Motivational Determinants of Prosocial Behavior: What Do Included, Hopeful Excluded, and Hopeless Excluded Individuals Need to Behave Prosocially?

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In light of the current relevance of analyzing the motivational determinants of prosocial behaviors, an experimental design was applied to examine the influence of rejection sensitivity, affective states, and trust on prosocial behavior in the included versus excluded context. The research was performed at a Spanish university with a sample of 118 students. The results confirm that excluded individuals are more prosocial than included individuals only when they see reconnection as possible (hopeful excluded individuals). The inclusion/exclusion experience moderated (1) the links between rejection sensitivity and both affective states and prosocial behavior, and (2) the mediation of trust between affective states and prosocial behavior. Finally, a predictive model of prosocial behavior moderated by the type of inclusion or exclusion was partially supported. Results indicate the relevance of promoting different variables in included individuals, hopeful excluded individuals, and hopeless excluded individuals for prosocial behavior.

Keywords: prosocial behavior; exclusion; rejection sensitivity; affective states; trust

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Prior research has attributed the causes of prosocial behavior (PSB)—intentional behavior oriented toward the benefit of others (Weinstein & Ryan, 2010)—to a variety of positive factors and experiences, although it can also arise after the experience of negative life events (Vollhardt, 2009), such as exclusion. Nevertheless, conflicting opinions over whether exclusion leads to antisocial (Ayduk, Gyurak, & Luerssen, 2008; Coyne, Gundersen, Nelson, & Stockdale, 2011) or prosocial (Maner, DeWall, Baumeister, & Schaller, 2007; Mead, Stillman, Vohs, Rawn, & Baumeister, 2010) behavior have been explained by recent publications that have shown that exclusion leads to PSB only when the rejected individual can reconnect (Romero-Canyas et al., 2010; Smart Richman & Leary, 2009). It means hopeful excluded individuals (those who hope they might reconnect)—but not hopeless individuals (those who believe there is no possibility of subsequent reconnection)—behave more prosocially than do included individuals (Romero-Canyas et al., 2010; Smart Richman & Leary, 2009). Based on this framework, this study further explores the mechanisms by which exclusion can be shown to lead to PSB by evidencing the role of some dispositional and self-regulatory variables in this process, which depend on the type of exclusion—hopeful versus hopeless exclusion—or inclusion situation.

Prior research has also shown that rejection sensitivity triggers PSB in excluded individuals (Romero-Canyas et al., 2010); affective states are influenced by exclusion (Buckley, Winkel, & Leary, 2004; Chow, Tiedens, & Govan, 2008; Romero-Canyas et al., 2010); positive affect increases PSB (Bartlett & DeSteno, 2006) and trust (Dunn & Schweitzer, 2005), but anger increases antisocial behaviors (Leach, Iyer, & Pedersen, 2006) and decreases trust (Bartlett & DeSteno, 2006); and trust increases PSB (Rotenberg et al., 2005).

Additional questions remain, however, regarding the domain of the PSB-exclusion link. For instance, the role of trust as the mediating construct has not yet been confirmed (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). Therefore, it is still unclear how trust affects PSB. Does it affect included and excluded individuals differently? Does it differently affect hopeful excluded individuals compared with hopeless excluded individuals?

There is controversy, moreover, surrounding the purported link between exclusion, affective states and PSB, as some authors have argued in favor of this mediation (Romero-Canyas et al., 2010), whereas others have argued against it (Buckley et al., 2004). If affective states influence the trust individuals have for one another, and if trust affects PSB, could the link between affective states and PSB be mediated by trust, thereby explaining the contradictory findings? Furthermore, could this mediation be moderated by the inclusion/exclusion situation and by the type of exclusion the individual experiences? Such questions about the role of affective states and trust as determinants of PSB depending on inclusion versus exclusion are the principal focus of this study.

The Impact of Social Inclusion/Exclusion

We can wonder why some authors have found that social rejection predicts antisocial behaviors whereas others have found the opposite. Since a sense of belonging can be of crucial importance (Bastian & Haslam, 2010), social reconnection may be a salient goal for excluded individuals to pursue (Derfler-Rozin, Pillutla, & Thau, 2010). This is the scenario in which the social reconnection hypothesis makes sense. Exclusion promotes adaptive responses that might ease reconnection (Bernstein, Sacco, Brown, Young, & Claypool, 2010), and promotes attempts to create social bonds (Maner et al., 2007). In order to respond to the contradictions surrounding whether exclusion produces antisocial or PSBs, Romero-Canyas et al. (2010) and Smart Richman

and Leary (2009) have argued that the opportunity to regain acceptance is a necessary condition for rejection to produce PSBs with respect to both the rejecter (Romero-Canyas et al., 2010) and individuals other than the rejecter (Maner et al., 2007)—H1(1). In contrast, rejection that precludes any chance of regaining approval might decrease PSBs (Twenge, Baumeister, Tice, & Stucke, 2001; Twenge et al., 2007; Twenge & Campbell, 2003)—H1(2).

Researchers have employed two primary methods in manipulating exclusion that might contribute to different outcomes (Williams, 2007): (1) the rejection-from-peers procedure (Baumeister, DeWall, Ciarrocco, & Twenge, 2005; Twenge et al., 2001), which is more unstable and carries some chance for reconnection, if not by the group of rejecters then perhaps by another individual or group; and (2) the future-alone procedure (Baumeister et al., 2005; Twenge et al., 2001)—more stable—in which exclusion is determined by the individual's personality and leads inexorably to exclusion in the future, leaving no possibility of reconnection.

Hypothesis 1: The inclusion/exclusion experience influences PSB in such a way that (1) hopeful excluded individuals will behave more prosocially than included individuals and hopeless excluded individuals who do not expect to have any possibility of achieving reconnection; and (2) hopeless excluded individuals will behave even less prosocially than included individuals.

The Impact of the Inclusion/Exclusion Experience on Affective States

Research studies that examine the effect of social exclusion on affective states have reported inconsistent results. Studies suggested that exclusion produces emotional numbness (Twenge et al., 2001; Twenge, Catanese, & Baumeister, 2003). And contrariwise, others authors provided empirical evidence for the link between exclusion and anger (Chow et al., 2008; Romero-Canyas et al., 2010) or between inclusion and positive affect (Blackhart, Nelson, Knowles, & Baumeister, 2009). Moreover, Twenge et al. (2003) theorized that (1) when excluded individuals

have interacted with their rejecters prior to the rejection, they activate a defensive reaction to rejection and in consequence may experience emotional numbness; but (2) when excluded individuals have not interacted with their rejecters prior to the rejection, they do not activate any defensive response to rejection and therefore may not experience emotional numbness. Accordingly, because the manipulation we intended to use does not imply direct interaction with the rejecters, we expected that exclusion would reduce positive affect and enhance anger—H2(1).

Moreover, different types of rejection may elicit more or less affective states (Blackhart et al., 2009). And Twenge et al. (2003) argued that pain experienced in the moment has a greater effect on affective states than does pain projected in the future. Beside, anger is produced by the exclusionary activity of another individual. In this sense, and because in the manipulation we intended to use the hopeful individuals are rejected in the present time by peers, meanwhile the hopeless individuals are rejected in the future and there is not a third party who rejected them—the exclusion is due to their own personality—we expected hopeful excluded individuals to suffer high psychological distress than hopeless excluded individuals—H2(2).

Hypothesis 2: The exclusion/inclusion experience influences the regulatory variables in such a way that, (1) compared with inclusion, both exclusion conditions lead to lower levels of positive affect and higher levels of anger; and (2) compared with hopeful exclusion, hopeless exclusion will produce lower levels of positive affect and higher levels of anger.

Rejection Sensitivity and Prosocial Behavior in the Situation of Exclusion/Inclusion

Rejection sensitivity—as the individual's concern with exclusion (Ronen & Baldwin, 2010)—might be relevant in research pertaining to the exclusion-PSB link. In accordance with the person X situation interactionism—typified by the "I am X only when the situation is Y" dynamic (Mendoza-Denton, Ayduk, Mischel, Shoda, & Testa, 2001)—highly rejection-sensitive

individuals are not always concerned with exclusion, but instead tend to be more concerned when confronted with a threatening exclusion situation. In rejection-sensitive individuals, exclusion elicits a strong emotional reaction as increases in hostility (Ayduk, Downey, Testa, Yen, & Shoda, 1999) and decreases in positive affect (Romero-Canyas et al., 2010). We thus anticipate that highly rejection-sensitive individuals will display higher levels of anger and lower levels of positive affect, but only when they are in an exclusion situation—H3(1).

In the same way, exclusion—but not inclusion—will elicit reaction regarding PSB. Nevertheless, studies have produced contradictory findings. Some researchers (Purdie & Downey, 2000) have found that when highly rejection-sensitive individuals observe certain rejection cues, they engage in PSBs with both their rejecters and people other than the original rejecter (Romero-Canyas et al., 2010) in order to gain acceptance. Other researchers have found that exclusion in highly rejection-sensitive individuals elicits hostility (Ayduk et al., 1999). These contradictory findings may be explained by moderation exerted by the type of exclusion. When highly rejection-sensitive individuals observe some rejection cues but see that they can reconnect, they probably immediately attempt to avoid exclusion and to gain acceptance by behaving prosocially; otherwise, when reconnection is made impossible, highly rejection-sensitive excluded individuals might react strongly by being less prosocial—H3(2).

Hypothesis 3: Exclusion moderates the rejection sensitivity-affective states link and the rejection sensitivity-PSB link in such a way that (1) exclusion enhances the effect of rejection sensitivity on affective states by decreasing positive affect and increasing anger, whereas inclusion has no effect on the rejection sensitivity-affective states link; and (2) exclusion enhances the effect of rejection sensitivity on PSB by increasing PSB in hopeful excluded individuals and by decreasing it in

hopeless excluded individuals, whereas inclusion has no effect on the rejection sensitivity-PSB link.

Affective States and Trust as Related to Prosocial Behavior in Situations of Exclusion/Inclusion

The exclusion-hostility-antisocial behavior tripartite link can be easily perceived. However, many authors have not provided evidence for the mediating effect that affective state can exert between exclusion and behavioral outcomes (see Buckley et al., 2004). Nevertheless, evidence for the rejection-anger-aggression link has been provided (Chow et al., 2008; Romero-Canyas et al., 2010). The emotional link between exclusion and antisocial behavior may thus be specifically attributable to anger—a distinctive negative emotion that merits special attention in the study of decision-making (Lerner & Tiedens, 2006)—rather than to negative feelings in general (Chow et al., 2008). This may explain the lack of evidence found for the emotional states-behavioral outcomes link in excluded individuals—researchers do not pay attention to anger in particular (Chow et al., 2008). In some studies (see Buckley et al., 2004), anger is nevertheless shown to be unrelated to either prosocial or antisocial behavior in exclusionary situations. These inconsistent results might be attributed to the mediation of other variables. Affective states have been commonly associated with trust, a variable that might have a relevant effect on PSB in inclusion vs. exclusion situations, as will be discussed below. We argue that trust might mediate the link between affective states and PSB; moreover, we suggest that the experience of inclusion or exclusion may influence this mediation, as will be argued below (H4).

Affective states as predictors of trust. Affective states may influence the way in which we form an opinion regarding how trustworthy a person is (Jones & George, 1998). Individuals attest to more positive perceptions of others when experiencing positive affect, and place higher

levels of trust in their interpersonal relationships; conversely, when experiencing negative affect, they are more likely to see others in a negative light and to perceive them as less trustworthy (Jones & George, 1998). Positive affect enhances trust whereas anger decreases trust (Dunn & Schweitzer, 2005). We therefore expect positive affect to positively predict trust, and anger to negatively predict it—H4(1).

Affective states as predictors of prosocial behavior. Studies about the impact of affect on PSB are currently topical (e.g., Dickert, Sagara, & Slovic, 2011). It has been shown that positive affect promotes PSB (Bartlett & DeSteno, 2006; O'Malley & Andrews, 1983), whereas anger fosters antisocial behaviors (Leach et al., 2006; Wang, Northcraft, & Van Kleef, 2012) and decreases PSBs (Okun, Shepard, & Eisenberg, 2000). And empathic anger (meaning anger on behalf of a victim) was shown to motivate helping the victim and punishing behaviors of the transgressor (Vitaglione & Barnett, 2003). In this sense, we expect that positive affect will enhance PSB, and in contrast anger will reduce it—H4(2).

Trust as a predictor of prosocial behavior. "Trust represents confidence in the strength of a partner's commitment" (Rusbult & Agnew, 2010, p. 339); especially trusting people are thus more inclined to invest both materially and non-materially in their relationships. In this context, most authors have shown that trust fosters the tendency to display PSBs (Berigan & Irwin, 2011; Derfler-Rozin et al., 2010; Rotenberg et al., 2005). Twenge et al. (2007) have argued, moreover, that individuals act in a prosocial manner only when they trust that others will recompense them with a sense of belonging. People can experience exclusion as "a betrayal of trust" (Twenge et al., 2007, p. 64); the expected mediation by trust, however, was not found. We hypothesize that this can be attributed to the type of rejection Twenge et al. (2007) used in their experiment—the future-alone exclusion manipulation, a type of permanent exclusion reliant on the personality traits of the

individuals that leaves them to end up alone and that does not allow subjects any chance to trust in gaining any sense of belonging reward. Therefore, the regaining of acceptance is rendered impossible. We believe that after suffering this type of rejection the trust people have or do not have in their interactions does not matter: they are not going to be accepted in any case. In contrast, if the individuals have the opportunity to regain acceptance—as in the exclusion-from-peers experienced in a concrete moment—the trust they have in their interactions can be an important predictor of PSB.

Combining the social reconnection hypothesis and the view of trust as an expectation of garnering the reward of a sense of belonging (Twenge et al., 2007), one might therefore imagine that when hopeful excluded people have lost their trust in the prosociability of others they thus do not expect those others to reward them with the desired sense of belonging. Because they need to belong (and since the possibility of reconnection exists), in order to regain acceptance they are likely to think that they need to make a greater effort and to behave in a more prosocial manner. In contrast, when hopeful excluded people have not lost their trust in others, they probably still expect others to be prosocial and inclined to include them, and therefore they do not see a need to be more prosocial in order to ensure they can be included again. Accordingly, we suggest that hopeful excluded participants are more prosocial only when they do not trust others.

Although we anticipated that trust would predict PSB in excluded people, this also led us to anticipate that such trust would only be possible if exclusion could still allow the individuals the opportunity to regain acceptance. We suggest that whereas trust will enhance PSB in included individuals—H4(3a)—in hopeful excluded individuals trust will decrease PSB because it means an expectation of the prosociability of others, and thus an expectation of inclusion without having to be more prosocial in order to regain acceptance—H4(3b). Moreover, trust will not predict PSB

in hopeless excluded individuals because they understand the regaining of acceptance is impossible and consequently will not behave in a more prosocial manner, independently of their trust levels in the prosociability of the others—H4(4).

Hypothesis 4: Trust mediates the link between affective states and PSB, and this mediation is further moderated by the inclusion versus hopeful/hopeless exclusion in such a way that: (1) in both inclusion and exclusion scenarios positive affect enhances trust and anger reduces trust; (2) positive affect increases PSB whereas anger decreases it; (3) trust (a) enhances PSB when people experience inclusion but (b) decreases it in hopeful excluded individuals; and (4) trust does not predict PSB in hopeless excluded individuals.

In short, in light of the extant literature we present the model shown in Figure 1.

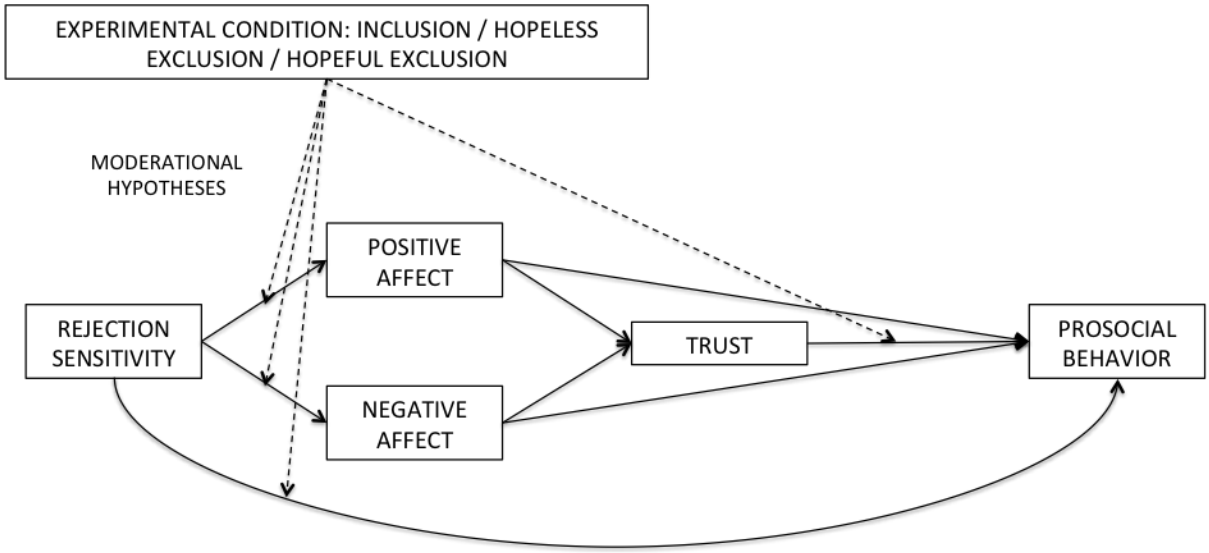

Figure 1. Model of the determinants of prosocial behavior in the context of included versus excluded groups. Hopeful exclusion refers to exclusion with possibility of future reconnection and hopeless exclusion refers to exclusion without possibility of future reconnection.

The Present Study

The primary goal is to examine the roles played by rejection sensitivity, affective states and trust in predicting PSB in the inclusion versus exclusion contexts, as well as the relations between those predictors. Inclusion and exclusion were experimentally manipulated by adaptation of Derfler-Rozin et al.'s (2010) method.

The potential of this study is shown by two objectives in particular: first, it aims to reaffirm the social reconnection hypothesis by showing that excluded people behave in a more prosocial manner than do included people only when they think that they might regain acceptance; second, it attempts to point out certain determinants of PSB that exist in the context of excluded versus included groups. In particular, we address certain questions not yet clearly answered in the extant literature. On the one hand, we respond to the inconsistent conclusions reached by previous studies regarding the potential link between affective states and PSB by proposing that this relation is mediated by trust and moderated by inclusion versus the type of exclusion—hopeful versus hopeless; on the other hand, we have sought to explain the lack of evidence in previous literature regarding the mediating effect of trust as it concerns PSB in an exclusionary scenario by analyzing whether such mediation could be moderated by the type of exclusion—again, hopeful or hopeless. Given the progressive spate of antisocial behaviors, the time of crisis the individual is understood to be experiencing, and the interest researchers have shown in PSB, the analysis of motivational determinants of PSB and the testing of the potential links between those motivational determinants is of relevance to the wider field.

Method

Participants

Participants numbered 118 students from four class groups composed of a majority (68.6%) of women, randomly selected from the first course of teacher training at Cordoba University in Spain (age range = [17, 38], M = 19.81, SD = 3.11).

Procedure and Experimental Design

After a pilot study had been conducted in order to ensure the reliability of the measures and the credibility of the experiment, students completed an online questionnaire created with the Global Park survey program (version 8). Throughout this program, and by adapting the Derfler-Rozin et al. (2010) methodology, simulated feedback was then presented to participants from their computer telling them that they had been rejected (exclusion-from-peers condition) or included (inclusion condition), or that their personality profile indicated they were likely to end up alone (future-alone exclusion condition) or that they were likely to experience misfortune in the future (control condition).

In Derfler-Rozin et al.'s (2010) method, the experimenter said to the participants that (a) their personality profile implied that probably no one will want to play with them in the session (exclusion risk condition), (b) no one had actually chosen them to play with them in the session (exclusion-from-peers condition), or (c) their personality profile implied that they are likely to be accident-prone later in life (control-negative feedback condition). In our adaptation of Derfler-Rozin et al.'s (2010) methodology we substituted the exclusion risk condition for the future-alone condition—allowing us to create a group of hopeless excluded participants—and we added an inclusion condition.

The sample was randomly distributed among the four experimental conditions created: 41 participants were allocated to the inclusion condition (34.7%), 25 to the exclusion-from-peers condition (21.2%), 22 to the future-alone exclusion condition (18.6%), and 30 to the control

condition (25.4%). The experiment took part in three different sessions in a classroom with computers at the University of Córdoba (Spain).

Phase 1: Personality questionnaire and experimental manipulation. Rejection sensitivity and affective states were assessed together with some items of personality variables used to ensure reliable personality feedback. This was referred to as the 'personality questionnaire' in the application to ensure the reliability of the subsequent false personality feedback provided to those participants allocated to the future-alone exclusion and control conditions. To ensure that the subsequent manipulation would be seen as realistic, the program asked participants to: (1) introduce themselves to the rest of the online participants (they were informed that another class group from a different university was participating at the same time); (2) remove one of the four participants whose description had been presented to them (all participants having read the same descriptions of non-existent online participants); and (3) rank the remaining three in order of preference to form a group and to complete some online group tasks.

At that point participants were randomly allotted to the experimental conditions. First, the computer told them that their choices meant the program was unable to create their preferred group and that it would be created from online participants whose descriptions they had not read. The *inclusion condition* was manipulated by telling participants that all online contestants who had read their description had selected them as their first option to participate in the interactive tasks, and that they had been included in an online group with two other participants who had been similarly selected as the first option by other participants. In the *exclusion-from-peers condition* participants were informed that no participants had selected them to participate in the interactive tasks, and that they had been incorporated into an online group with two other participants who had similarly not been selected by other participants. In the *condition of future-alone exclusion*

participants were informed that their responses to the personality test had been analyzed by the computer; they were shown a 'personality profile interpretation' accompanied by a graphic representation of their personality traits and were told that their profile indicated that they would end up alone in life. They were then told that they had been incorporated into a group with two other participants who exhibited the same personality profile. Lastly, in the *control condition* participants were informed that their responses to the personality test indicated they would be prone to accidents in the future and suffer stress-related health problems and that they had been incorporated into a group with two other participants who exhibited the same personality profile. They thus received negative feedback about their future, but it was not related to the inclusion/exclusion experience. As in the Derfler-Rozin et al. (2010) method, this negative control condition rather than a neutral control condition allowed us to analyze whether the potential differences between the exclusion and inclusion conditions were not due to the negative feedback but were actually attributable to the exclusion/inclusion experience.

Phase 2: Manipulation check and motivational variables assessment. After the experimental manipulation, a manipulation check was performed. Positive affect and anger were then assessed. Next, perceived trust among the online group was evaluated.

Phase 3: Games to earn money and final donation task. Participants completed some online group tasks that allowed them to earn points that they could then exchange for cash. To assess PSB the program then told them they could, if they so desired, donate part or all of the money they had earned in the group tasks.

Phase 4: Debriefing. At the end of the survey, researchers probed participants for suspicion, conducted a full debriefing, and thanked them.

Measures

In order to describe the sample, information was collected about *sex* and *age*.

Rejection sensitivity. Rejection sensitivity (α = .83, *M* = 3.73, *SD* = 1.25) was measured with the Rejection Sensitivity Scale (Ronen & Baldwin, 2010), which assesses the extent to which individuals display a tendency to worry excessively in rejection situations and in their interactions with others. Participants recorded their answers to the six items on a seven-point Likert scale.

Positive affect and anger. In order to assess positive affect (α = .75, *M* = 5.21, *SD* = 1.19 in the first evaluation, and α = .87, *M* = 4.99, *SD* = 1.46 in the second one) and anger (α = .75, *M* = 1.49, *SD* = 0.84 in the first evaluation, and α = .78, *M* = 1.66, *SD* = 1.08 in the second one), we designed a short scale by selecting three items—excited, happy, and satisfied—of the positive factor of the Positive Affect and Negative Affect Scale (Watson, Clark, & Tellengen, 1988), which reflects a positive emotional state at a given time, along with three items—resentful, annoyed, and angry—of the anger factor of the Profile of Mood States Scale short form (Baker, Denniston, Zabora, Polland, & Dudley, 2002), which reflects anger toward others at a given time. The seven-point Likert scale was presented both before and after the manipulation. Fit indices for confirmatory factorial analysis were excellent (χ^2 (8, N=118) = 9.49, p = .30, RMSEA = .04, 95% CI [.01, .12], CFI = .99, TLI = .98, GFI = .97).

Trust. In order to assess trust (α = .70, *M* = 5.86, *SD* = 1.05) the scale used by Greenhalgh and Chapman (1998) was adapted to this study. The scale includes three items (e.g., "I feel that those two people can be counted on to help me") that reflect the confidence participants have in their interactions with the two other participants with whom they are completing the group tasks. The seven-point Likert scale was presented before the participants were assigned their partners for the online tasks.

Manipulation check: Perception of exclusion. In order to assess participants' perception of having been included or excluded (α = .93, M = 3.00, SD = 1.96), and thus to ensure the reliability of the manipulation, we asked participants to complete the manipulation check questionnaire used by Derfler-Rozin et al. (2010) after receiving feedback about having been included or excluded. The scale consisted of four seven-point Likert scale items—"I am excluded from the group," "I am included in the group" (inversed), "I feel excluded from the group" (inversed), and "I feel included in the group." As in the study of Derfler-Rozin et al. (2010), (a) we found an high correlation between the four items (r = [.66, .86], p < .01, for all bivariate correlations), (b) we found an excellent reliability of the scale (Cronbach's alpha for reliability was .93), and (c) we therefore averaged all items (after reverse-scoring the inclusion items such that high scores represented more exclusion) in order to create the variable.

Prosocial behavior. In line with much of the prior research (e.g., Simpson, Irwin, & Lawrence, 2006; Twenge et al., 2001), PSB was operationalized as donating behavior (M = 10.17, SD = 6.55). It was assessed through feedback provided by the computer program, in which participants were informed that the investigative team was collaborating with a renowned non-governmental organization that carries out diverse actions to help those in need. They were informed that they had the opportunity—only if they desired to do so and with no obligation or expectation—to collaborate by donating a part or all of the money they had earned in the previous group tasks (all participants were informed that they had earned 20.65€). In this scenario, the computer would supposedly subtract the amount they chose to donate from the amount they had supposedly accumulated in completing the group tasks, with the remainder delivered to them at the conclusion of the study.

Treatment of the Data

Sex and age were not the principal aim of our study and did not show any significant influence on the other variables of the study, and were thus omitted from all further analyses.

For the manipulation check and in order to confirm Hypotheses 1 and 3, we conducted MANOVA, ANOVA, and repeated measure analyses.

In order to test Hypotheses 2 and 4 and the predictive model of PSB as being moderated by experiences of inclusion or exclusion, several analyses were performed with AMOS (version 18). First, moderation (multi-group) analysis (H2) was computed by following those steps prescribed in Little, Carf, Bovaird, Preacher, and Crandall (2007). Second, moderated (multi-group) mediation analysis (H4) was performed (Little et al., 2007) by following the product of coefficients strategy with bootstrapping to test the strength and significance interval of the indirect effect (Shrout & Bolger, 2002). Lastly, a multi-group structural equation modeling (SEM) analysis was conducted to test for the equivalence of the causal structure among the three condition groups; this analysis was performed according to the steps prescribed in Byrne (2009) and by using the critical ratio for differences between parameters method.

Results

Manipulation Check

The ANOVA showed significant differences between the experimental conditions in relation to perception of exclusion ($F(3, 117) = 133.84$; $p < .001$). Bonferroni analyses showed that: (1) participants in the exclusion-from-peers condition ($M = 6.08$, $SD = .70$) reported feeling more rejected than the other three condition groups ($p < .001$); (b) participants in the future-alone exclusion condition ($M = 3.28$, $SD = 1.24$) reported feeling more rejected than participants of both the inclusion ($p < .001$) and control ($p < .01$) conditions. And participants in the inclusion condition

(M = 1.44, SD = .63) reported feeling less rejected ($p < .01$) than participants in the control condition (M = 2.35, SD = 1.17). Thus, the manipulation has had the expected effect.

Impact of the Inclusion/Exclusion Conditions on Affective States and Prosocial Behavior

The MANOVA performed to check Hypotheses 1 and 2 showed significant differences between the four conditions ($F(9, 342) = 5.42$; $p < .001$, $\eta^2 = .12$).

Influence of experimental conditions on prosocial behavior. The ANOVA performed revealed significant differences ($F(3, 114) = 5.03$; $p < .01$, $\eta^2 = .12$). Bonferroni analyses showed that participants in the exclusion-from-peers condition (M = 14.34, SD = 6.49) donated more money than did participants of the inclusion (M =8.49, SD = 5.94; $p < .01$), future-alone exclusion (M = 8.92, SD = 5.83; $p < .05$) and control (M = 9.88, SD = 6.67; $p < .05$) conditions. Participants of the future alone exclusion did not differ form the participants of the inclusion condition (*ns*). There were no differences between the participants of the control condition and the participants of the (a) inclusion (*ns*) and (b) future-alone exclusion (*ns*). Hypothesis 1(1) was thus confirmed, but not Hypothesis 1(2).

Impact of the manipulation on affective states. The ANOVA performed revealed that whereas participants of all conditions had similar positive affect levels ($Minclusion$ = 5.36, SD = 1.34; $Mexclusion\text{-}from\text{-}peers$ = 5.07, SD = 1.06; $Mfuture\text{-}alone\text{-}exclusion$ = 4.79, SD = 1.05; $Mcontrol$ = 5.21, SD = 1.19) prior to the manipulation ($F(3, 114) = 1.69$; *ns*, $\eta^2 = .04$), after manipulation there were significant differences between groups ($F(3, 114) = 9.18$; $p < .001$, $\eta^2 = .19$). Bonferroni analyses showed that the inclusion condition (M = 5.75, SD = .90) elicited a positive affect significantly higher than that of either the exclusion-from-peers (M = 4.39, SD = 1.55; $p < .001$) or the future-alone exclusion (M = 4.15, SD = 1.67; $p < .001$), but not higher than that of the control condition (M = 5.09, SD = 1.33; *ns*). Moreover, there were no differences in the

positive affect levels after manipulation between the two exclusion conditions (*ns*), neither between the exclusion conditions and the control condition (*ns*). The repeated measure analyses showed that: (1) there were significant differences in positive affect over time ($F(1, 114) = 8.16$; $p < .01$, $\eta^2 = .07$); and (2) there were differences between the various conditions in the evolution of positive affect over time ($F(3, 114) = 5.74$; $p < .001$, $\eta^2 = .13$). The differences in the evolution of positive affect were between the inclusion condition and both the exclusion-from-peers ($p < .02$) and the future-alone exclusion ($p < .01$) conditions. Positive affect increased significantly in the inclusion condition ($F(1, 40) = 4.67$; $p < .05$, $\eta^2 = .10$) and decreased in the exclusion-from-peers ($F(1, 24) = 7.11$; $p < .01$, $\eta^2 = .23$), future-alone ($F(1, 21) = 3.78$; $p < .06$, $\eta^2 = .15$) and control ($F(1, 29) = 4.90$; $p < .05$, $\eta^2 = .14$) conditions.

The ANOVA performed revealed that whereas participants of all conditions had similar anger levels (*Minclusion* = 1.58, *SD* = .92; *Mexclusion-from-peers* = 1.51, *SD* = .83; *Mfuture-alone-exclusion* = 1.42, *SD* = .77; *Mcontrol* = 1.41, *SD* = .82) prior to the manipulation ($F(3, 117) = .30$; *ns*, $\eta^2 = .01$), after manipulation there were significant differences between groups ($F(3, 117)= 7.42$; $p < .001$, $\eta^2 = .16$). The inclusion condition ($M = 1.19$, $SD = .46$) produced an anger level significantly lower than that of the exclusion-from-peers ($M = 2.31$, $SD = 1.42$; $p < .001$) and the future-alone exclusion ($M = 1.98$, $SD = 1.40$; $p < .02$), but not the control ($M = 1.53$, $SD = .72$; *ns*) conditions. Moreover, there were no differences in the anger levels after manipulation between the two exclusion conditions (*ns*), neither between the future-alone exclusion condition and the control condition (*ns*); finally, the exclusion-from-peers condition elicited an anger level significantly higher than that of the control condition. The repeated measure analyses showed that: (1) there were significant differences in anger over time ($F(1, 114) = 6.92$; $p < .01$, $\eta^2 = .06$); and (2) there were differences between the various conditions in the evolution of anger over time ($F(3,$

114) = 7.26; $p < .001$, $\eta^2 = .16$). The differences in the evolution of anger were between the inclusion and the exclusion-from-peers conditions ($p < .05$). Anger was shown to have increased significantly in the exclusion-from-peers ($F(1,24) = 7.58$; $p < .01$, $\eta^2 = .24$) and future-alone exclusion ($F(1, 21) = 3.81$; $p < .06$, $\eta^2 = .15$) conditions, and to have decreased significantly in the inclusion condition ($F(1, 40) = 7.07$; $p < .01$, $\eta^2 = .15$). Hypothesis 2(1) was thus supported, but not Hypothesis 2(2).

Inclusion/Exclusion Experience as a Moderator in the Relation between Rejection Sensitivity and Both Affective States and Prosocial Behavior

Multi-group SEM analysis was performed to examine Hypothesis 3. When we compared the well-fitted unconstrained model (χ^2 (6, 88) = 5.79, $p = .45$; *RMSEA* = .01, 95% CI [.01, .14]; *CFI* = 1.00, *GFI* = .97) with the fully constrained model (χ^2 (14, 88) = 27.10, $p < .02$; *RMSEA* = .10, 95% CI [.04, .16]; *CFI* = .54, *GFI* = .88), the chi-square comparison test between the two models implied significance ($\Delta\chi^2_{(8)} = 21.31$; $p < .01$). The variance of the model was therefore assumed. Rejection sensitivity decreased positive affect ($\beta = -.63$; $p < .001$) and increased anger ($\beta = .43$; $p < .01$) only for participants assigned to the exclusion-from-peers condition; and rejection sensitivity decreased PSB only for future-alone exclusion ($\beta = -.63$; $p < .001$). Hypothesis 3 was therefore partially supported—the links between rejection sensitivity and both affective states and PSB being moderated by the inclusion/exclusion experience.

Inclusion/Exclusion Conditions as a Moderator of the Mediational Effect of Trust in the Link between Affective States and Prosocial Behavior

Moderated—multi-group—mediation analysis was performed in order to confirm Hypothesis 4. The 95% confidence interval of the indirect effect was obtained with 2,000 bootstrap resamples. The three groups considered for the subsequent analysis were inclusion, exclusion-

from-peers and future-alone exclusion. There was no mediation of trust between anger and PSB in any of the conditions. Only in the future-alone condition did anger exert a direct effect on PSB. The mediation of trust between positive affect and PSB was not manifested in the future-alone condition. However, when we compared the inclusion and exclusion-from-peers conditions, there were changes (1) in the nature of the mediation—whereas in the inclusion condition results showed an indirect effect, in the exclusion-from-peers condition the mediation was partial—and (2) in the direction of the mediation, which was positive in the inclusion condition and negative in the exclusion-from-peers condition (Table 1). Hypothesis 4 was thus partially supported.

Table 1.

Type of Mediations Observed in the Inclusion, Exclusion-from-Peers, and Future-Alone Exclusion Conditions

Condition	Hypothesis	Direct Beta w/o Med	Direct Beta w Med	Indirect Beta	Mediation type observed
Inclusion	PA→trust→PSB	.23(*ns*)	.10(*ns*)	.13*	Indirect effect
	Anger→trust→PSB	.05(*ns*)	.07(*ns*)	-.02(*ns*)	Ø
Excl. FP	PA→trust→PSB	.20(*ns*)	.47**	-.26*	Partial mediation
	Anger→trust→PSB	.03(*ns*)	.01(*ns*)	.03(*ns*)	Ø
FA excl.	PA→trust→PSB	.03(*ns*)	-.09(*ns*)	.12(*ns*)	Ø
	Anger→trust→PSB	-.34#	-.36*	.02(ns)	Ø; direct effect

Note. Excl.FP = exclusion-from-peers; FAexcl. = future-alone exclusion; PSB = prosocial behavior.

#$p < .09$. *$p < .05$. **$p < .01$.

A General Model of Prosocial Behavior Depending on the Inclusion/Exclusion Conditions

Multi-group SEM analysis was performed in order to confirm the proposed predictive model of PSB depending on the type of inclusion or exclusion. When we ran the theoretical model the positive affect-behavior path and the anger-trust path were marginal and insignificant

respectively among the three groups, and thus were trimmed from the analysis. After trimming those paths, when we compared the well-fitted unconstrained model (χ^2 (9, 88) = 7.77, p = .56; *RMSEA* = .01, 95% CI [.01, .11]; *CFI* = 1.00, *GFI* = .97) with the fully constrained model (χ^2 (23, 88) = 52.26, p < .01; *RMSEA* = .12, 95% CI [.08, .17]; *CFI* = .43, *GFI* = .82) the chi-square comparison test implied significance ($\Delta\chi^2_{(14)}$ = 44.49; p < .001), and the non-equivalence across the two groups was consequently accepted. The variance of the model was therefore assumed and our model was partially supported. Table 2 shows the significant paths, depending on exclusion/inclusion conditions, using the critical ratio for differences between parameters method. Figure 2 shows the resulting model as it pertains to each group.

Figure 2a. Significant paths of the predictive model of prosocial behavior in the included group.

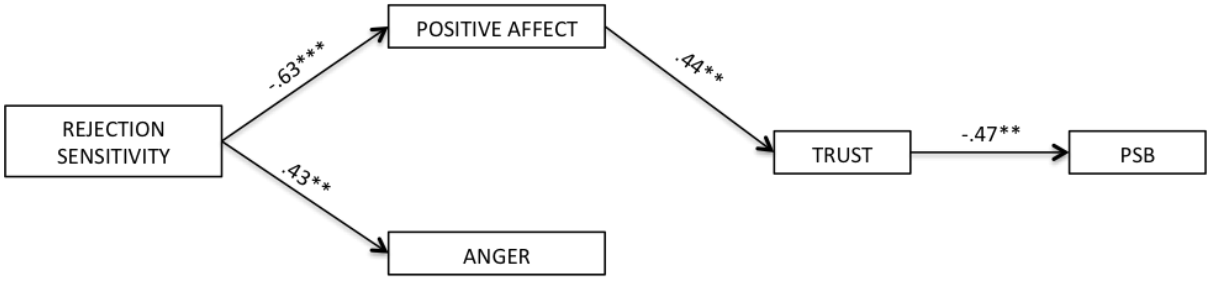

Figure 2b. Significant paths of the predictive model of prosocial behavior in the excluded-from-peers group.

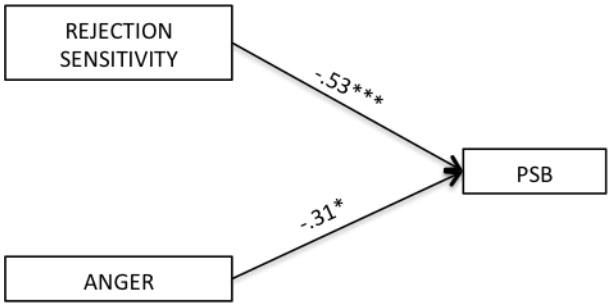

Figure 2c. Significant paths of the predictive model of prosocial behavior in the future-alone excluded group.

Figure 2. Significant paths of the predictive model of prosocial behavior depending on each experimental condition. PSB = prosocial behavior.

*p < .05. **p < .01. ***p < .001.

Table 2.

Differences Between the Different Groups' Paths Using the Critical Ratio for Differences Between Parameters Method

Paths	B incl.	β Excl.FP	β FAexcl.	z-score Incl./Excl.FP comparison	z-score Incl./FAexcl. comparison	z-score Excl.FP/FAexcl. comparison
RS→PA	-.05(*ns*)	-.63***	-.19(*ns*)	-3.30***	-.74(*ns*)	1.70*
RS→Anger	-.06(*ns*)	.43**	.08(*ns*)	2.39**	.46(*ns*)	-1.38*
PA→trust	.46**	.44**	-.26(*ns*)	-0.91(*ns*)	-3.15***	-2.50**
RS→PSB	-.18(*ns*)	-.30 (*ns*)	-.53***	-0.66(*ns*)	-1.63*	-0.49 (*ns*)
Anger→PSB	.04(*ns*)	.01(*ns*)	-.31*	-0.23(*ns*)	-0.85(*ns*)	-1.12(*ns*)
Trust→PSB	.35*	-.47**	-.27(*ns*)	-3.46***	-2.95***	1.18*

Note. Incl. = inclusion; Excl.FP = exclusion-from-peers; FAexcl. = future-alone exclusion; HSR = hypersensitivity to social rejection; PA = positive affect; PSB = prosocial behavior.

*p < .05. **p < .01. ***p < .001.

Discussion

The need to maintain social relationships is fundamental and can be frustrated by exclusion (Bastian & Haslam, 2010) to devastating effect. Our study has confirmed that excluded individuals behave more prosocially than included individuals only when they think they might reconnect, as would be expected according to the social reconnection hypothesis and prior studies (Bernstein et al., 2010; Maner et al., 2007; Romero-Canyas et al., 2010; Smart Richman & Leary, 2009). This hints at the relevance of promoting thoughts about the possibility of reconnection and learning that exclusion can be remedied. The desire to belong is thus understood to be so strong that excluded individuals, in an attempt to reconnect, show prosocial behavioral patterns, even exhibiting such behaviors toward people other than those who have initially rejected them, as Maner et al. (2007) found. Moreover, individuals were observed to behave in a more prosocial manner toward people in need that they do not know and will not meet in the future. This finding implies that individuals will not know that they have behaved in a prosocial manner. It therefore seems that the incremental shift toward PSB produced by exclusion might be a psychological mechanism that is displayed automatically when individuals feel rejected and see the possibility of regaining acceptance. The remaining question is why this psychological mechanism could be displayed.

One possible explanation is that one might display this mechanism not only to reconnect with others but also to safeguard one's integrity and self-esteem, as proof to oneself that one is a good person and can be included in a group. Exclusion can be understood by the excluded individual as others not perceiving them as of value to or for the group. It is therefore noteworthy that, in the face of exclusion, the need to maintain high self-esteem is also threatened. This need is derived from the perception of competence and social recognition. Exclusion can threaten relational needs or the need for efficacy. Williams (2007) has claimed that when exclusion threatens relational needs—meaning the need “to belong [and] to maintain reasonably high self-

esteem" (Williams, 2007, p. 443)—individuals tend to act prosocially in order to achieve better affiliation, better interpersonal attraction, and higher self-esteem; in contrast, when the need threatened is the need for efficacy—meaning the need "to perceive a sufficient amount of personal control over one's social environment, and to be recognized as existing in a meaningful way" (Williams, 2007, p. 443)—individuals might behave competitively, requiring more social attention. In this vein Pavey, Greitemeyer, and Sparks (2011) found that satisfaction of the relatedness need promotes PSBs. On the basis of this differentiation, Lee and Shrum (2012) have argued that the effects of being excluded or ignored are different because they affect different needs: being ignored threatens the need for efficacy, whereas being excluded threatens the need to belong. In the face of exclusion accomplished by other people, not only is the need to belong affected but also the need for self-esteem. It is therefore possible that in this situation individuals aim to feel valued not only by other people, but also by themselves in order to safeguard their self-esteem. This study thus contributes to the debate about the relation between exclusion and PSBs. More research is needed, however, to clarify under what conditions exclusion triggers or does not trigger PSBs.

Moreover, it is noted in our results that individuals excluded with no possibility of future reconnection (future-alone exclusion condition) did not differ in their prosocial behavioral response to individuals in the inclusion-from-peers situation. This appears to be in contradiction with previous research (e.g., Twenge et al., 2001; 2007). Nevertheless, in Twenge et al.'s (2001, 2007) experiments the inclusion condition that they used to compare with the future-alone exclusion condition was different than the inclusion condition that we used in our manipulation. This may explain the differences found in our results compared to their results.

Twenge et al. (2007) used a future-belonging condition (in which they informed the participants that their personality profile indicated a future with a rich and strong network of interpersonal relationships), in opposition to a future-alone exclusion condition. However, in our manipulation, we used an inclusion-from-peers condition in which individuals felt directly included by all the readers of their personal description. This may make a difference between the two included groups. In our case, the inclusion by peers may imply that individuals did not perceive the need to behave prosocially, as they feel fully accepted in a group due to their personality—their relational need is fulfilled. The fact that they will end up in the future with stable relationships in the future-belongingness inclusion condition does not imply an actual inclusion and an actual relational need fulfilled, and thus may imply that they behave somewhat prosocially than individuals that feel actually totally included. Consequently, the differences between excluded individuals in a future-alone exclusion condition and individuals in both inclusion conditions may diverge substantially—those in the future-belongingness inclusion condition being more prosocial than those in the inclusion-from-peers condition. Thus, this may explain why we did not find differences between the included and hopeless excluded individuals. Nonetheless, this is an area of inquiry to examine in future research by analyzing if those differences between the included from-peers, future-belonging, hopeless and hopeful excluded individuals remain.

The Effects of Inclusion and Exclusion Types on Affective States

We have also shown that exclusion not only affects PSB but also affective state. Excluded people show a more negative and less positive affective state. These findings are in accordance with the results of a meta-analysis conducted by Blackhart et al. (2009) and others (e.g., Romero-Canyas et al., 2010). Along the same lines, Leary and Leder (2009) claimed that most investigations have shown sadness, pain or anger to occur in exclusionary situations. In line with

those results, Blackhart, Eckel, and Tice (2007) have shown, using an experimental manipulation similar to that used in this study, that cortisol levels in saliva reflect a negative affective state which is significantly increased in the exclusion condition compared with the control condition. Moreover, the obtained results support the Twenge et al. (2003) theory that when excluded individuals have not interacted with their rejecters (as in our manipulation) they do not activate any defensive response to rejection, and in consequence they do not experience emotional numbness.

Nevertheless, our prediction about the higher psychological distress suffered by the hopeful excluded individuals compared to the hopeless excluded individuals was not supported. Hopeless excluded individuals reported the same levels of affective states after exclusion than hopeful excluded individuals. It seems that the fact that feeling rejected has an impact on affective states in a similar vein in individuals that are rejected by a group in the present and see some chance of reconnection and those who are rejected in the future and see exclusion as irremediable. However, we want to highlight that those results are different when we are looking at highly rejection-sensitive individuals and those who are not sensitive to social rejection. It seems that in highly rejection-sensitive individuals exclusion activates an emotional reaction: only when rejection cues are detected the emotional reaction is activated (Mendoza-Denton et al., 2001). In consequence, for highly rejection-sensitive individuals the prediction about higher levels of psychological distress when submerged in a hopeful excluded condition as compared to when they are submerged in a hopeless excluded condition is supported: highly sensitive individuals in a hopeless exclusion situation effectively suffered less psychological distress—less anger levels and more positive affect levels—than highly rejection-sensitive individuals in a hopeful exclusion situation. This may be due to the fact that exclusion experienced in the present and by the exclusionary activity

of others—the hopeful exclusion situation—activates in highly rejection-sensitive individuals a strong emotional response than exclusion experienced in the future (Twenge et al., 2003) and by no third parties—the hopeless exclusion condition.

Models of Prosocial Behavior across Inclusion, Hopeful Exclusion, and Hopeless Exclusion

In this study, some models' predictors of PSB have been confirmed. However, the variables predicting PSB were not identical across the three conditions.

Predictors of prosocial behavior in included individuals. In the condition of inclusion positive affect was an indirect predictor exerted through the positive effect it had on trust, which directly and positively predicted PSB. This means that trust mediates the link between positive affect and PSB. In accordance with prior findings (Dunn & Schweitzer, 2005; Jones & George, 1998), the more individuals experience positive affect, the more trust they place in others. And the more individuals trust their interpersonal relationships, the more likely they are to behave in a prosocial manner (Rotenberg et al., 2005). It therefore seems that the promotion of higher levels of positive affect and trust is relevant to the triggering of PSBs across included groups.

Rejection sensitivity was not found to exert any direct or indirect effect on affective states and PSB among included individuals. It therefore seems as though rejection sensitivity is only activated when individuals perceive exclusion cues (Mendoza-Denton et al., 2001; Romero-Canyas et al., 2010).

Rejection sensitivity in excluded individuals. Our results have shown that exclusion moderates the effect of rejection sensitivity on affective states in the sense that highly rejection-sensitive individuals present lower levels of positive affect and higher levels of anger when exclusion cues are detected. This means exclusion strengthens both the negative relationship between rejection sensitivity and positive affect and the positive relationship between rejection

sensitivity and anger. Nevertheless, this affirmation was valid only for excluded-from-peers' participants, and not for those attributed to the future-alone exclusion. This could be attributed to our manipulation. In this sense, note that anger is produced by the exclusionary activities of others; in future-alone exclusion scenarios, no third party has excluded the rejected individual—exclusion is processed internally by their own personality. Moreover, exclusion suffered at the present time might have a greater effect on affective states than would the thought of a future exclusion, in the same way that physical pain experienced in the moment has a greater effect on affective states than does pain projected in the future (Twenge et al., 2003). This may explain why exclusion activated stronger affective states in highly rejection-sensitive individuals only in the exclusion-from-peers condition and not in the future-alone exclusion condition.

Moreover, our results have shown, as predicted, that when exclusion is seen as irremediable without any possibility of reconnection, highly rejection-sensitive individuals are less prosocial. Thus, exclusion seems to strengthen the negative relationships between rejection sensitivity and PSB. Nevertheless, when highly rejection-sensitive individuals feel excluded but see the possibility of regaining acceptance, the reconnection desire acquires more importance and the negative relationship between rejection sensitivity and PSB is softened, and therefore individuals no longer tend to be less prosocial.

The results show that both exclusion conditions have in common rejection sensitivity and affective states as relevant variables in promoting PSB. Rejection sensitivity was a direct predictor in the future-alone exclusion condition, whereas in the exclusion-from-peers condition it was an indirect predictor owing to the negative effect it exerted on affective states. Those results are in accordance with the extant literature (Ayduk et al., 1999; Romero-Canyas et al., 2010), which verified that excluded people concerned with social rejection tend to display greater negative and

lesser positive affective states. We want, however, to highlight the fact that in the future-alone exclusion condition, the direct effect on PSB was negative; thus, the more rejection-sensitive the individuals were, the less prosocial they were. These results seem to contradict earlier findings (Purdie & Downey, 2000; Romero-Canyas et al., 2010), which asserted that when people very concerned with social rejection became aware of certain cues to exclusion, they tended to engage in more PSBs in an attempt to gain acceptance. There is no contradiction, however, as in the future-alone exclusion condition; individuals were given no possibility to reconnect and thus it would be pointless to try to behave prosocially in order to gain acceptance. Our results therefore suggest that individuals concerned with exclusion behave prosocially (Purdie & Downey, 2000; Romero-Canyas et al., 2010) only when they retain a chance to reconnect.

Positive affect, anger and trust as predictors of PSB in excluded individuals. In the hopeful excluded individuals, the predictor of PSB was a higher level of positive affect—in accordance with Bartlett and DeSteno (2006)—whereas among hopeless excluded individuals the predictor of PSB was a lower level of anger. This fits with the findings presented by Chow et al. (2008) and Romero-Canyas et al. (2010), in which those individuals who reacted to exclusion with anger were more willing to decrease their PSBs. Consequently, it seems relevant to promote higher levels of positive affect among hopeful excluded groups, whereas it would be better to promote lower levels of anger among hopeless excluded individuals.

Moreover, in the exclusion-from-peers condition this would mean that when people are excluded but have a chance of regaining acceptance, some predictors would be the same as those noted for the inclusion condition. Positive affect and trust remain predictors of PSB. As we predicted, trust mediates the link between positive affect and PSB among both included individuals and hopeful excluded individuals, but not among hopeless excluded individuals. The absence of a

mediation of trust in the future-alone condition can be explained as when individuals are excluded and do not see any chance of a future reconnection, the level of trust they have or do not have in the prosociability of others—and thus in the possibility that those others will reward them with a sense of belonging—does not matter, since the possibility of being accepted does not exist. Comparing the included versus the hopeful excluded group, we saw a change in the nature and direction of the mediation of trust between positive affect and PSB. For included individuals, the indirect effect was similar to that noted in previous studies (Dunn & Schweitzer, 2005; Rotenberg et al., 2005; Rusbult & Agnew, 2010)—the more an individual experiences positive affect, the more they trust their interpersonal relationships, and the more they trust the more prosocially they behave. In the hopeful exclusion group, however, our results show a partial mediation—positive affect directly predicts both higher levels of PSB and higher levels of trust that in turn predict lower levels of PSB. As we expected, trust had the opposite effect to that which it exerted on the inclusion condition—among hopeful excluded individuals, the more they trust in their relationships, the less prosocially they behave. Other researchers (De Dreu et al., 2010) have found that—at the group level, with a survival function and in an attempt to protect the in-group from the out-group threat—higher levels of in-trust are correlated with lower levels of out-group cooperation. At the individual level, we suggest instead that when excluded people trust in the prosociability of others, they probably think it will be easy to reconnect, and therefore it is not so important to behave in a prosocial manner. When they do not trust, they probably think that it would not be easy to reconnect and that in order to reconnect and to be rewarded with belongingness, they might make a greater effort and hence they are more likely to behave in a prosocial manner. Accordingly, we suggest that—in order to protect themselves and with a

survival function—in the face of lower levels of trust, excluded individuals show more PSBs to prove to others that they are valuable to the group and therefore regain acceptance.

Limitations

Although this study has implications with regard to the PSBs exhibited by included individuals and hopeful versus hopeless excluded individuals, it is necessary to highlight its limitations. Data were collected among a student sample comprised of a majority of women. Findings therefore must be carefully interpreted and may not be generalizable to the broader population. There is no reason to believe, however, that the findings of this study would differ by sex or exhibit differences in the student population compared to the general population.

Moreover, one of the biggest criticisms of the future-alone manipulation created by Twenge et al. (2001) is that being excluded is quite different from learning one will be alone in the future. Thus some criticisms may be leveled at our manipulation. Nevertheless, note that participants in the future-alone exclusion condition felt less rejected than excluded-from-peers individuals, but more rejected than participants in the control condition, demonstrating that the future-alone exclusion manipulation was successful.

Finally, it may be relevant to remark that the random distribution of participants implies an unbalanced sample size among the four groups. Nevertheless, we believe that the differences in the number of participants in each experimental group were not large enough to think that they may have affected the findings, especially if we consider that the four groups were homogeneous—significant differences were not shown between the different conditions in sex (χ^2 (3, 118) = 4.60, *ns*), age (F(3, 117) = 0.53, *ns*), affective states prior to manipulation, and rejection sensitivity prior to manipulation (F(3, 117) = 2.35, *ns*). However, in future studies it may be relevant to replicate these findings with a more balanced sample size.

Conclusion

We have shown that when a sense of belonging is threatened by exclusion, individuals tend to behave prosocially in order to regain acceptance—but only when exclusion is accompanied by an expectation of regaining acceptance. Moreover, different variables act as predictors of PSB depending on whether individuals are included, hopefully excluded, or hopelessly excluded. We have verified that excluded individuals display more negative affective states. In addition, we have shown that in order to trigger PSB it would be interesting to: (1) increase positive affect and trust in included groups; (2) increase positive affect in hopeful excluded individuals; and (3) decrease rejection sensitivity and anger in hopeless excluded individuals. We have also shown that when excluded individuals highly concerned with exclusion detect certain rejection cues they attempt to avoid exclusion by engaging in PSB, but only when the possibility of reconnection exists. Lastly, we have highlighted the role of trust in PSB display following an exclusion or inclusion situation—whereas the included individuals and the hopeful excluded individuals show a different direction in the mediational role of trust in the link between positive affect and PSB; among hopeless excluded individuals trust was not identified as a mediator.

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References

Ayduk, Ö., Downey, G., Testa, A., Yen, Y., & Shoda, Y. (1999). Does rejection elicit hostility in rejection sensitive women? *Social Cognition, 17,* 245-271.

Ayduk, Ö., Gyurak, A., & Luerssen, A. (2008). Individual differences in the rejection-aggression link in the hot sauce paradigm: The case of rejection sensitivity. *Journal of Experimental Social Psychology, 44*(3), 775-782.

Baker, F., Denniston, M., Zabora, J., Polland, A., & Dudley, W. (2002). A POMS short form for cancer patients: Psychometric and structural evaluation. *Psycho-Oncology, 11*(4), 273-281.

Bartlett, M. I., DeSteno, D. (2006). Gratitude and prosocial behavior. Helping when it costs you. *Psychological Sciences, 17*(4), 319-325.

Bastian, B., & Hasslam, N. (2010). Excluded from humanity: The dehumanizing effects of social ostracism. *Journal of Experimental Social Psychology, 46,* 107-113.

Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88*(4), 589-604.

Berigan, N., & Irwin, K. (2011). Culture, cooperation, and the general Welfare. *Social Psychology Quarterly, 74*(4), 341-360.

Bernstein, M. J., Sacco, D. F., Brown, C. M., Young, S. G., & Claypool, H. M. (2010). A preference for genuine smiles following social exclusion. *Journal of Experimental Social Psychology, 46,* 196-199.

Blackhart, G. C., Eckel, L. A., & Tice, D. M. (2007). Salivary cortisol in response to acute social rejection and acceptance by peers. *Biological Psychology, 75,* 267-276.

Blackhart, G. C., Nelson, B. C., Knowles, M. L., & Baumeister, R. F. (2009). Rejection elicits emotional reactions but neither causes immediate distress nor lowers self-esteem: a meta-analytic review of 192 studies on social exclusion. *Personality and Social Psychology Review, 13*(4), 269-309.

Buckley, K., Winkel, R., & Leary, M. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology, 40*(1), 14-28.

Byrne, B. M. (2009). *Structural equation modeling with Amos. Basic concepts, applications and programming*. New York: Routledge.

Chow, R. M., Tiedens, L. Z., & Govan, C. (2008). Excluded feelings: Emotional responses to social ostracism predict aggressive reactions. *Journal of Experimental Social Psychology, 44,* 896-903.

Coyne, S. M., Gundersen, N., Nelson, D., & Stockdale, L. (2011). Adolescents' Prosocial Responses to Ostracism: An Experimental Study. *Social Psychology, 151*(5), 657-661.

De Dreu, C. K. W., Greer, L. L., Handgraaf, M. J. J., Shalvi, S., Van Kleef, G. A., Baas, M. ... Feith, S. W. W. (2010). The neuropeptide oxytocin regulates parochial altruism in intergroup conflict among humans. *Science, 328*(5984), 1408-1411.

Derfler-Rozin, R., Pillutla, M., & Thau, S. (2010). Social reconnection revisited: The effects of social exclusion risk on reciprocity, trust, and general risk-taking. *Organizational Behavior and Human Decision Processes, 112*, 140-150.

Dickert, S., Sagara, N., & Slovic, P. (2011). Affective motivation to help others: A two-stage model of donation decision. Journal of Behavioral Decision Making, 24(4), 361-371.

Dunn, J. R., & Schweitzer, M. E. (2005). Feeling and believing: The influence of emotion on trust. Journal of Personality and Social Psychology, 88(5), 736-748.

Greenhalgh, L., & Chapman, D. I. (1998). Negotiator relationships: Construct measurement, and demonstration of their impact on the process and outcomes of negotiation. *Group Decision and Negotiation, 7,* 465-489.

Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. The Academy of Management Review, 23(3), 531-546.

Leach, C. W., Iyer, A., & Pedersen, A. (2006). Anger and guilt about in-group advantage explain the willingness for political action. *Personality and Social Psychology Bulletin, 32*, 1232-1245.

Lee, J., & Shrum, L. J. (2012). Conspicuous consumption versus charitable behavior in response to social exclusion: A differential needs explanation. *Journal of Consumer Research, 39,* 1-17.

Lerner, J. S., & Tiedens, L. Z. (2006). Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition. *Journal of Behavioral Decision Making, 19*(2), 115-137.

Little, T. D., Card, N. A., Bovaird, J. A., Preacher, K., & Crandall, C. S. (2007). Structural equation modeling of mediation and moderation with contextual factors. In T. D. Little, J. A. Bovaird, & N. A. Card (Eds.), *Modeling contextual effects in longitudinal studies*. Mahwah, NJ: Erlbaum.

Maner, J. K., DeWall, C. N., Baumeister, R. F., & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the 'porcupine problem'. *Journal of Personality and Social Psychology, 92*(1), 42-55.

Mead, N. L., Stillman, T. F., Vohs, K. D., Rawn, C. D., & Baumeister, R. L. (2010). Reconnection Through Consumption: Socially Excluded People Adapt Consumption Patterns to Foster Affiliation. In A. Duhachek & M. Meloy (ed.) *Advances in Consumer Psychology* (pp. 45-47), St. Petersburg, FL: Society for Consumer Psychology.

Mendoza-Denton, R., Ayduk, O., Mischel, W., Shoda, Y., & Testa, A. (2001). Person X situation interactionism in self-encoding (I am ... when ...): Implications for affect regulation and social information processing. *Journal of Personality and Social Psychology, 80*(4), 533-544.

Okun, M. A., Shepard, S. A., & Eisenberg, N. (2000). The relations of emotionality and regulation to dispositional empathy-related responding among volunteers-in-training. *Personality and Individual Differences, 28*(2), 367-382.

O'Malley, M. N., & Andrews, L. (1983). The effect of mood and incentives on helping: Are there some things money can't buy? *Motivation and Emotion, 7*(2), 179-189.

Pavey, L., Greitemeyer, T., & Sparks P. (2011). Highlighting relatedness promotes prosocial motives and behavior. *Personality and Social Psychology Bulletin, 37*(7), 905-917.

Purdie, V., & Downey, G. (2000). Rejection sensitivity and adolescent girls' vulnerability to relationship-centered difficulties. *Child Maltreatment, 5*, 338-349.

Romero-Canyas, R., Downey, G., Reddy, K. S., Rodríguez, S., Cavanaugh, T., & Pelayo, R. (2010). Paying to belong: When does rejection trigger ingratiation? *Journal of Personality and Social Psychology, 99*, 802-823.

Ronen, S., & Baldwin, M. W. (2010). Hypersensitivity to social rejection and perceived stress as mediators between attachment anxiety and future burnout: A prospective analysis. *Applied Psychology: An International Review, 59*(3), 380-403.

Room, R. (2005). Stigma, social inequality and alcohol and drug use. *Drug and Alcohol Review, 24*(2), 143-155

Rotenberg, K. J., Fox, C., Green, S., Ruderman, L., Slater, K., Stevens, K., & Carlo, G. (2005). Construction and validation of a children's interpersonal trust belief scale. *British Journal of Developmental Psychology, 23*, 271–292

Rusbult, C. E., & Agnew, C. R. (2010). Prosocial motivation and behavior in close relationships. In M. Mikulincer &. P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 327-345). Washington DC: American Psychological Association.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422-445.

Simpson, B., Irwin, K., & Lawrence, P. (2006). Does a "norm of self-interest" discourage prosocial behavior? Rationality and quid pro quo in charitable giving. *Social Psychology Quarterly, 69*(3), 296-306.

Smart Richman, L., & Leary, R. M. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review, 116*, 365-383.

Twenge, J. M., Baumeister, R. F., DeWall, N. C., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology, 92,* 56–66.

Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology, 81*(6), 1058-69.

Twenge, J. M., & Campbell, W. K. (2003). Isn't it fun to get the respect that we're going to deserve? Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin, 29,* 261-272.

Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2003). Social exclusion and the deconstructed state: Time perception, meaninglessness, lethargy, lack of emotion, and self-awareness. *Journal of Personality and Social Psychology, 85,* 409–423.

Vitaglione, G. D. & Barnett, M. A. ((2003). Assessing a new dimension of empathy: Empathic anger as a predictor of helping and punishing desires. *Motivation and Emotion, 27*(4), 301-325.

Vollhardt, J. R. (2009). Altruism born of suffering and prosocial behavior following adverse life events: A review and conceptualization. *Social Justice Research, 22*(1), 53-97.

Watson, D., Clark, L., & Tellegen, T. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology, 98*(2), 222-224.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology, 58* (January), 425-452.

Wang, L., Northcraft, G. B., & Van Kleef, G. A. (2012). Beyong negotiated outcomes: The hidden costs of anger expression in dyadic negotiation. O*rganizational Behavior and Human Decision Processes*, *119*(1), 54-63.