks). Zajonc's (1965) assumption does not directly associate this arousal with a particular valence, suggesting that it is instead determined by task demands. Contrary to this view, Guerin (1983, 1993; Guerin & Innes, 1982), assumes that such arousal is a state of uncertainty. Moreover, because uncertainty is experienced as a threat, we may assume that this experience would be solely negative.

Alternative theories of social facilitation offer a cognitive explanation for the effect (Baron, 1986; Baron et al., 1978; Sanders & Baron, 1975), also linking social facilitation effects with arousal, but conceptualizing arousal as a negative state. Specifically, social presence is assumed to distract individuals from their tasks, creating an attentional conflict, which is subjectively experienced as a negative state (Baron,1986). In general, the explanations opposing Zajonc's (1965) general arousal perspective tend to emphasize constructs such as "apprehension", "evaluation", "distraction", and "threat", which are mainly negative experiences (Uziel, 2007). An exception can be found in the explanation offered by the Biopsychosocial Model (BPS) of challenge and threat (Blascovich et al., 1999), which views social presence as a task engagement factor. In line with Zajonc (1965), this approach considers that the presence of others increases arousal which, in turn, enhances the likelihood of affective manifestations associated with a state of challenge or threat. Moreover, the nature of the task at hand determines if challenge or threat is activated, shaping the valence of the experience as positive or negative, respectively (Blascovich & Mendes, 2010).

Besides social facilitation, several other lines of research also highlight the relevance of the social context in how we feel. One of such lines focuses on how features of the social context influence expression of emotions (e.g., Hess et al., 1995). This research suggests that an emotional expression (e.g., anger, sadness) is inhibited or facilitated depending upon the relationship between the nature of that specific emotion and the nature of the social context (e.g., friends *vs.* strangers, Buck et al., 1992). In addition, a neutral social context (i.e., co-action) was also shown to influence how individuals process stimuli of a different emotional nature. For example, facial expressions of anger and joy induce different levels of interference in an emotional Stroop task depending on the presence of others (Fernandes et al., 2019). However, the most relevant research was developed to understand the impact of our social life (and not necessarily the mere presence of others) on life satisfaction and wellbeing.

The impact of a social life

There is an ample consensus that well-being is not fostered in a social vacuum. The social feature of our lives is perceived as self-supporting, given that "social ties and social support are positively and causally related to mental health, physical health, and longevity" (Thoits, 2011, p. 145). Regarding physical health, social support has been reliably associated with lower rates of morbidity and mortality and has been shown to have a beneficial influence on the cardiovascular, endocrine, and immune systems (for reviews, see Chang, & Hsu, 2016; Cohen, 2004; Uchino, 2006; Uchino et al., 1996, 2012). Congruently, at a psychological level, social support has been associated with better mental health and higher levels of subjective well-being (for reviews, see Cohen & Wills, 1985; Feeney & Collins, 2014). This positive link between social support and

well-being has been well established across cultures (e.g., Diener et al., 2000) and throughout the lifespan, having been observed in samples of children and adolescents (e.g., Chu et al., 2010), to young (e.g., Matsuda et al., 2014) and older adults (e.g., Antonucci & Akiyama, 1987).

Typically, research has focused on a specific social context, namely, how significant others constitute sources of social support (e.g., Amati et al., 2018). For example, supportive network exchanges with one's family members, friends, and spouse/partner have been associated with increased life satisfaction and positive mood (e.g., Walen & Lachman, 2000). Additionally, more positive affect, along with lower anxiety, irritation, and depressed mood, was observed in experience-sampling reports of mood and social context, when the individual report being accompanied by family members, compared to being alone (Schneiders et al., 2007).

Although scarcer, some studies suggest that even interaction with nonsignificant others may impact our feelings. More specifically, individuals' broader social networks are a source of well-being (Chang & Hsu, 2016). Furthermore, participation in social activities with nonsignificant others is associated with an increase in positive affect (e.g., Clark & Watson, 1988). A recent study by Gunaydin et al. (2020) showed that very minimal social interactions with strangers (e.g., greeting a shuttle driver) contribute to subjective well-being (life satisfaction and positive affect) in everyday life. Lastly, individuals have been demonstrated to report increased positive affect if, when waiting in a room, another person connected with them (*vs.* avoided them; Epley & Schroeder, 2014, Experiment 5).

In sum, the literature reviewed suggests that the social component of life plays a role in how individuals feel at the moment, or how they experience satisfaction with different domains of their lives (Deiner et al., 1999). However, it does not clarify if the mere presence of others (a minimal transition from a nonsocial to a social environment) may be enough to do so. Importantly, "it would be reassuring to have a satisfactory grasp of the minimal before proceeding to the more substantial" (Sanders, 1981, p. 248).

Furthermore, to address this topic we need to consider the hypothesis of gender differences.

Gender differences

Previous evidence suggests that men and women may differ in their sensitivity to the presence of others, and in levels of emotionality they experience. For example, there is evidence suggesting that women have a larger and more complex social network (i.e., social networks with more varied compositions, and where each person serves more functions) than men (for reviews, see Antonucci & Akiyama, 1987; Chu et al., 2010; Walen & Lachman, 2000). Also, based on some studies reported in their meta-analysis, Bond and Titus (1983) concluded that "females are slightly more facilitated than males by the presence of others" (p. 281). Corston and Coleman (1996) provide direct evidence for this, by showing that the social facilitation effect observed in their data was stronger for women than men. Congruently across several studies there is evidence that women are more sensitive to context manipulations (for a review of gender differences, see Yoder & Kahn, 2003; for reviews of gender differences relatively to social relationships, see Antonucci & Akiyama, 1987; Chu et al., 2010; Walen & Lachman, 2000).

In addition, although not all studies suggest that men and women differ in terms of their well-being levels (for a review, see Batz & Tay, 2018), there is evidence that women's reports of well-being tend to be consistently more influenced by their social environment than men's (Walen & Lachman, 2000). Several studies have also documented that women are more sensitive to mood induction procedures. For instance, Gouaux and Gouaux (1971) reported that women are more susceptible to the effects of the Velten technique than men. Congruently, the metanalysis performed by Lench et al. (2011) shows that procedures aimed at eliciting happiness and sadness were more effective as the percentage of women increased in the sample of the study. In sum, the impact that the mere presence of nonsignificant others present in the context may exert in how individuals

report to feel, may be dependent of gender. Women are likely more sensitive to all the details of the context, able to interfere with their current feelings, and so how they report to feel at that specific moment and with life in general.

Current studies

In Experiment 1, we examine how the presence of nonsignificant others (co-action) in an episodic event (performing a brief task) modulates our mood state. Then, in Experiment 2, we test if the effect generalizes to how participants report their general life satisfaction.

Social facilitation literature suggests that in a mere presence context, the presence of others increases arousal, and the valence of the outcome is determined by the nature of the tasks. Hence, we directly approach the hypothesis that the valence of the individuals' subjective experiences may depend upon how they appraise the demands of the environment. Specifically, if the task is demanding (*vs.* nondemanding) it may activate threat (*vs.* challenge), influencing negatively (*vs.* positively) the participants' feelings.

We developed two experiments in which individuals performed a task in co-action with others, or in isolation. In Experiment 1, participants either performed a demanding or a non-demanding task and subsequently reported their mood state. In Experiment 2, participants just filled a questionnaire about their feelings of general well-being. If the mere presence of others is able to generate a positive experience in individuals, then we should expect it to impact individuals' self-reported current feelings (their mood state). In that case, the presence of others may also be able to impact ratings of life satisfaction, since current feelings were found to influence such ratings (Schwarz & Clore, 1983).

Considering that the literature suggests that men and women may differ in their sensitivity to the presence of others, as well as in levels of emotionality experienced, we explored gender effects in both experiments.

EXPERIMENT 1: CURRENT MOOD STATE

Experiment 1 tested whether the impact of social presence on the current mood state is or is not contingent on task demands. We define a demanding and non-demanding task, using a task developed by Fonseca et al. (2014). These tasks are appraised threatening or challenging, respectively, with physiological reactions matching those appraisals (Blascovich, 2008; Blascovich & Tomaka, 1996). Importantly, the level of demand was also shown not to impact performance, with differences found in reaction times.

Method

Participants and design

A total of 86 undergraduate students (52% female) aged between 18 and 24 years old (M=19.21; SD=1.36) were recruited on campus and compensated for their collaboration. The sample size was decided by resource availability. Five participants were further excluded from our analysis (see below). This led the final analysis to have 80% power to detect effects on our design as small as f^2=0.32, having α=.05 (see sensitive analysis in G*Power; Faul et al., 2007). A between-subjects design was defined by two manipulated conditions: 2 (Presence: alone *vs.* co-action) x 2 (Type of task: demanding *vs.* nondemanding).

Participants were invited to perform a visual perception task and received monetary compensation for their participation. Written informed consent was obtained from all participants. Upon arrival in the lab, participants were relocated to a room where computers were prepared. Participants were randomly either left alone or joined by a confederate (same gender as the participant). In the co-action condition, instructions stated that, despite having another "participant" (confederate) performing the task at the same time, the task was individual.

The experimental task included 30 trials and was presented as a visual ability game. In each trial, a pair of geometrical shapes of different sizes were presented, and participants had 3 s to decide which one was bigger by pressing the corresponding key ("L"=*Shape presented on the left side of the screen*; "R"=*Shape presented on the right of the screen*). Participants were informed that the difficulty of the task trials would vary across trials. Specifically, it was stated: "*sometimes the computer will randomly and rapidly prompt you with the word "non-demanding"* (vs. *"demanding"*). *This means that following this word you will see a trial that is easier* (vs. *harder*) *than the standard trials.*" Half of the trials were identical in both experimental conditions – "standard trials" – in which the size difference between shapes was always 1cm. In the demanding condition, the remaining half of the trials included shapes that differed less than 0.5cm. In the non-demanding condition, the remaining half of the trials included shapes that differed more than 1.5cm. Participants were randomly allocated to one of the two conditions and both orders of the standard and the critical trials were randomized.

Upon task completion, participants were asked to answer a set of alleged control questions. Firstly, participants reported their current mood (i.e., "How are you feeling right now?") by responding to three 7-point semantic differentials (1=*sad, discontent, very negative* to 7=*happy, content, very positive*) that compound a mood current transient measure (Garcia-Marques, 2004). Subsequently, participants reported their perception of the task demands (1=*challenging* to 7=*threatening*) and answered a set of questions regarding their participation (i.e., how involved and motivated they were, and how easy and accurate was their performance in the task), also using 7-point scales. At the end of the experiment, participants were thanked for their collaboration and debriefed.

Results and discussion

Participants who did not respond to all "control questions" (three just responded to one of the mood items) and two outliers concerning task involvement (two participants answered "1" in that scale) were excluded from our analysis.

Perception of the task's demands and task performance

To check the task's demands manipulation, we compared participants' responses regarding the perception of the task as a dependent variable in an ANOVA defined by the factors of the design. As expected, the demanding task was perceived to be more threatening (*M*=6.09, *SE*=0.22) than the non-demanding task (*M*=5.04, *SE*=0.21), $F(1,78)=11.06$, $p<.001$, $\eta_p^2=.13$. All other effects were nonsignificant, $F<1$. When gender was introduced as a new factor in the design, it was not shown to promote or moderate any effect. In other words, the demanding threat task continued to be perceived as more threatening than the non-demanding task regardless of gender, $F(1,77)=7.27$, $p=.008$, $\eta_p^2=.09$.

As expected, the level of demands of the task did not impact individuals' performance, $F<1$. However, we also did not find differences between the social presence conditions, and the interaction between the two factors was null, all Fs<1. An analysis conducted with gender as a new factor did not show changes to this pattern of data, neither turned significant any effect related with gender, all Fs<1. Nevertheless, the mean performances for these groups are presented in Table 1.

Table 1

Performance according to participant's gender, type of task (i.e., demanding vs. nondemanding), and presence of others (i.e., alone vs. co-action)

Social context	Male		Female	
	Non-demanding	Demanding	Non-demanding	Demanding
Alone	5.30 (0.38)	5.56 (0.40)	6.22 (0.40)	5.80 (0.38)
Presence	5.29 (0.46)	6.22 (0.40)	5.27 (0.36)	5.55 (0.36)

Current mood state

The ratings of the three semantic differentials measuring mood were averaged into a compound measure of mood (Cronbach's *alpha*=.86). This measure of participants' current mood was not significantly related to the perceived demands ($r=-.14$, $p>.050$) nor to their levels of task performance ($r=.13$, $p>.050$). These correlations were also non-significant for each gender and for each social presence conditions, ps$>.050$.

Mood ratings were entered in the ANOVA defined by the general design. Results showed that participants' mood improved in the presence of others ($M=5.30$, $SE=0.14$) relative to the alone condition ($M=4.77$, $SE=0.13$), $F(1,77)=6.55$, $p=.012$, $\eta_p^2=0.08$. All other effects (both simple and two-way interactions) were nonsignificant, all Fs<1. However, the three-way interaction was associated with a marginal effect, $F(1,77)=2.92$, $p=.091$, $\eta_p^2=0.04$, which highlights the possibility of a gender effect (see Figure 1).
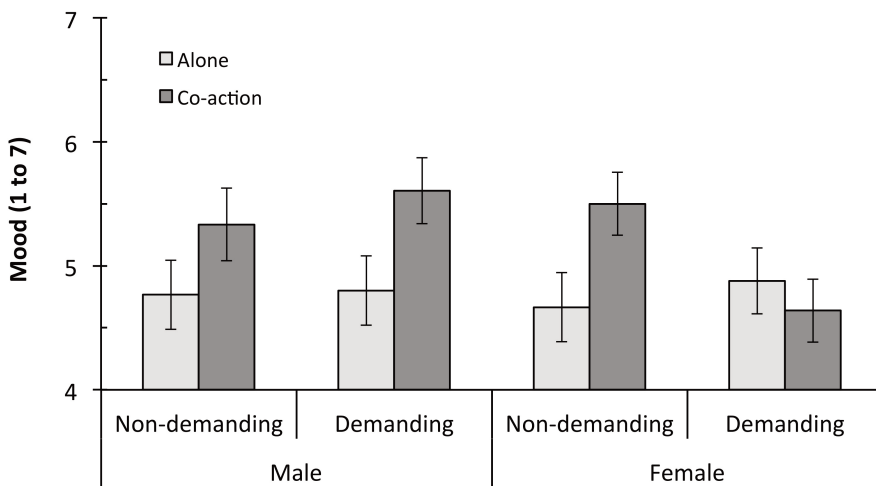

Figure 1. Mood according to participant's gender, type of task (i.e., demanding *vs.* nondemanding), and presence of others (i.e., alone *vs.* co-action)

Guided by the pattern of means observed in Figure 1, we ran simple analyses separated by gender to further understand this data. For men, there was only a main effect of social presence, $F(1,36)=5.74$, $p=.022$, $\eta_p^2=0.13$, with mood being more positive in the social presence (*vs.* alone) condition, regardless of task demands, $F<1$. For women, only the interaction was significant, $F(1,41)=4.33$, $p=.043$, $\eta_p^2=0.10$. This pattern of data suggests that social presence only exerted a positive influence on the mood reported by women who performed the non-demanding version of the task, $t(41)=2.25$, $p=.030$, $d=0.48$. When the task was demanding, there was no effect of the presence of others, $t<1$. However, the different affective reaction to the demanding and non-demanding version of the task was higher in the presence of others, $t(41)=2.44$, $p=.019$, $d=0.50$, than when the task was performed alone, $t<1$. Overall, this suggests that women were more sensitive to the features of the task.

EXPERIMENT 2: GENERAL WELL-BEING

Experiment 1 showed that the presence of others can influence participants' current mood state. This opens up the possibility that presence of others also impacts reports of life satisfaction (Schwarz & Clore, 1983), but it is not straightforward as current mood does not necessarily influence more complex feelings related to life satisfaction (see Eid & Diener, 2004). Therefore, in Experiment 2 we examined whether the impact of social presence generalizes to feelings of general wellbeing. In comparison to mood states, wellbeing is assumed to be more stable across situations (Diener & Larsen, 1984) and over time (Eid & Diener, 1999). Although current mood states are likely to influence ratings of subjective wellbeing (e.g., Robinson et al., 2004) they are not expected to be as contingent to task demands as mood is. Experiment 2 task only asked participants to perform a short and non-demanding filler task, being the focus on the wellbeing measure.

Method

Participants and design

A total of 147 undergraduate students (70% Female, $M=20.97$; $SD=3.55$) were recruited on campus and volunteered to participate. Sample size was determined to be higher than $N=90$, using GPower (Faul et al., 2007), with $f=0.30$, $\alpha=.05$, $1-\beta=.80$. Each gender subgroup was randomly distributed to a social presence condition (alone *vs.* co-action).

Procedure and measures

Participants arrived in the laboratory, either alone or in groups (3-4 participants). For both conditions, the experimenter provided general instructions. Because the alone condition required that the participant was the only human present, the experimenter then left the room. Participants in the co-action condition performed the task in groups. Firstly, they performed a short no-demanding perceptive filler task (choosing a set of colors) and then responded to seven items of the Personal Wellbeing Index (PWI, see International Wellbeing Group, 2013) focusing on satisfaction with specific life domains. Specifically, participants were asked "How satisfied are you …?" with the following domains: (1) your standard of living; (2) your health; (3) what you are achieving in life; (4) your personal relationships; (5) how safe you feel; (6) feeling a part of your

community; and (7) your future security. All responses were provided in 9-points response scales (1=*No satisfaction at all* to 9=*Completely satisfied*). Upon completion of this task, participants were fully debriefed and thanked for their collaboration, and engaged in another experiment.

Results and discussion

Ratings on the well-being index integrated a single factor, which explained 32% of the variance, with a Cronbach's alpha of .65. The ratings of the different domains were then summed into a compound measure of subjective well-being (and converted to the 0-100 scale format).

The measure of well-being was entered as a dependent variable in the ANOVA defined by the 2 (social presence) x 2 (gender) design. A marginal main effect of presence was found, suggesting that participants reported having more general life satisfaction when they were in the presence of others ($M=73.90$, $SD=10.64$) than when alone ($M=70.74$, $SD=8.74$), $F(1,144)=3.58$, $p=.060$, $\eta_p^2=0.03$. No main effect of gender was detected, $F<1$. Still, as shown in Figure 2, gender seems to moderate the effect of social condition on general life satisfaction, $F(1,144)=4.12$, $p=.044$, $\eta_p^2=0.03$.
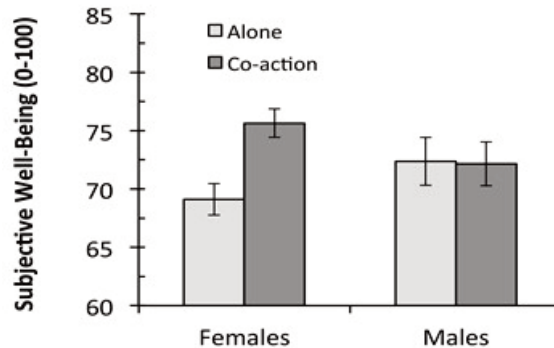

Figure 2. Subjective well-being according to participants' gender and the presence of others (i.e., alone *vs.* co-action)

Indeed, we tested for simple effects of social presence for each gender sample and found that the effect of social presence on subjective well-being ratings occurred only for women, $t(144)=3.59$, $p<.001$, and not for men, $t<1$.

General discussion

In the current paper, we conducted two experiments to examine if the presence of others in an episodic event of our lives is able to impact our feelings, leading us to report not only a more positive/negative current mood state but also a higher or lower level of satisfaction with life in general. Both experiments suggest that people may feel better in the presence of other people, even when these people are nonsignificant others. Being alone did not seem to improve how participants felt, which could have happened due to feeling less threatened or less uncertain. On the contrary, our results suggest that both mood and general life satisfaction are more negative when participants were alone.

Experiment 1 aimed to investigate if social presence effects on current mood differed due to the characteristics of the task being performed. Overall, although all participants reported being in positive good (mean above the scale's midpoint), participants in the presence of others tended to report feeling better than those alone. However, if we attend to the marginally significant results, gender is likely to be moderating this effect. Post-hoc analysis suggests that the impact of social presence in participants' mood state (independent of the nature of the task) was more evident for men. In other words, men reported feeling better or worse depending on they were in the presence of others or alone, not being influenced by how demanding the task was. In contrast, women seemed to be more sensitive to the nature of the task (i.e., mood rating not influenced by social presence when the task was more demanding). General findings suggest that the presence of others is not necessarily threatening (actually being more likely to increase positive affect). Yet, women's data is more in line with what Zajonc's (1965) and the BPS Model (Blascovich et al., 1999) predicted, by suggesting that arousal on itself has no affective tone; and its valence depends upon how the task is appraised. But relevant for these authors' assumption, even for women, the nature of the task was less impactful when participants were alone. Noteworthy, whenever the situation was not threatening (non-demanding task), participants (including women) reported experienced more positivity in the presence of others (*vs.* alone). Additionally, when the task was demanding women never reported a more negative affective state in the presence of others than when alone (differences were not significant). Overall, these data seem to indicate that the valence of the individuals' subjective experiences that are activated by the presence of others is positive. This interpretation of the data was further corroborated in Experiment 2. By asking participants about their feelings of general well-being in a co-action or alone condition, the social context seems to determine how individuals (at least women) feel.

Both experiments offer some new insight into the role of others in our current mood states and psychological well-being. Firstly, it is important to note that, although the effects of social presence have been extensively investigated, this corresponds to the first direct evidence that the social presence of nonsignificant others can induce more positive ratings of current and general feelings. Considering the literature on wellbeing, this effect could simply be interpreted as a result of our social nature and need for belonging. However, our data suggest that having a "significant other" present does not seem to constitute a prerequisite to observe a positive impact of social presence on the assessment of subjective feelings – even a stranger sitting in the same room can have that impact. Based on evidence (e.g., Schwarz & Clore, 1983), we expected the activation of a general positive affective state to impact individuals' responses to their general life satisfaction. However, this was still a relevant empirical question given that other studies (e.g., Eid & Diener, 2004), show that the impact of current feelings in reports of life satisfaction is small. Our data suggest that that impact occurs, at least for those who seem more sensitive to these context effects (women). We are assuming that it is by changing the current affective states that presence of others leads individuals to perceive their lives more positively. However, our studies do not approach such mediation hypothesis. Hence, future studies should further test the mechanisms underlying such effects. Specifically, assessing participants' feelings of arousal, connectivity, and belonging is crucial to test alternative hypotheses.

Secondly, our pattern of results contributes to the social facilitation literature by showing that, by itself, social presence is not a source of negative feelings (contradicting, for instance, Guerin, 1983). We offer the first evidence that suggests that the presence of others may have affective consequences; being experienced positively. However, future approaches should follow up on women's data suggesting that, in line with other social facilitation perspectives (e.g., Blacovich et al., 1999; Zajonc, 1965; see also Fonseca & Garcia-Marques, 2013), the effect may vary according to the nature of the task. Thus, if the task activates a state of threat, it may prevent the

detection of the positive affect deriving from the presence of others (what, in this case, only happened for women).

Thirdly, our effects were moderated by gender, which is in line with previous research arguing that women may be more prone to social facilitation effects (Bond & Titus, 1983), and more sensitive to context manipulations (e.g., Yoder & Kahn, 2003). For instance, Cross and Madson (1997) argued that such gender differences (i.e., women as potentially more sensitive to the presence of others) may be due to differences in the development of self-construal (i.e., women more interdependent self-construal, men more independent self-construal). Congruently, Gabriel and Gardner (1999) found that women are more relational-focused because their self-descriptions are anchored in more relational terms; they scored higher in a measure of relational self-construal, reported more emotional experiences linked to relationships, and were more motivated to behave towards the maintenance of relationships. However, the authors also highlighted that men and women do not differ in terms of overall interdependence, but rather in terms of the type of interdependence: while women tend to focus on relational attachments, men tend to focus on collective ones (Gabriel & Gardner, 1999; Gardner & Gabriel, 2004). An empirical question regarding this literature is whether Experiment 2 only manipulated a social-relational context, while Experiment 1 also primed collective features because task performance was requested. This could explain why the main effect of social presence was not as clearly observed for all participants in Experiment 2, as it was in Experiment 1.

Another mechanism that may have contributed to the observed gender differences and, therefore, should be explored in future studies, is the impact that the presence of others seems to exert over self-awareness (Carver & Scheier, 1981; Duval & Wicklund, 1972). An increase in self-awareness may, in turn, enhance the awareness of gender stereotypes, leading men and women to actively react to them. Some items in the well-being scale used were related to life domains (e.g., standard of living, achievement in life) where women, stereotypically, are the disadvantaged group. Additionally, performing a demanding task may be more stereotype-threatening for women than for men (e.g., Ben-Zeev et al., 2005). Although it is not clear how this would lead to the pattern of results that we have obtained, this could be interfering with them.

Conclusions

In the present work, we extended previous social facilitation research by providing evidence that even nonsignificant others present in the context may have a positive impact on how we experience current mood and general wellbeing. However, our data also suggest that, in the presence of others, we may be more influenced by the specific nature of the task, which may oppose the positive consequences of having others around us. Importantly, all of these effects seem to be clearer for women, suggesting that they may be more sensitive to such interactive contextual features.

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Sentir-se melhor na presença de outros: Poderá depender se é homem ou mulher

Estudos prévios têm sugerido que é positivo estarmos rodeados por outras pessoas. De facto, o impacto da presença dos outros no bem-estar físico e psicológico dos indivíduos é geralmente positivo. No presente trabalho, examinamos se estas experiências positivas podem ser promovidas pela mera presença de estranhos no mesmo meio durante um breve período. Especificamente, em dois estudos experimentais, testámos se estar na presença de outros (co-ação) comparativamente a estar sozinho influenciava a forma como os participantes se sentiam no momento (estado de espírito, Experimento 1) ou com as suas vidas em geral (bem-estar geral, Experimento 2). No Experimento 1 manipulámos ainda a natureza da tarefa (i.e., exigente *vs.* não-exigente). Ambos os experimentos evidenciam que os participantes reportam sentir mais positividade quando na presença de outras pessoas. No entanto, verificámos também diferenças de género relevantes: a melhoria do estado de espírito para mulheres (vs. homens) só ocorreu quando a tarefa não era exigente. No caso da satisfação com a vida, apenas as mulheres foram sensíveis à presença de outras pessoas. Estes efeitos serão discutidos tendo em conta a sua relevância para a literatura de facilitação social.

Palavras-chave: Facilitação social, Bem-estar, Estado de espírito, Diferenças de género.