Go on without me: when underperforming group members prefer to leave their group

Doolaard, F.T.; Noordewier, M.K.; Lelieveld, G. -J.; Beest, I. van; Dijk, E. van

Journal of Experimental Social Psychology 95 (2021) 104158

Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

Go on without me: When underperforming group members prefer to leave their group☆

Frank T. Doolaard [a,*], Marret K. Noordewier [a], Gert-Jan Lelieveld [a], Ilja van Beest [b], Eric van Dijk [a]

[a] Institute of Psychology, Leiden University, the Netherlands
[b] Department of Social Psychology, Tilburg University, the Netherlands

ARTICLE INFO

Editor: Ernestine Gordijn

Keywords:
Social exclusion
Ostracism
Performance
Burden

ABSTRACT

While a considerable body of literature has shown that leaving one's group is a negative experience that people tend to avoid, the current research focuses on the idea that on some occasions, leaving one's group can come with positive consequences. Across four experimental studies, we demonstrate that people's reactions to staying in versus leaving their group are modulated by their performance. Studies 1 and 2 showed that performing considerably below (vs. at the same level as) one's group members, can be an aversive experience that people prefer to avoid, even when this means being excluded by their fellow group members. Exclusion harmed low-performers' and equal-performers' feelings and need fulfilment equally, but low-performers still considered exclusion relatively relieving and preferable. They also experienced inclusion in the group as less positive than equal-performers. Studies 3 and 4 showed that low-performing participants were also relatively likely to leave the group when they had the chance. Although this resulted in participants' separation from the group, this had positive effects for them, as it restored their fundamental needs and improved their feelings, relative to when they were still part of the group.

A large body of social, developmental, and cognitive psychological research has documented the detrimental experience and consequences of exclusion (e.g., Killen, Mulvey, & Hitti, 2013; Syrjamaki & Hietanen, 2019; Wesselmann & Williams, 2017). In the current research we complement this view by proposing that for people who perform well below their fellow group members, exclusion or leaving the group does not only negatively affect their feelings and need fulfilment – it additionally gives rise to feelings of relief, because it sets them free from the negative experience of underperforming in the group. Compared to group members who perform at the same level as their group, we propose that underperformers may benefit less from inclusion, and instead prefer exclusion. They may even be relatively likely to remove themselves from the group when they have the chance, which may come with improved need fulfilment and feelings, making it beneficial to end up apart from the group.

1. Performance and reactions to being excluded and leaving one's group

In social psychological research, the need to belong is considered one of the most important human needs (Baumeister & Leary, 1995): the need for people to seek interactions with others, form groups, and feel included. This need to be with others is so strong, that when people are socially excluded (i.e., neglected, rejected, or removed from a group in any situation, Wesselmann & Williams, 2017; Williams, 2009) they feel sad and angry (Williams & Nida, 2011), and their fundamental needs of belonging, control, self-esteem, and a meaningful existence are threatened (Williams, 2007). An evolutionarily ingrained aversion to end up apart from the group, is considered to be at the base of human's instinctive negative reaction to exclusion (Kerr & Levine, 2008; Spoor & Williams, 2007; Williams, 2009), which is neurologically similar to the experience of serious physical pain (Eisenberger, 2012; MacDonald & Leary, 2005). In this view, people are so averse to exclusion, that they should feel excluded regardless of the context (Carter-Sowell et al.,

☆ This paper has been recommended for acceptance by Ernestine Gordijn.

* Corresponding author at: Institute of Psychology, Leiden University, P.O. Box 9555, 2300 RB Leiden, the Netherlands.
E-mail address: f.t.doolaard@fsw.leidenuniv.nl (F.T. Doolaard).

https://doi.org/10.1016/j.jesp.2021.104158
Received 15 June 2020; Received in revised form 21 April 2021; Accepted 23 April 2021
Available online 13 May 2021

2010; Van Beest, Williams, & Van Dijk, 2011) – i.e., even when inclusion has negative elements (e.g., when it concerns inclusion in a despised group, Gonsalkorale & Williams, 2007) or when exclusion has positive elements (e.g., when it pays, Van Beest & Williams, 2006). While inclusion is thus considered a very positive experience, exclusion is characterized as a "social death penalty" (Wesselmann & Williams, 2017) that people are motivated to avoid at all times (Ouwerkerk, Kerr, Gallucci, & Van Lange, 2005).

Recently, research has begun to nuance this view a bit, by demonstrating that how negatively people experience exclusion can depend on the context. For instance, it was found that exclusion was less harmful when people considered it justified or fair that they were excluded (Tuscherer et al., 2016), but also when people anticipated exclusion to occur (Gerber & Wheeler, 2014), or when they considered it normative (e.g., not being spoken to in a library, Rudert & Greifeneder, 2016). Recent experiments thus show that the pain of exclusion can in fact be attenuated by situational factors (Hartgerink, Van Beest, Wicherts, & Williams, 2015). Similarly, recent research suggests that inclusion is not always equally desirable. For example, it has been demonstrated that people are less keen on becoming part of a group when their need to belong is already satisfied through other social interactions (Sacco & Bernstein, 2015). When they are included against their will, people can even respond aggressively to inclusion (Greenaway, Jetten, Ellemers, & Van Bunderen, 2015). So, a more nuanced view would regard exclusion as negative and inclusion as positive, but emphasize that the exact experiences depend on the situation.

We expand on this perspective by investigating a specific situation in which some people may not only experience inclusion as less positive, but where – despite its negative effects on people's feelings and need fulfilment – they may also experience ending up apart from their group as a relief: i.e., for people who underperform in the group. Moreover, we test if leaving the group may even improve underperformers' feelings and need fulfilment, relative to when they were still part of the group. In our studies we distinguish between two types of settings: A setting in which group members are socially excluded by their fellow group members, and a setting in which people voluntarily leave their group.

Group members often differ in how well they perform: For example, in demanding tasks at work or school, or in sports teams – there are always some group members that perform worse than others. The current research focuses specifically on how underperformance that directly impairs the group outcome (i.e., in a conjunctive task; Steiner, 1927), affects individuals in newly formed task groups, where performance is the main goal. Such groups that are formed for a specific task, are used for theory-building throughout the social exclusion literature (see Williams & Nida, 2011), and are not uncommon in real life (e.g., a student group formed to work on a joint project, a team put together for a pub quiz, a group of colleagues joining to work on a grant application). The theoretic contributions of this article thus foremost concern such task groups. A variety of research lends credence to the possibility that underperforming in such situations can indeed be a very negative experience. For example, research demonstrates that group members who perform poorly or slowly in a group task can be seen as burdensome by others (Wesselmann, Wirth, Pryor, Reeder, & Williams, 2013, 2015; Wirth, Bernstein, & Leroy, 2015) – and feeling that one is a burden to others in completing a task is a very distressing experience (Leroy, Lu, Zvolensky, Ramirez, & Fagundes, LeRoy, Lu, Zvolensky, Ramirez, & Fagundes, 2018). To underperform in a group could also make people feel guilty to their group (Baumeister, Stillwell, & Heatherton, 1994) – a very distressing feeling that people rather avoid (Cosmides & Tooby, 2013; Miceli & Castelfranchi, 2018; Wiltermuth & Cohen, 2014).

Because underperforming in a group is such a negative experience, we propose that individuals who perform worse than their group members may experience inclusion as less positive than individuals who perform at the same level as their group. While the signal that their group includes them may be positive for underperformers, inclusion also has the aversive consequence that the experience of being the underperformer in the group endures. This distressing experience may not only impact how good they feel while being part of the group, but may affect their four fundamental needs as well: Although the group chose to retain them, being the person who drags the group down can make it hard to truly feel equally accepted and like one belongs in the group. As long as underperformers are part of the group, they may also experience a reduced sense of control, as they experience an inability to exert influence on their performance, and obtain the required score. Moreover, inclusion confronts low-performers with the fact that they performing worse than their peers, which may reflect negatively on their self-esteem. Knowing that they are unable to contribute in this group with performance as a main goal, could furthermore leave low-performers feel without a purpose. So, while inclusion generally improves people's feelings and fulfils their fundamental needs, these positive effects may be attenuated for low-performers. Specifically, we predict that compared to group members who perform in line with the group, low-performing group members experience lower need fulfilment and less positive feelings after inclusion.

Regarding the negative effects of leaving one's group – whether voluntarily or involuntarily – differences between members who perform below vs. at the same level as their group may be less apparent: Both may experience threatened needs and negative feelings after leaving. However, we additionally address possible differences in *positive* evaluations. Specifically, low-performers may experience the positive emotion of relief after leaving, because it ends their negative experience of being burdensome in the group. We predict that low-performing group members consider leaving their group to be more relieving than group members who perform in line with the group, and also prefer it more as an outcome. Finally, the current research also tests if this preference for exclusion translates to behavior. We investigate whether low-performing (vs. equal-performing) group members are more likely to leave the group when they have the chance, and whether ending up apart from the group in this way may even come with improved need fulfilment and feelings, compared to when they were part of the group.

2. Study 1

As a first test of these ideas, the inclusion and exclusion experiences were assessed in a scenario-based experiment in which a group responded to individuals' performance, which was below vs. *equal* to that of their group members (from now on referred to as "equal-performers", or "equal-performing group members"). We predicted that low-performers (vs. equal-performers) would feel more distressed while they were part of the group. Also, low-performers would experience inclusion as less positive in terms of need fulfilment and feelings than equal-performers. Finally, we predicted that low-performers would consider exclusion to be more relieving and more preferable than equal-performers.

2.1. Method

2.1.1. Participants and design

In the absence of prior data to inform us on power and sample size, we aimed for 40 participants per cell, in correspondence with previous research (Doolaard, Lelieveld, Noordewier, van Beest, & van Dijk, 2020). Data of 161 British participants were collected through the online Prolific network (of which 109 female, 52 male, mean age 33.76, SD = 11.66). A sensitivity analysis (calculated in GPower 3.1; Faul, Erdfelder, Buchner, & Lang, 2009) indicated that with $\alpha = .05$, and a power of $\beta = .80$, a sample size of $N = 161$ provides sufficient power to detect main and interaction effects of $f = .22$, or $\eta_p^2 = .05$, in our 2 (social exclusion: exclusion vs. inclusion) × 2 (performance: low vs. equal) between-subjects design. In this and all following studies, we report the predetermined sample sizes, all data exclusions (if any), all manipulations, and all measures (see Simmons, Nelson, & Simonsohn, 2012). All

analyses were performed only after the data collection was finished.

2.1.2. Procedure and materials

After reading and signing the informed consent form, participants were presented with the scenario (see Supplemental Material). Participants read they joined a soccer team for a local competition, put together by a group of friends. In the low-performance condition participants read they were very bad at soccer, while their team was described as very experienced and competitive. At the training session their team members were annoyed that the participant was part of the team. In the equal-performance condition, participants read they were good at soccer, which would be in line with the performance of the experienced and competitive team. They read their team members were glad the participant was part of the team.

The scenario continued by describing the events at the first match after the training session. In the exclusion condition participants were part of the team, but did not receive the ball from their team members. In the inclusion condition participants often received the ball. The inclusion and exclusion conditions were modeled to resemble ostracism (i.e., being ignored and excluded, Wesselmann & Williams, 2017), as manipulated with the "Cyberball" paradigm (Williams, Cheung, & Choi, 2000). In Cyberball, participants play a digital game of catch with two others and either receive the ball often, or no longer receive the ball after the first two throws.

Then, participants' feelings after inclusion or exclusion were assessed on a 7-point scale (1 = *Not at all*, 7 = *Completely*). Participants indicated how relieved they would feel ("I would feel relieved" and "I would feel better off', α = .90), and how positive/negative they would feel ("I would feel…", "sad", "angry", "hurt", "happy", "elated", "cheerful", first three items reverse coded, α = .97, Van Beest & Williams, 2006). Participants then indicated to what extent they would regard exclusion as a preferable outcome ("I would prefer to be excluded during the games", 1 = *Do not agree*, 7 = *Agree*). On the same scale, participants' anticipated need fulfilment was assessed, by calculating the average of answers to 20 questions (α = .98; adapted from Van Beest & Williams, 2006), five measuring belonging (e.g., "I would have felt as one with the other players"), five measuring control (e.g., "I would have felt in control over the games"), five measuring self-esteem (e.g., "Playing the games would have made me feel insecure"), and five measuring meaningful existence (e.g., "I would think that my participation in the games was useful").

Then, participants were asked to report how distressed they would have felt on the first training. Note that participants thus had to consider how they felt before they were included or excluded during the match. Distress during this experience was measured with three questions (α = .94): "I would feel distressed", "I was burdensome to the other players", and "I would feel guilty towards the other players", 1 = *Do not agree*, 7 = *Agree*. Finally, participants indicated their age and gender and were thanked, debriefed, and paid for participation. The procedures of this and all following studies were approved by the ethics committee of the Leiden University Institute of Psychology.

2.2. Results

For all variables reported below, cell means, standard deviations, and the full ANOVA statistics including effect sizes and planned contrasts, are reported in Table 1.

2.2.1. Before inclusion or exclusion

After having read the scenario, participants were asked to think back to how they would have felt during the training (i.e., when participants had learned whether they underperformed or performed equal to the group, and the group's reaction, but had not yet been included or excluded from the team). With a 2 (social exclusion) × 2 (performance) ANOVA, we tested whether for low-performers the experience was more negative than for equal-performers.

2.2.1.1. Distress. As predicted, the main effect of performance on distress during the experience was significant ($p < .001$). Low-performing participants reported more distress ($M = 5.41$, $SD = 1.67$) than equal-performing participants ($M = 1.95$, $SD = 1.37$). Unexpectedly, the Social Exclusion × Performance interaction effect on distress was also significant ($p = .039$). This indicates that although participants answered questions about their feelings before inclusion/exclusion, they were influenced by knowing whether they would end up included/excluded. Low-performers in the exclusion condition felt more distressed than equal-performers, $F(1, 157) = 77.39$, $p < .001$, $d = 1.81$, but this difference was even more pronounced after inclusion, $F(1, 157) = 136.13$, $p < .001$, $d = 2.84$.

2.2.2. After inclusion or exclusion

2.2.2.1. Need fulfilment and feelings. We reasoned that after inclusion (receiving the ball often) low-performing participants may experience lower need fulfilment and positive emotions than equal-performing participants. We also expected low-performers to feel more relieved after exclusion (not receiving the ball) than equal-performers. A series of 2 (social exclusion) × 2 (performance) ANOVAs tested these hypotheses.

2.2.2.1.1. Need fulfilment. The social exclusion and performance main effects and the Social Exclusion × Performance interaction effect were all significant (all $ps < 0.001$). As predicted, low-performers reported lower need fulfilment after inclusion than equal-performers, $F(1,$

Table 1
Means and SDs of the dependent variables as a function of Social Exclusion (SE) × performance (PF), including ANOVA results and planned contrasts (Study 1).

	Inclusion		Exclusion			Statistics		
	Low performance	Equal performance	Low performance	Equal performance		$F(1,157)$	p	η_p^2
Distress	5.66^a (1.63)	1.70^b (1.11)	5.17^a (1.70)	2.20^b (1.58)	SE	0.00	.977	.00
					PF	209.62	<.001	.57
					SE × PF	4.34	.039	.03
Need fulfilment	4.41^a (1.20)	6.12^b (0.58)	1.85^c (0.78)	1.85^c (0.77)	SE	644.72	<.001	.80
					PF	40.11	<.001	.20
					SE × PF	40.35	<.001	.20
Positive feelings	5.17^a (1.36)	6.43^b (0.65)	2.10^c (1.01)	1.89^c (0.78)	SE	606.40	<.001	.79
					PF	11.63	.001	.07
					SE × PF	22.76	<.001	.13
Relief	5.13^a (1.17)	5.48^a (1.17)	2.73^b (1.84)	1.78^c (1.02)	SE	209.58	<.001	.57
					PF	2.03	.157	.01
					SE × PF	9.35	.003	.06
Exclusion preference	3.13^a (1.88)	1.33^b (0.75)	3.33^a (2.26)	2.17^c (1.73)	SE	3.55	.061	.02
					PF	29.12	<.001	.16
					SE × PF	1.39	.241	.01

Note. Within rows, means with different superscripts differ significantly ($ps < .05$ in planned contrasts analyses).

157) = 79.87, $p < .001$, $d = -1.81$. In the exclusion condition, low-performers reported similar low levels of need fulfilment as equal-performers, $F(1, 157) = 0.00$, $p = .989$, $d = 0.00$ (see Fig. 1a).

2.2.2.1.2. Positive feelings. The main and interaction effects were significant (all $ps \leq .001$). As predicted, simple contrasts indicated that low-performers reported less positive feelings after inclusion than equal-performers, $F(1, 157) = 33.22$, $p < .001$, $d = -1.18$. By contrast, low-performers reported equally low levels of positive feelings after exclusion as equal-performers, $F(1, 157) = 0.93$, $p = .336$, $d = 0.23$ (see Fig. 1b).

2.2.2.1.3. Relief. The main effect of social exclusion on relief was significant ($ps < .001$), while the main performance effect was not ($p = .157$). The Social Exclusion × Performance interaction was significant ($p = .003$). As predicted, low-performers reported more relief by exclusion than equal-performers, $F(1, 157) = 10.12$, $p = .002$, $d = 0.64$. Inclusion led to equal relief for low-performing and equal-performing participants, $F(1, 157) = 1.33$, $p = .251$, $d = -0.29$.

2.2.2.2. Exclusion preference. With a 2 (social exclusion) × 2 (performance) ANOVA we tested if indeed exclusion would be more preferred among low-performing vs. equal-performing participants. The main effect of social exclusion on exclusion preference was marginally significant ($p = .061$), while the main effect of performance was significant ($p < .001$), and the Social Exclusion × Performance interaction was not ($p = .241$). As predicted, low-performing participants reported a higher preference for being excluded ($M = 3.23$, $SD = 2.07$) than equal-performing participants ($M = 1.75$, $SD = 1.39$).

2.3. Discussion

Study 1 provided initial evidence that individual group members' performance in a group could impact how they experience inclusion and exclusion. First, participants indicated that being part of the group as a low-performer would be a relatively distressing experience. For low-performers, being included then would also result in lower levels of positive feelings,

and lower need fulfilment than for equal-performers. Exclusion would remain equally aversive in terms of feelings and need fulfilment, as for equal-performers. However, compared to equal-performers, low-performers would be more relieved after exclusion. Low-performers even reported they would experience a relative preference for being excluded. It thus appears that performance in the group could be an important moderating factor. Low-performers not only indicated they would feel inclusion to be less positive, but would also experience positive aspects of exclusion – as it became relatively relieving and preferable.

Still, it must be noted that relief after exclusion would be less high than relief after inclusion, and that the relative preference for exclusion would not make exclusion less harmful. Low-performing group members would feel equally negative (in terms of need fulfilment and feelings) after exclusion as equal-performing group members, and for both groups exclusion would be more negative than inclusion. That low performance could make inclusion less positive and even points to positive elements of exclusion then in no way refutes that generally feelings, need fulfilment, and relief are affected more negatively by exclusion than by inclusion.

That low-performers would benefit less from inclusion seems contrary to previous research that found no differences in inclusion and exclusion experiences as a result of prior performance (Carter-Sowell et al., 2010). However, in that research, participants' performance was manipulated in a different task than the task in which they were included or excluded by their peers. Study 1 shows that when their performance remains relevant for the group, inclusion is less positive for low-performers than for equal-performers.

The current study had a few limitations. First of all, because we wanted to maximize engagement in the minimalistic written scenario set-up, we manipulated the feeling of underperformance in the group not only by noting participants' performance (low vs. equal to the team), but also by describing how the group felt about the participant being part of the team (annoyed vs. glad). How the group may feel about a member's underperformance is a crucial social aspect of the experience of underperforming in a group, that we considered relevant to provide in the hypothetical scenario. However, by explicitly mentioning the group's reaction, we cannot rule out that the differences between low- and equal-performers relied on this described response (as opposed to, or in addition to participants' underperformance). In Study 2, we tested whether the results replicate in a situation in which the group's response is not provided. In this experimental lab study, participants can make their own spontaneous inference of how the group may feel about them, given their performance. By testing whether the findings replicate in a lab study, we also overcome the limitation that the current scenario study relied on people's ability to report how they would feel in a hypothetical situation.

Secondly, participants were asked to indicate the distress they would have experienced *before* being included or excluded from the group. However, these measures were assessed *after* participants had read whether they would end up included or excluded. Their response patterns indicated that participants' knowledge of their inclusion or exclusion affected how distressed they thought they would feel before knowing this. To eliminate this influence, in Study 2, distress was measured before participants were included or excluded.

Third, in this study participants in the equal performance condition read about their good performance in a group of "very experienced and competitive" team members. Although this served as a control condition in which participants' performance was equal to that of the other group members, stressing participants' good performance may instead have made them feel like they over-performed. In Studies 2 and 3, this ambiguity was avoided by providing exact feedback on both participants' and their team members' performance, as a score on a scale from 0 to 100.

Furthermore, the soccer scenario used in Study 1 modeled ostracism: Similar to the Cyberball paradigm (Williams et al., 2000), participants were neglected by not receiving the ball while they were playing the game. In this form of social exclusion, "ostracism", people are ignored by their peers – but exclusion can also occur through explicitly informing someone that they are unwanted (typically termed "rejection", Freedman, Williams, & Beer, 2016; Wesselmann & Williams, 2017). As an extension to Study 1, in Study 2 this latter form of social exclusion, rejection, was manipulated, so that participants were explicitly removed from the group and its activities by their peers. This also addresses a possible ambiguity of Study 1. There, participants may have reported their feelings and preferences about exclusion from the *activity* of playing soccer, but did not regard this as exclusion from the *group* of friends. In Study 2, this distinction between the group and the activity was minimized. As is the standard in social exclusion paradigms, groups were formed for an activity that participants performed together, which makes exclusion from the activity equivalent to exclusion from the group.

3. Study 2

Study 2 was an experimental lab study, in which participants' performance was manipulated to be either lower than, or equal to that of their group members. As in Study 1, we predicted that participants who performed lower than their group members would experience more distress than participants who performed equal to their group members. We also assessed the responses of low-performers and equal-performers to being included or excluded. We predicted that low-performers would experience lower need fulfilment and less positive feelings after inclusion than equal-performers. Although we anticipated participants across conditions to be impacted equally by exclusion in terms of feelings and

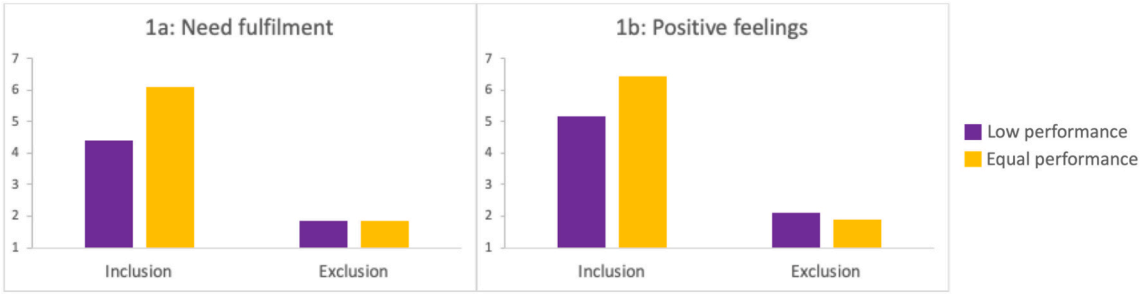

Fig. 1. Need fulfilment and positive feelings as a function of Social Exclusion × Performance (Study 1).

need fulfilment, we did predict that low-performing members would feel relatively relieved after being excluded, and would prefer exclusion more than equal-performing members.

In Study 1, we showed that underperforming (vs. equal-performing) group members expected to feel distressed while being part of the group. They expected to experience distress when their presence in the group hindered optimal group performance, and exclusion became more preferred and relieving. This suggests that low-performing group members are particularly concerned with the group and its performance, even when they are excluded from this group. To strengthen this claim, we tested whether, after exclusion, low-performers would like the excluding group more and care more about its performance than equal-performers.

3.1. Method

3.1.1. Participants and design

All hypotheses, measures, and analyses for this study were preregistered at the website of the Open Science Framework.[1] As preregistered, we implemented a stopping rule, to cease data collection when approximately 160 individuals had participated. Eventually, 162 participants took part in this study at the Leiden University lab. Five participants were excluded for having participated in research with a similar manipulation before,[2] leaving 157 participants (127 of which were female, 30 male, mean age 19.59, $SD = 2.25$). A sensitivity analysis indicated that with $\alpha = .05$ and $\beta = .80$, a sample size of $N = 157$ could detect an effect size of $f = .23$, or $\eta_p^2 = .05$, in the 2 (social exclusion: inclusion vs. exclusion) × 2 (performance: low vs. equal) between-subjects study.

3.1.2. Procedure and materials

In the lab, participants read and digitally signed the informed consent form. They were assigned to a group of three for a task in which they could earn money. Similar to other studies on exclusion, the responses of the two other "group members" actually were preprogrammed. In the task participants had to estimate as accurately and quickly as possible which of two pictures contained the most dots (based on the dot-estimation task, Gerard & Hoyt, 1974; used previously in a social exclusion context in Doolaard et al., 2020). All members achieved a score between zero and 100, allegedly based on their performance. As performance on this task is hard to estimate, we could manipulate participants' scores without raising suspicion. Participants first played a test round, but were informed that in the second round each team with an average team score of 70 or higher entered into a lottery. The three winning teams would receive a prize of €50 for each member in the team. After playing the test round, participants were told that all team members would see each other's individual scores, and the resulting average team score. Participants in the low performance condition learned that their team members achieved scores of 74 and 77, but that their own score was so low (24) that it lowered the average team score below 70 (to 58.3). They were reminded that in the second round this would be too little for the group to get a shot at winning one of the cash prizes.

In the equal performance (control) condition participants' score of 76 was approximately equal to that of their team members – together with their team members' scores (74 and 77) they achieved a score of 75.7. In the second round this would be enough for their group to enter the lottery. After receiving the scores for the test round, participants indicated their distress over the experience on five items ($\alpha = .94$) on a seven-point semantic differential scale ("In the group I feel…": *unpleasant - pleasant*", "*not at ease - at ease*", "*uncomfortable - comfortable*", adapted from Broekman, Koudenburg, Gordijn, Krans, & Postmes, 2019, and "I feel guilty towards the other players", and "I am a burden to the other players", 1 = *Absolutely not*, 7 = *Absolutely*).

Participants were told they would play the second round, in which an average team score of 70 points or more would be enough for their team to participate in the lottery. Before the second round commenced, participants could indicate for each of their two team members whether they wanted them in or out of the team. Crucially, in both conditions they were told that if two members both indicated they wanted a third member *out* of the team, this third member was excluded from the team. After indicating their decision and waiting for a few seconds, participants in the exclusion condition were informed that the two other players excluded them from the team, and would play the second round without them. In the inclusion condition, participants were informed that the constitution of the group remained the same, and that no one was excluded.

Then, participants in both conditions indicated their feelings ("I feel…": "sad", "angry", "hurt", "happy", "elated", "cheerful", $\alpha = .90$, 1 = *Absolutely not,* 7 = *Absolutely*, Van Beest & Williams, 2006), and need fulfilment on 7-point semantic differential scales (belonging: "*rejected - accepted*", self-esteem: "*devalued - valued*", control: "*powerless - powerful*", meaningful existence: "*invisible - recognized*", averaged into one need fulfilment score, $\alpha = .90$, Rudert & Greifeneder, 2016). Participants' evaluation of their team members was measured with two items ("I have a positive impression of the other two players", and reverse-coded: "I have a negative impression of the other two players", $\alpha = .92$), as well as their hope for the group's success ("I hope the other two players achieve a good score"). As a manipulation check we measured exclusion ("I have been excluded by my group members"). Participants were reminded of their group members' decision to exclude/include them, and relief was measured ("After this decision I felt relieved") as well as their preference to be excluded ("I wanted the other players to remove me from the group"). All these questions were answered on a 7-point scale, where 1 = *Absolutely not*, and 7 = *Absolutely*. For participants in the exclusion condition the experiment ended here.

[1] https://osf.io/5t6gu

[2] Whether these participants were included or excluded from the analyses did not change the statistical significance/non-significance of any of the results.

Participants in the inclusion condition played the second round, and achieved a score of 75.7. Subsequently, participants had the chance to write about anything they noticed during the experiment[3] and indicated whether or not they had participated before in a similar research. Finally, all participants were debriefed, thanked, and paid for participation. Later, the lottery was held among all participants, and three participants won €50.

3.2. Results

3.2.1. Before inclusion or exclusion

An independent *t*-test assessed differences in experienced distress between conditions, during the group task, before inclusion or exclusion.

3.2.1.1. Distress. As predicted, low-performers felt more distressed ($M = 5.01$, $SD = 1.12$) than equal-performers ($M = 1.98$, $SD = 0.85$), $t(155) = 19.49$, $p < .001$, $d = 3.12$.[4]

3.2.2. After inclusion or exclusion

For all variables reported below, cell means and standard deviations, as well as ANOVA results with effect sizes and planned contrasts, can be found in Table 2.

3.2.2.1. Exclusion manipulation check. A 2 (social exclusion) × 2 (performance) ANOVA was performed to check if exclusion was manipulated successfully. The main effects of social exclusion, performance, and the Social Exclusion × Performance interaction were all significant (*ps* < .004). As predicted, exclusion led to higher reported feelings of exclusion than inclusion, but the interaction effect showed that among equal-performers the difference between exclusion and inclusion was even more pronounced, $F(1, 153) = 215.92$, $p < .001$, $d = 3.60$, than among low-performers, $F(1, 153) = 93.21$, $p < .001$, $d = 1.98$.

3.2.2.2. Need fulfilment and feelings. Two 2 (social exclusion) × 2 (performance) ANOVAs assessed whether inclusion was less positive for low-performing participants than for equal-performing participants in terms of need fulfilment and positive feelings. We also expected low-performing group members to feel more relieved after exclusion than equal-performing group members.

3.2.2.2.1. Need fulfilment. The main effect of social exclusion on need fulfilment was significant ($p < .001$), the main effect of performance was not ($p = .954$). The predicted Social Exclusion × Performance interaction was only marginally significant, ($p = .074$). Overall, participants reported less need fulfilment after exclusion ($M = 2.95$, $SD = 0.91$) than after inclusion ($M = 5.08$, $SD = 1.13$). Contrary to the prediction, the marginal interaction effect shows that low-performers did not report lower levels of need fulfilment after inclusion than equal-performers, $F(1, 153) = 1.78$, $p = .184$, $d = -0.27$. Exclusion yielded no difference either, $F(1, 153) = 1.47$, $p = .228$, $d = 0.32$. But, more in line with the gist of our prediction, for low-performers the difference between inclusion and exclusion, $F(1, 153) = 64.30$, $p < .001$, $d = 2.11$, was smaller than for equal-performers, $F(1, 153) = 107.78$, $p < .001$, $d = 2.10$ (see Fig. 2a).

3.2.2.2.2. Positive feelings. The main effect of social exclusion was significant ($p < .001$), and the performance effect was not significant ($p = .187$). As predicted, the significant Social Exclusion × Performance interaction ($p = .001$) showed that after inclusion low-performers reported lower levels of positive feelings than equal-performers, $F(1, 153) = 11.70$, $p = .001$, $d = -1.01$. After exclusion, these differences were absent, $F(1, 153) = 2.16$, $p = .144$, $d = 0.28$ (see Fig. 2b).

3.2.2.2.3. Relief. The main and interaction effects were significant (all *ps* < .001). As predicted, simple contrasts demonstrated that low-performers felt more relief after exclusion than equal-performers, $F(1, 153) = 32.31$, $p < .001$, $d = 1.26$, while in the inclusion condition, this difference was not significant, $F(1, 153) = 1.29$, $p = .258$, $d = -0.26$.

3.2.2.3. Reflecting on inclusion or exclusion. A series of 2 (social exclusion) × 2 (performance) ANOVAs assessed whether low-performing participants had wanted to be excluded more than equal-performing participants. Finally, we predicted that excluded low-performers would reflect on the excluding group as less negative, and have higher hopes for the group to achieve a high score than excluded equal-performers.

3.2.2.3.1. Exclusion preference. The main social exclusion effect ($p = .298$), and the Social Exclusion × Performance interaction were not significant ($p = .833$), while the main effect of performance was ($p < .001$). As predicted, low-performing participants wanted to a larger extent that their teammates had excluded them ($M = 3.49$, $SD = 1.86$) than equal-performing participants ($M = 1.55$, $SD = 0.95$).

3.2.2.3.2. Liking of group members. The main and interaction effects were significant (all *ps* < .001). In line with the prediction, simple contrasts show that low-performers liked the group members that excluded them more than equal-performers, $F(1, 153) = 44.89$, $p < .001$, $d = 1.26$. In the inclusion condition there was no significant difference, $F(1, 153) = 0.04$, $p = .851$, $d = -0.06$.

3.2.2.3.3. Preferred outcome for group members. Analyses revealed a similar pattern regarding participants' hope for a good group outcome for the excluding group. Main effects and the interaction effect were significant (all *ps* < .001). As predicted, low-performers hoped more that the group that excluded them would receive a high outcome than equal-performers did, $F(1, 153) = 41.78$, $p < .001$, $d = 1.07$. Again, in the inclusion condition, this difference was not significant, $F(1, 153) = 0.03$, $p = .872$, $d = -0.09$.

3.3. Discussion

In line with results from Study 1, Study 2 showed clear differences in how low-performers and equal-performers experienced inclusion and exclusion. Low-performers initially felt more distressed while they were part of the group, and they were also less positive after being included. Although low-performers' and equal-performers' need fulfilment and feelings were impacted similarly by exclusion, low-performers did experience exclusion as more preferable, and even relieving. Perhaps, these positive elements of being excluded also explain why low-performers (vs. equal-performers) were less likely to consider their experience of being removed from the group to be exclusion (in the manipulation check). Together, Study 2 thus again demonstrated that although low performance did not make the experience of exclusion any less harmful in terms of feelings and need fulfilment, the experience of exclusion did have positive elements for low-performers. Additionally, excluded low-performers judged the group that just excluded them as more positive, and more strongly hoped that the excluding group would achieve a good outcome. This suggests that even after exclusion, concern for the group's performance remains high for low-performers.

Contrary to our predictions and the results of Study 1, inclusion did not result in lower need fulfilment for low-performing than for equal-performing group members. Possibly, that the group actively included low-performers despite their underperformance, to an extent compensated for the negative effects that underperforming in the group could otherwise have had on their need fulfilment. Still, the data of Study 2 did

[3] Four participants in Study 2, and ten participants in Study 3, doubted whether their scores on the dot estimation task/their group members were real. Excluding these participants from the analyses did not change the statistical significance/non-significance of any of the results.

[4] An exploratory 2 × 2 ANOVA verified that only the performance main effect was significant ($F(1, 153) = 379.11$, $p < .001$, $\eta_p^2 = .71$), the exclusion main effect ($F(1, 153) = 0.39$, $p = .531$, $\eta_p^2 = .00$), and the Social Exclusion × Performance effect ($F(1, 153) = 1.06$, $p = .304$, $\eta_p^2 = .01$) were not.

Table 2
Means and SDs of dependent variables as a function of Social Exclusion (SE) × Performance (PF), including ANOVA results and planned contrasts (Study 2).

	Inclusion		Exclusion		ANOVA Statistics			
	Low performance	Equal performance	Low performance	Equal performance		$F(1,153)$	p	η_p^2
Exclusion manipulation check	1.20^a (0.51)	1.03^a (0.16)	4.00^b (1.93)	5.38^c (1.71)	SE	297.61	<.001	.66
					PF	8.48	.004	.05
					SE × PF	13.93	<.001	.08
Need fulfilment	4.93^a (0.82)	5.24^a (1.38)	3.09^b (0.93)	2.80^b (0.88)	SE	169.70	<.001	.53
					PF	0.003	.954	.00
					SE × PF	3.23	.074	.02
Positive feelings	5.37^a (0.96)	6.15^b (0.53)	4.10^c (1.18)	3.76^c (1.30)	SE	125.23	<.001	.45
					PF	1.76	.187	.01
					SE × PF	11.80	.001	.07
Relief	5.20^a (1.69)	5.58^a (1.13)	4.15^b (1.90)	2.19^c (1.13)	SE	84.68	<.001	.36
					PF	10.85	.001	.07
					SE × PF	23.75	<.001	.13
Exclusion preference	3.34^a (1.91)	1.45^b (0.88)	3.64^a (1.83)	1.65^b (1.03)	SE	1.09	.298	.01
					PF	66.41	<.001	.30
					SE × PF	0.04	.833	.00
Liking of group members	6.28^a (0.97)	6.33^a (0.55)	4.63^b (1.28)	2.99^c (1.31)	SE	214.11	<.001	.58
					PF	21.93	<.001	.13
					SE × PF	24.44	<.001	.14
Preferred outcome for group members	6.78^a (0.57)	6.83^a (0.50)	6.51^a (0.85)	4.68^b (2.26)	SE	37.32	<.001	.20
					PF	20.53	<.001	.12
					SE × PF	22.62	<.001	.13

Note. Within rows, means with different superscripts differ significantly ($ps < 0.05$ in planned contrasts analyses).

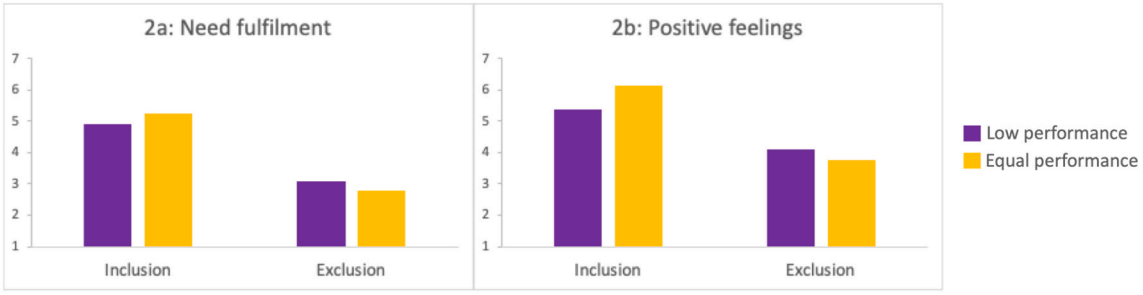

Fig. 2. Need fulfilment and positive feelings as a function of Social Exclusion × Performance (Study 2).

indicate that while need fulfilment was higher after inclusion than after exclusion, this difference was marginally less pronounced for low-performers than for equal-performers. This finding corresponds with the rationale that inclusion becomes less beneficial for low-performing group members. We conclude that inclusion is less positive for low-performing vs. equal-performing participants at least in terms of their feelings, and perhaps also in terms of their need fulfilment.

4. Study 3

Studies 1 and 2 showed that while exclusion impacted their needs and feelings, low-performers (vs. equal-performers) also experienced exclusion as relieving, and indicated a relative preference for being excluded. Importantly, this suggests that instead of understanding exclusion only as an undesirable state of ending up apart from the group, that people want to avoid at all times (Ouwerkerk et al., 2005; Wesselmann & Williams, 2017; Williams, 2009), people can prefer exclusion to some extent – and this preference varies as a function of how people perform in the group. This fits with the idea that negative social interactions, including episodes of exclusion, may increase the desire for individuals to be alone (Ren, Wesselmann, & Williams, 2016; Wesselmann, Williams, Ren, & Hales, 2014).

But does this mean that people may also voluntarily choose to leave the group in which they underperform? Study 3 tested this possibility. We predicted that the frequency with which people would leave voluntarily, and thus end up apart from the group, would be higher among low-performing participants than among equal-performing participants.

Additionally, we expected that leaving the group could even improve low-performers' need fulfilment and feelings compared to when they were still part of the group. Studies 1 and 2 indicated that relative to being included, being excluded by their peers reduced low-performers' feelings and need fulfilment. However, when compared to the "baseline inclusion experience" of being part of the group, leaving the group could possibly improve low-performers' feelings and need fulfilment. We have shown that this initial experience of being part of the group induced feelings of distress among low-performers. Perhaps, they would also experience less positive feelings and less need fulfilment while they were part of the group as underperformers, which could be improved by leaving the group. Leaving after all ends the negative experience of underperforming in the group. Because low-performers experienced exclusion as relatively relieving in Studies 1 and 2, we also predicted that low-performers who would choose to remain in the group (and thus would still experience considerable distress) would feel less relieved than those who would choose to leave the group.

4.1. Method

4.1.1. Participants and design

All hypotheses, measures, and analyses for this study were preregistered at OSF.[5] As preregistered, we aimed to collect data of at least 120

[5] https://osf.io/gecxz

participants, but continued data collection for the time assigned to us in the lab. Eventually, data of 130 participants were collected at the Leiden University lab. A total of 12 participants were excluded from the analyses for being exposed to a similar manipulation in prior research, leaving 118 participants (97 of which were female, 21 male, mean age 19.67, $SD = 2.09$). A sensitivity analysis indicated that with $\alpha = .05$, $\beta = .80$, and $N = 118$, an effect size of $\varphi = 0.26$ could be detected for the Chi-square test measuring the frequency of leaving one's group. The experiment was set up as a 2 × 2 mixed subjects design with low performance ($n = 60$) vs. equal performance ($n = 58$) as the between-subjects measure, and time (before vs. after the choice to leave/stay) as the within-subjects measure.

4.1.2. Procedure and materials

The procedure was largely similar to that of Study 2 and all variables were measured with the same items as in Study 2. Participants earned points in a dot estimation task, and were told that an average team score above 70 points in the second round entitled their team to participate in a lottery with three cash prizes of €50 for each team member. Participants received a low score (24), dropping the team average score below 70 (low performance condition) or a score of 76, approximately equal to that of their team members, establishing a team score of over 70 (equal performance control condition). After seeing their scores, participants indicated how distressed ($\alpha = .94$) they felt. They also indicated positive feelings ($\alpha = .88$) and need fulfilment ($\alpha = .88$) for the first time, and were given the choice to be or not be part of the group for the second round ("I do not want to be part of the group" vs. "I do want to be part of the group"). As not to confound the choice to leave the group with the advantage of being done early, participants were made to belief that if they left the group, they would have to perform an alternative task in the lab by themselves. Then, relief, and for the second time positive feelings ($\alpha = .87$), and need fulfilment ($\alpha = .90$) were measured. Finally, participants who chose to stay in the group played a second round of the dot estimation task, while for those who left the group, the experiment ended here. All participants indicated whether or not they had participated in an experiment with the same paradigm before, and had the chance to report anything they wanted to share about the experiment. Afterwards all participants were thanked, debriefed, and paid for participation. The lottery was held among all participants, three of which won €50.

4.2. Results

4.2.1. Before leaving or staying in the group

4.2.1.1. Distress. As predicted, an independent *t*-test demonstrates that low-performing participants felt more distressed ($M = 4.76$, $SD = 1.14$) than equal-performing participants ($M = 2.18$, $SD = 0.80$), $t(116) = 14.15$, $p < .001$, $d = 2.61$.

4.2.1.2. Leaving the group. As predicted, a Chi-square test indicated that low-performers chose to leave the group more often (43% of the cases) than equal-performers did (0% of the cases), $\chi^2(1, n = 118) = 32.24$, $p < .001$, $\varphi = 0.52$.

4.2.2. Before vs. after leaving or staying in the group

Repeated Measures ANOVAs were performed to assess how participants' feelings and need fulfilment changed from before the choice to leave/stay in the group (i.e., when they started out as part of the group) to after this choice (i.e., when they left or stayed in the group). First, differences over time were compared between low-performing and equal-performing group members, irrespective of their choice to leave/stay in the group. The full statistics for these analyses can be found in Table 3. Then, we tested the prediction that among low-performers who chose to leave the group, this improved their feelings and need fulfilment compared to before making this choice. The full statistics for these analyses can be found in Table 4. None of the equal-performers chose to leave the group, rendering a contrast between staying and leaving on any variable impossible for this group. Finally, an independent *t*-test was used to test the prediction that low-performers who left the group felt more relieved than those who stayed.

4.2.2.1. Need fulfilment. The same pattern was found for need fulfilment over time, between low-performers and equal-performers. The effects of time, performance, and the Time × Performance interaction effect were significant (all $ps \leq .006$). Contrasts indicated that low-performing group members felt higher need fulfilment after having made the choice to leave/stay in the group than before, $F(1, 116) = 18.90$, $p < .001$, $d = -0.58$. By contrast, equal- performing group members felt equally high need fulfilment before and after having made this choice, $F(1, 116) = 0.12$, $p = .734$, $d = -0.04$.

The results of the second Repeated Measures ANOVA, which focused only on low-performers, demonstrated a significant effect of time ($p < .001$), while the main effect of choice outcome and the Time × Choice Outcome interaction were not significant (all $ps \geq .468$). Need fulfilment thus improved for participants who left, but also for those who stayed in the group. Again, we had no predictions about the results of staying in the group. But, as predicted, participants had higher need fulfilment after choosing to leave the group than before having made this choice, $F(1, 58) = 8.97$, $p = .004$, $d = -0.58$ (see Fig. 3a).[6]

4.2.2.2. Positive feelings. The first Repeated Measures ANOVA included positive feelings over time (before vs. after making the choice to stay/leave) as the within-subjects factor, and performance (low vs. equal) as the between-subjects variable. The effect of time on positive feelings was significant, as were the main effect of performance and the Time × Performance interaction (all $ps \leq .001$). Contrasts indicated that low-performing group members felt better after having made the choice to leave/stay than before, $F(1, 116) = 25.29$, $p < .001$, $d = -0.44$. By contrast, equal-performing group members felt equally well before and after having made this choice, $F(1, 116) = 0.02$, $p = .898$, $d = -0.01$ (see Fig. 3b).

The second Repeated Measures ANOVA focused only on low-performers, and included positive feelings over time (before vs. after the choice to stay/leave) as the within-subjects factor, and choice outcome (leaving vs. staying in the group) as the between-subjects variable. The main effect of time on positive feelings was significant, ($p < .001$). The main effect of choice outcome and the Time × Choice Outcome interaction were not significant ($ps \geq .353$). Results indicate that people's positive feelings were higher after leaving and staying in the group. There were no predictions about the results of staying in the group, but the data fitted the preregistered prediction that leaving the group would increase low-performers' positive feelings, $F(1, 58) = 8.68$, $p = .005$, $d = -0.46$.

4.2.2.3. Relief. Among low-performing participants, an independent *t*-test indicated that participants who chose to leave the group felt marginally more relieved ($M = 4.62$, $SD = 1.70$) than participants who

[6] Exploratory cross-study analyses show that for low-performers the experience of being excluded by others (Study 2) is not characterized by lower need fulfilment ($M = 3.09$, $SD = 0.93$) or less positive feelings ($M = 4.10$, $SD = 1.18$) than the experience of being part of the group as an underperformer (Study 3, $M = 3.32$, $SD = 0.86$, $t(97) = -1.27$, $p = .209$, $d = -0.26$, and $M = 4.06$, $SD = 1.02$, $t(97) = 0.18$, $p = .858$, $d = 0.04$, respectively). Moreover, results indicate that for low-performers being excluded by others (Study 2) leads to lower need fulfilment ($M = 3.09$, $SD = 0.93$) than choosing to leave the group (Study 3, $M = 3.89$, $SD = 1.07$, $t(63) = -3.20$, $p = .002$, $d = -0.80$), but not to less positive feelings ($M = 4.10$, $SD = 1.18$, after being excluded in Study 2, vs. $M = 4.40$, $SD = 1.03$, after leaving in Study 3, $t(63) = -1.06$, $p = .295$, $d = -0.27$).

Table 3
Positive feelings and Need fulfilment as a function of Time (T) × performance (PF), including Repeated Measures ANOVA results and planned contrasts (Study 3).

	Before		After		ANOVA Statistics			
	Low performance	Equal performance	Low performance	Equal performance		$F(1,116)$	p	η_p^2
Positive feelings	4.06^a (1.02)	5.64^b (0.77)	4.51^c (1.02)	5.65^b (0.79)	T	13.08	<.001	.10
					PF	77.24	<.001	.40
					T × PF	11.80	.001	.09
Need fulfilment	3.32^a (0.86)	4.84^b (1.21)	3.86^c (1.01)	4.89^b (1.15)	T	10.83	.001	.09
					PF	52.93	<.001	.31
					T × PF	7.87	.006	.06

Note. Within rows, means with different superscripts differ significantly ($ps < .05$ in planned contrasts analyses).

Table 4
Experiences of low-performing group members as a function of Time (T) × Choice Outcome (CO), including Repeated Measures ANOVA results and planned contrasts (Study 3).

	Before		After		ANOVA Statistics			
	Staying in the group	Leaving the group	Staying in the group	Leaving the group		$F(1,58)$	p	η_p^2
Positive feelings	4.18^a (1.00)	3.92^a (1.04)	4.59^b (1.02)	4.40^b (1.03)	T	17.14	<.001	.23
					CO	0.88	.353	.02
					T × CO	0.09	.768	.00
Need fulfilment	3.39^a (0.92)	3.23^a (0.78)	3.83^b (0.98)	3.89^b (1.07)	T	14.29	<.001	.20
					SE	0.07	.796	.00
					T × SE	0.53	.468	.01

Note. Within rows, means with different superscripts differ significantly ($ps < .05$ in planned contrasts analyses).

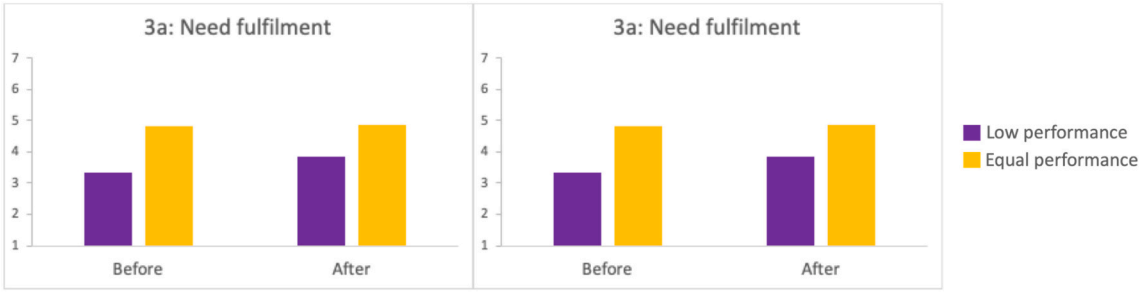

Fig. 3. Need fulfilment and positive feelings as a function of Time × Performance (Study 3).

chose to stay in the group ($M = 3.85$, $SD = 1.40$), $t(58) = 1.91$, $p = .061$, $d = 0.49$.

4.3. Discussion

Study 3 demonstrated that low-performers vs. equal-performers were relatively likely to choose to leave the group. Compared to equal-performing group members, low-performing group members felt distressed, and had less positive feelings and lower need fulfilment when they were initially part of the group. Notably, there was a main effect of the decision low-performing participants made, which indicated that any decision (staying as well as leaving the group) improved their feelings and need fulfilment. It is noteworthy that this main effect of improved need fulfilment and feelings in part was driven by participants who ended up apart from the group. Furthermore, our results indicated that participants who chose to leave the group were marginally more relieved than those who chose to remain in the group.

5. Study 4

Study 3 showed that when participants chose to leave the group, this improved their need fulfilment and feelings, relative to when they were still part of the group. However, people who chose to remain part of the group also felt better after making this choice. This leaves open the possibility that *being able to choose* drove the positive effects of leaving and staying in the group alike – for example because having agency over such a decision could be empowering (see Chua & Iyengar, 2006). In Study 4, we put this possibility to the test by making the outcome to leave or stay in the group either a voluntary one, or a random one (i.e., by chance). The setup was that participants first indicated whether they would prefer to stay or leave. Then, participants either learned that the outcome was made based on their preference, or by the computer. In the latter condition the computer then "selected" the outcome that matched the participants' preference (i.e., if they had indicated a preference to leave, they read that the computer determined they would leave; if they had indicated a preference to stay the computer determined they would stay).

First, we assessed experienced distress of underperforming, and explored whether distress would be different for those expressing a preference to leave their group than for those expressing a preference to stay. Since this distress measure was taken before participants learned that they could actually leave the group (by choice or by chance), we did not expect an effect of the procedure. We mainly expected that the group members preferring to leave would consider their underperformance as more distressing than the members indicating a preference to stay. Second, we tested our main hypothesis, that low-performing participants would experience improved feelings and need fulfilment after leaving the group compared to before. We predicted that this would occur regardless of whether participants would decide themselves about leaving the group, or whether this decision was made for them.

Furthermore, we again tested whether for low-performers, leaving the group would be more relieving than staying.

5.1. Method

5.1.1. Participants and design

All hypotheses, measures, and analyses for this study were preregistered at the OSF.[7] As preregistered, we aimed to collect data of 300 participants: If at least one in six participants chose the same preference (to leave/stay in the group), this would suffice to detect interaction effects of $\eta_p^2 = 0.05$ ($f = 0.23$) with a power of $\beta = .80$, at $\alpha = .05$, (repeated measures correlated at $r > .10$). In total, we gathered data of 299 participants at the online Prolific network; 39 of which were removed from the data set for not passing the attention checks. A sensitivity power analyses suggested that with the remaining $N = 260$ (185 female, 73 male, 2 "other"; mean age 33.51, $SD = 11.30$), and measures over time correlated at $r \geq .53$, this study could detect effects of $\eta_p^2 \geq 0.01$ ($f \geq .10$), with $\beta = .80$, at $\alpha = .05$. The experiment was set up as a Three-way Repeated Measures design, with decision (own choice vs. chance) and outcome (leaving vs. staying in the group) as the between-subjects factors, and time (pre vs. post decision) as the within-subjects factor.

5.1.2. Procedure and materials

The study was set up similar to that of Study 3, with a few differences. First, the equal-performance condition was removed, so all participants in this study underperformed at the dot-estimation task. Second, to strengthen the manipulation of underperformance for this online study, participants played two instead of one test-round of the dot-estimation game, and received low scores after both rounds, while their team members scored high. Also, the game explanation was extended, and attention checks were added to filter out participants who did not pay attention to the explanation of the dot-estimation game.

After receiving information about their poor performance, participants answered the same questions about distress ($\alpha = .91$), need fulfilment ($\alpha_{t1} = .79$), and positive feelings ($\alpha_{t1} = .83$), as in Study 3. The third change compared to Study 3, was the decision factor that was added to the design (the "own choice" vs. "chance" condition). Participants were first asked to indicate their preference for leaving or staying in the team for the final round ("I would prefer (not) to be part of the group that plays the final round"). In the "own choice" decision condition, participants' indicated preference determined whether they would leave or stay in the group. In the "chance" condition, participants were thanked for providing their preference, but told that regardless of this preference, the computer would determine randomly whether they would stay or leave the group. Unbeknownst to the participants, the computer always determined the outcome that was in line with participants' indicated preference, in order to keep that aspect constant across conditions. After answering the same question about relief as in Study 3, and questions about need fulfilment ($\alpha_{t2} = .88$) and positive feelings ($\alpha_{t2} = .88$) for a second time. In addition, a manipulation check of the decision condition was added. Participants read "I received information that..." and indicated the correct response "the computer determined whether I would remain part of the group or not", or "I decided myself whether I would remain part of the group or not". Then, participants were debriefed, thanked, and paid for their participation. The lottery was held among all participants, three won £50.

5.2. Results

First, a preregistered exploratory analysis tested whether participants who preferred to leave the group had felt more distressed while they were part of the group than participants who preferred to stay in the group. Then, we tested the most important hypothesis, that participants who left the group would feel better after leaving than before. We expected this to occur, regardless of whether participants made the choice to stay or leave themselves, or whether the computer determined this by chance. We also tested if participants who left the group felt more relieved than participants who stayed in the group.

5.2.1. Preference to leave or stay in the group

Before the main analyses, we first checked the distribution of participants who left vs. stayed in the group. A chi-square test indicated that 60% of the participants preferred to leave the group, and 40% preferred to remain – there were no differences in these percentages between participants who were assigned to either decision condition (own choice vs. chance), $\chi^2 = (1, N = 260) = 0.02$, $p = .900$, $\varphi = -0.01$.

5.2.1.1. Distress. An exploratory Two-way ANOVA was performed with decision (own choice vs. chance) and outcome (leaving vs. staying in the group) as factors, and participants' distress while they were initially part of the group as the dependent variable. This tested whether participants' distress while they were part of the group, was related to their later preference to leave or stay in the group (see Table 5). The significant main effect of Outcome supports our hypothesis that participants with a preference to leave felt more distressed than participants with a preference to stay in their group.

Unrelated to our hypothesis, the significant main effect of decision showed that participants in the "chance" condition had felt more distressed while they were part of the group, than participants in the "own choice" condition. The marginal Decision × Outcome interaction ($p = .069$), showed that this initial difference between the chance vs. own choice condition was observed among those who preferred to remain in the group, $F(1, 256) = 7.29$, $p = .007$, $d = -0.09$, but not among those who preferred to leave, $F(1, 256) = 0.17$, $p = .678$, $d = -0.57$. Because assignment to either decision condition happened randomly, and only after participants had indicated how distressed they felt, we regard these effects as a coincidental difference in prior distress between the decision conditions.[8]

5.2.1.2. Need fulfilment and positive feelings. Two Repeated Measures ANOVAs were performed, with time (pre vs. post the decision to leave/stay in the group) as the within-subjects factor, decision (own choice vs. chance) and outcome (leaving vs. staying in the group) as the between-subjects factors, one with need fulfilment and one with positive feelings as the dependent variable. We tested the hypothesis that leaving the group would improve participants' need fulfilment and feelings over time, regardless of whether they chose so themselves, or that a computer determined this by chance. The statistics of all main and interaction effects can be found in Table 6.

5.2.1.3. Need fulfilment. A significant Time × Outcome interaction supported that, as predicted, people's need fulfilment after leaving the group was higher ($M = 2.82$, $SD = 1.23$) than before ($M = 2.57$, $SD = 0.94$), $F(1, 256) = 8.04$, $p = .005$, $d = 0.19$. Additionally, participants had higher need fulfilment after staying in the group ($M = 3.99$, $SD = 1.24$), compared to before ($M = 2.96$, $SD = 1.31$), and this difference was even greater than among those who left, $F(1, 256) = 84.61$, $p < .001$, $d = 0.81$. The significant Decision × Outcome interaction demonstrated that among people who left the group, their need fulfilment remained unaffected of whether they decided to leave themselves, ($M = 2.65$, $SD = 1.96$) or that a computer randomly determined this ($M = 2.73$, $SD = 2.03$), $F(1, 256) = 0.23$, $p = .635$, $d = -0.04$. Among participants who stayed in the group, whether this decision was made by them, or at

[7] https://osf.io/vcs5x

[8] To control for the influence of the disbalance in distress between both decision conditions, all following analyses were also performed with distress included as a co-variate. These did not lead to different conclusions for any of our hypotheses than the results reported in the manuscript.

Table 5
Relief and distress as a function of decision (D) × outcome (O), including planned contrasts (Study 4).

	Staying in the group		Leaving the group		ANOVA Statistics			
	Own choice	Chance	Own Choice	Chance		F(1,116)	p	η_p^2
Distress	4.95[a] (0.86)	5.61[b] (1.40)	6.04[c] (1.07)	6.13[c] (0.92)	D	25.39	<.001	.09
					O	5.55	.019	.02
					D × O	3.35	.069	.01
Relief	4.00[a] (1.40)	4.14[a] (1.54)	4.38[a] (1.69)	5.21[b] (1.56)	D	13.36	<.001	.05
					O	5.99	.015	.02
					D × O	2.99	.085	.01

Note. Within rows, means with different superscripts differ significantly ($ps < .05$ in planned contrasts analyses).

Table 6
Main and interaction effects of the three-way repeated measures ANOVA with Time (T) as the within-subjects factor, and decision (D), and outcome (O) as between-subjects factors.

	Need fulfilment			Positive feelings		
	F(1,256)	p	η_p^2	F(1,256)	p	η_p^2
T	79.57	<.001	.24	126.01	<.001	.33
D	2.03	.155	.01	0.09	.769	.00
O	35.69	<.001	.12	17.07	<.001	.06
T × D	1.49	.224	.01	9.18	.003	.04
T × O	28.46	<.001	.10	1.80	.181	.01
D × O	4.11	.044	.02	2.87	.091	.01
T × D × O	1.36	.245	.01	1.78	.184	.01

random, did affect their need fulfilment ($M = 3.68$, $SD = 2.37$ vs. $M = 3.24$ $SD = 2.51$, respectively), $F(1, 256) = 4.96$, $p = .027$, $d = 0.18$ (see Figs. 4a/b).

5.2.1.4. Positive feelings. The Time × Outcome interaction was not significant. The Time × Decision interaction demonstrated that when participants decided for themselves, they felt better after leaving/staying in the group ($M = 3.77$ $SD = 1.30$) than before ($M = 3.17$ $SD = 1.23$), $F(1, 256) = 35.35$, $p < .001$, $d = 0.47$. When the computer determined whether they left or stayed in the team, the difference after ($M = 4.10$ $SD = 1.44$) vs. before ($M = 3.00$ $SD = 1.13$) was even more pronounced $F(1, 256) = 96.77$, $p < .001$, $d = 0.85$. To be complete, we further describe the marginally significant Decision × Outcome interaction, which indicated that when participants left the group, they felt marginally better when a computer randomly determined this ($M = 3.44$, $SD = 1.99$), than if they decided this themselves ($M = 3.12$, $SD = 1.99$), $F(1, 256) = 3.85$, $p = .051$, $d = 0.16$. For participants who stayed in the group, this difference was not close to significance ($M = 3.80$, $SD = 2.36$ vs. $M = 3.93$, $SD = 2.39$, respectively), $F(1, 256) = 0.48$, $p = .488$, $d = -0.05$ (see Figs. 4c/d).

5.2.1.5. Relief. A Two-way ANOVA with decision and outcome as factors, was performed to test whether participants who left the group felt more relieved than participants who stayed in the group (see Table 5). The fully significant main effect of outcome was in line with our hypothesis, but we report the higher order Decision × Outcome interaction effect with $p = .085$. This effect suggests that participants felt more relieved after leaving the group than after staying, $F(1, 256) = 13.81$, $p < .001$, $d = -0.51$. However, this was not the case when they decided this themselves $F(1, 256) = 1.95$, $p = .164$, $d = -0.10$. Our hypothesis that participants would feel more relieved after leaving the group than after staying, thus was only supported when participants did not make the choice to leave or stay themselves.

Fig. 4. Need fulfilment and positive feelings as a function of Time × Decision × Outcome (Study 4).

5.3. Discussion

The data support our hypotheses. First, an exploratory analysis indicated that people who preferred to leave the group had previously felt more distressed about being part of the group, than people who preferred to stay in the group. This suggests that participants' choice to leave the group was related to the higher distress they felt while they underperformed in the group. Moreover, for people who preferred to leave, leaving the group improved their need fulfilment and feelings, and this occurred both when they chose to leave, and when this decision was made for them. Although leaving the group clearly improved participants' need fulfilment and feelings compared to when they were part of the group, a notable share of participants (40%) also preferred to stay in the group. We did not specify hypotheses for this group, but the data suggest that, in line with results from Study 3, staying in the group also improved their feelings and need fulfilment. Overall, feelings and need fulfilment were even higher among participants who stayed than among participants who left the group. Our last hypothesis, that participants would feel more relieved after leaving the group than after staying, was supported in the case where the computer decided this for them, but not when low-performers decided this themselves.

Study 4 thus rules out the possibility that people only feel better after removing themselves from the group because being able to make this choice empowered them. In fact, we showed that when people left the group, they experienced equally improved need fulfilment when they made this choice themselves, as when the computer did. Moreover, the improvement in positive feelings and relief was even larger when the computer removed them from the group, than when participants decided this themselves.

6. General discussion

While theories on belonging and social exclusion generally highlight the negative consequences of exclusion, the current research draws attention to the fact that exclusion can nevertheless be a preferred outcome for some group members, and that ending up apart from the group can even be associated with positive consequences. For low-performers, being part of the group is characterized by considerable feelings of distress. Being included by their group members is also less positive for them than for equal-performers. Although being excluded by their peers does come with negative feelings and threatened need fulfilment, low-performers also experienced exclusion as relatively relieving and preferable. This article even demonstrated that while no equal-performing group members chose to leave the group, a substantial number of low-performers did choose to leave. Leaving the group improved low-performers' feelings and need fulfilment relative to when they were initially part of the group, regardless of whether leaving the group was their own choice or this outcome was determined randomly by a computer.

The finding that in Studies 3 and 4, between 40% and 57% of the underperforming group members preferred to remain part of the group, and that this choice also improved their feelings and need fulfilment, suggests that for underperformers, both leaving and staying in the group may have benefits – perhaps for different reasons, for different subgroups of people.[9] The findings of Study 4 suggested that especially participants who had felt more distressed while they were underperforming in the group, were more likely to choose to leave the group later on. Crucially, what these findings show is that, for some people, ending up apart from the group is preferable. When underperformers are excluded by others, they do not only feel negative, but also relatively relieved, and when underperformers have the chance, they choose to leave the group, which restores their feelings and need fulfilment. Our research shows that ending up apart from a group can also restore need fulfilment and feelings. The context then may not only be able to attenuate the negative impact of exclusion (Hartgerink et al., 2015), but could also make the impact of ending up apart from the group decidedly positive. This research thus shows how far the influence of the context can go in moderating this experience, and thereby stresses the importance of considering the context in which exclusion from a group occurs, to understand how people respond to it (see Rudert & Greifeneder, 2016).

Attending to possible positive outcomes of exclusion is not to deny that exclusion is generally hurtful, and typically more negative than inclusion. In line with previous findings (e.g., Williams, 2009), even group members who felt negative for underperforming experienced less relief, need fulfilment, and positive feelings after being excluded than after being actively included by their peers (Studies 1 and 2). Nevertheless, the outcomes of these comparisons may in part also be driven by the positive effects of being included by others (for a similar point, see Dvir, Kelly, & Williams, 2019; Simard & Dandeneau, 2018). Instead of comparing exclusion to actively being included by others, in Studies 3 and 4, ending up apart from the group was compared to the, arguably more neutral, baseline state of being part of the group. Results showed that ending up apart from the group by their own choice, or by chance, improved low-performing group members' state compared to their state while they were part of the group.

It is important to note, however, that leaving the group by one's own choice or by chance, as in Studies 3 and 4, may also be different than being removed from the group by one's peers (as in Studies 1 and 2). Voluntarily leaving the group may be less harmful than being excluded by others. Exploratory cross-study analyses on the data of Studies 2 and 3 (see footnote 6) did suggest that when people were excluded by their peers (Study 2), they reported lower need fulfilment than when they voluntarily chose to leave the group (Study 3), but no differences in positive feelings were found. Future research could look further into the possible differences in impact between choosing to leave the group and being excluded by one's peers. Possibly, the choice to leave the group could give people more control over the situation, and this sense of control can serve as a buffer against possible negative effects of leaving one's group (see Kay, Whitson, Gaucher, & Galinsky, 2009).

Interestingly, if exclusion by others is indeed more hurtful than choosing to leave the group, one of the motives that people may have to remove themselves from the group, could be to avoid the impact of being excluded by others. Furthermore, underperformers may choose to leave to improve their chances of being re-included in the group in future situations in which performance is less relevant: Groups may maintain a more favorable image of underperformers who did vs. did not sacrifice their state of inclusion to protect group performance, and hence be more likely to include them in the future. This may be especially relevant in situations where people perform different types of activities with the same group (and hence quitting the activity is not the same as quitting the group). In that context, it is important to repeat that the current research has looked specifically at how people respond to ending up apart from the group when they underperformed at a task that was focal to the group. For other groups (e.g., a group of friends, as opposed to a sports team) task-performance may be less important, and results may differ. However, just as group members' lack of skill can hold back a task-focused group, members could feel that they are holding back a social group from performing its core social activities for other reasons (e.g., their lack of money, dietary restrictions, or some physical disability). Future research can see if in such situations, being part of the group also leads to lower need fulfilment and feelings, and whether quitting the activity and/or the group may become preferable and beneficial.

Besides the performance element that was focal for the groups in our studies, another important aspect of the groups that were researched in

[9] An exploratory analysis (see Supplemental Material) on the distress item that measured guilt, suggested that participants who left (vs. stayed in the group) were participants with elevated levels of guilt while underperforming in the group.

this article, was that they were newly formed for the purpose of the task. This resembles those real-life examples in which people meet with their group for the first time, and have a clear performance goal. Such groups are the standard in experimental research on social exclusion (see e.g., Williams & Nida, 2011), and these groups are meaningful to people at least to the extent that exclusion consistently impairs their feelings and need fulfilment (Williams, 2007) – as was also the case in the current studies. It is interesting to consider whether the effects of underperforming that are documented in this study, would be similar for people who have a longer history with their group, and consider the group more important. On one hand, underperformers could be more unwilling to leave such important groups, and prefer inclusion regardless of their performance. On the other hand, underperforming could be experienced as more distressing, the more important people consider the group that they are holding back, which could make the option to leave more preferable and positive. Future research can establish exactly how underperformers may experience inclusion and exclusion from groups with which they share a longer history, that may be experienced as more important.

We have demonstrated that underperforming in a group evokes feelings of distress. That people experience distress helps to understand why inclusion feels less good, and ending up apart from the group becomes preferable and even beneficial. However, besides this personally aversive experience, more social motives may also contribute to these outcomes. That participants were concerned with the group's outcome, even after they were excluded (Study 2), indicates that minimizing their impact on the group may have been an important motive for them. This social motive may in part be driven by guilt, as the guilt that people experience when their actions negatively impact others, has often been described to serve as a drive for people to reduce or repair the harm they have done to others (Baumeister et al., 1994; Cosmides & Tooby, 2013; Miceli & Castelfranchi, 2018; Tangney, Stuewig, & Mashek, 2007). Future studies could look into the effect of guilt on the evaluation of ending up included or excluded from the group, and focus on distinguishing it from other possibly relevant emotions like shame, jealousy, and revenge.

It must be noted that besides the immediate distress and social motives, people may also be less positive about inclusion, and prefer exclusion when they underperform, because they can expect to earn less from being part of the group. Their low performance may not only reduce the total group outcome – but also their own share. In line with this, in Studies 2 through 4, low-performing participants had a lower expected outcome than equal-performing participants, as their underperformance lowered their group's chances of winning a cash prize. Still, low-performing participants preferred and chose to leave the group, although this further reduced their own chance of winning a cash prize to zero – indicating that participants did not only consider their personal economic outcome. Presumably, both the experience of negative feelings while part of the group, and social motives contributed to making it more preferable for low-performing group members to end up apart from the group, while their low expected outcome made the alternative of staying in the group less attractive. When, by contrast, individual outcomes of being part of a group become increasingly high, at some point these outcomes may start to outweigh the downside of distress that low-performers experience when they are part of a group.

In this research, we have shown that ending up apart from the group can be a preferable outcome for underperforming group members. This preference was demonstrated in a situation with a strong push-factor: people felt distressed for underperforming in the group. This idea that ending up apart from the group can be preferable, is a novel contribution to the social exclusion literature, but corresponds with literature on the positive effects of solitude. In that literature, freedom from social pressure has also been identified as one of the push-factors that motivates people to enjoy time alone (Long & Averill, 2003). This literature shows that solitude can also be experienced as positive because it promotes creativity, intimacy (i.e., an intimate connection to the self), and spirituality (Burger, 1995; Long & Averill, 2003). Future research can test if people may also seek to leave groups when they experience these or similar pull-factors.

This research contributes to a growing literature that stresses the importance of considering the context in which inclusion and exclusion occur, to understand fully how people experience it. Specifically, it demonstrates that people's performance in the group is an important factor that influences their experiences of inclusion and exclusion. Compared to equal-performing group members, low-performing group members feel distressed, inclusion becomes less positive, and exclusion, although still harmful, becomes more preferred. Moreover, underperformance can even motivate people to leave the group, and this can restore their need fulfilment and positive feelings. We conclude that the spectrum of experiences that people can have as a result of ending up apart from the group, is broader than the negative experiences typically considered in the literature.

Open practices

Preregistration for Study 2: https://osf.io/5t6gu
Preregistration for Study 3: https://osf.io/gecxz
Preregistration for Study 4: https://osf.io/vcs5x

Author note

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jesp.2021.104158.

References

Baumeister, R. F., & Leary, M. R. (1995). The need to belong – Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529. https://doi.org/10.1037/0033-2909.117.3.497.

Baumeister, R. F., Stillwell, A. M., & Heatherton, T. F. (1994). Guilt – An interpersonal approach. *Psychological Bulletin, 115*, 243–267. https://doi.org/10.1037/0033-2909.115.2.243.

Broekman, A. V., Koudenburg, N., Gordijn, E. H., Krans, K. L. S., & Postmes, T. (2019). The impact of art: Exploring the social-psychological pathways that connect audiences to live performances. *Journal of Personality and Social Psychology, 116*, 942–965. https://doi.org/10.1037/pspi0000159.

Burger, J. M. (1995). Individual differences in preferences for solitude. *Journal of Research in Personality, 29*, 85–108. https://doi.org/10.1006/jrpe.1995.1005.

Carter-Sowell, A. R., Wesselmann, E. D., Wirth, J. H., Law, A. T., Chen, Z., Kosasih, M. W., … Williams, K. D. (2010). Strides for belonging trump strides for superiority: Effects of being ostracized for being superior or inferior to the others. *The Journal of Individual Psychology, 66*, 68–92.

Chua, R. Y. J., & Iyengar, S. S. (2006). Empowerment through choice? A critical analysis of the effects of choice in organizations. *Research in Organizational Behavior, 27*, 41–79.

Cosmides, L., & Tooby, J. (2013). Evolutionary psychology: New perspectives on cognition and motivation. *Annual Review of Psychology, 64*, 201–229. https://doi.org/10.1146/annurev.psych.121208.131628.

Doolaard, F. T., Lelieveld, G. J., Noordewier, M. K., van Beest, I., & van Dijk, E. (2020). Get out or stay out: How the social exclusion process affects actors, but not targets. *Journal of Experimental Social Psychology, 88*. Article 103946.

Dvir, M., Kelly, J. R., & Williams, K. D. (2019). Is inclusion a valid control for ostracism? *Journal of Social Psychology, 159*, 106–111. https://doi.org/10.1080/00224545.2018.1460301.

Eisenberger, N. I. (2012). The pain of social disconnection: Examining the shared neural underpinnings of physical and social pain. *Nature Reviews Neuroscience, 13*, 421–434. https://doi.org/10.1038/nrn3231.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160.

Freedman, G., Williams, K. D., & Beer, J. S. (2016). Softening the blow of social exclusion: The responsive theory of social exclusion. *Frontiers in Psychology, 7*. https://doi.org/10.3389/fpsyg.2016.01570 (Article 1570).

Gerard, H. B., & Hoyt, M. F. (1974). Distinctiveness of social categorization and attitude toward ingroup members. *Journal of Personality and Social Psychology, 29*, 836–842. https://doi.org/10.1037/h0036204.

Gerber, J. P., & Wheeler, L. (2014). Clarifying the relationship between ostracism and relational devaluation. *Journal of Social Psychology, 154*, 14–27. https://doi.org/10.1080/00224545.2013.826619.

Gonsalkorale, K., & Williams, K. D. (2007). The KKK won't let me play: Ostracism even by a despised outgroup hurts. *European Journal of Social Psychology, 37*, 1176–1186.

Greenaway, K. H., Jetten, J., Ellemers, N., & Van Bunderen, L. (2015). The dark side of inclusion: Undesired acceptance increases aggression. *Group Processes & Intergroup Relations, 18*, 173–189. https://doi.org/10.1177/1368430214536063.

Hartgerink, C. H. J., Van Beest, I., Wicherts, J. M., & Williams, K. D. (2015). The ordinal effects of ostracism: A meta-analysis of 120 Cyberball studies. *PLoS One, 10*. https://doi.org/10.1371/journal.pone.0127002.

Kay, A. C., Whitson, J. A., Gaucher, D., & Galinsky, A. D. (2009). Compensatory control: Achieving order through the mind, our institutions, and the heavens. *Current Directions in Psychological Science, 18*, 264–268. https://doi.org/10.1111/j.1467-8721.2009.01649.x.

Kerr, N. L., & Levine, J. M. (2008). The detection of social exclusion: Evolution and beyond. *Group Dynamics: Theory, Research, and Practice, 12*, 39–52. https://doi.org/10.1037/1089-2699.12.1.39.

Killen, M., Mulvey, K. L., & Hitti, A. (2013). Social exclusion in childhood: A developmental intergroup perspective. *Child Development, 84*, 772–790. https://doi.org/10.1111/cdev.12012.

LeRoy, A. S., Lu, Q., Zvolensky, M. J., Ramirez, J., & Fagundes, C. P. (2018). Anxiety sensitivity moderates the painful effects of feeling burdensome to others. *Cognitive Behaviour Therapy, 47*, 126–138. https://doi.org/10.1080/16506073.2017.1357749.

Long, C. R., & Averill, J. R. (2003). Solitude: An exploration of benefits of being alone. *Journal for the Theory of Social Behaviour, 33*, 21–44. https://doi.org/10.1111/1468-5914.00204.

MacDonald, G., & Leary, M. R. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin, 131*, 202–223. https://doi.org/10.1037/0033-2909.131.2.202.

Miceli, M., & Castelfranchi, C. (2018). Reconsidering the differences between shame and guilt. *Europe's Journal of Psychology, 14*, 710–733. https://doi.org/10.5964/ejop.v14i3.1564.

Ouwerkerk, J. W., Kerr, N. L., Gallucci, M., & Van Lange, P. A. M. (2005). Avoiding the social death penalty: Ostracism and cooperation in social dilemmas. In K. Williams, J. Forgas, & W. Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 321–332). New York: Psychology Press. doi.org/10.4324/9780203942888.

Ren, D., Wesselmann, E., & Williams, K. D. (2016). Evidence for another response to ostracism: Solitude seeking. *Social Psychological and Personality Science, 7*, 204–212.

Rudert, S. C., & Greifeneder, R. (2016). When it's okay that I don't play: Social norms and the situated construal of social exclusion. *Personality and Social Psychology Bulletin, 42*, 955–969. https://doi.org/10.1177/0146167216649606.

Sacco, D. F., & Bernstein, M. J. (2015). Social inclusion leads individuals to devalue groups of perceived inferior quality. *Group Dynamics: Theory, Research, and Practice, 19*, 211–224. https://doi.org/10.1037/gdn000003520.

Simard, V., & Dandeneau, S. (2018). Revisiting the Cyberball inclusion condition: Fortifying fundamental needs by making participants the target of specific inclusion. *Journal of Experimental Social Psychology, 74*, 38–42. https://doi.org/10.1016/j.jesp.2017.08.002.

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). A 21 word solution. *Dialogue: The Official Newsletter of the Society for Personality and Social Psychology, 26*, 4–7. https://doi.org/10.2139/ssrn.2160588.

Spoor, J., & Williams, K. D. (2007). The evolution of an ostracism detection system. In J. P. Forgas, M. G. Haselton, & W. Von Hippel (Eds.), *Evolution and the social mind: Evolutionary psychology and social cognition* (pp. 279–292). Psychology Press.

Steiner, I. D. (1927). *Group process and productivity*. New York: Academic Press.

Syrjamaki, A. H., & Hietanen, J. K. (2019). The effects of social exclusion on processing of social information - A cognitive psychology perspective. *British Journal of Social Psychology, 58*, 730–748. https://doi.org/10.1111/bjso.12299.

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology, 58*, 345–372. https://doi.org/10.1146/annurev.psych.56.091103.070145.

Tuscherer, T., Sacco, D. F., Wirth, J. H., Claypool, H. M., Hugenberg, K., & Wesselmann, E. D. (2016). Responses to exclusion are moderated by its perceived fairness. *European Journal of Social Psychology, 46*, 280–293. https://doi.org/10.1002/ejsp.2152.

Van Beest, I., & Williams, K. D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology, 91*, 918–928. https://doi.org/10.1037/0022-3514.91.5.918.

Van Beest, I., Williams, K. D., & Van Dijk, E. (2011). Cyberbomb: Effects of being ostracized from a death game. *Group Processes & Intergroup Relations, 14*, 581–596.

Wesselmann, E. D., & Williams, K. D. (2017). Social life and social death: Inclusion, ostracism, and rejection in groups. *Group Processes & Intergroup Relations, 20*, 693–706. https://doi.org/10.1177/1368430217708861.

Wesselmann, E. D., Williams, K. D., Ren, D., & Hales, A. H. (2014). Ostracism and solitude. In R. J. Coplan, & J. C. Bowker (Eds.), *The handbook of solitude: Psychological perspectives on social isolation, social withdrawal, and being alone* (pp. 224–241) (Wiley-Blackwell).

Wesselmann, E. D., Wirth, J. H., Pryor, J. B., Reeder, G. D., & Williams, K. D. (2013). When do we ostracize? *Social Psychological and Personality Science, 4*, 108–115. https://doi.org/10.1177/1948550612443386.

Wesselmann, E. D., Wirth, J. H., Pryor, J. B., Reeder, G. D., & Williams, K. D. (2015). The role of burden and deviation in ostracizing others. *Journal of Social Psychology, 155*, 483–496. https://doi.org/10.1080/00224545.2015.1060935.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology, 58*, 425–452. https://doi.org/10.1146/annurev.psych.58.110405.085641.

Williams, K. D. (2009). Ostracism: A temporal need-threat model. *Advances in Experimental Social Psychology, 41*, 275–314. https://doi.org/10.1016/s0065-2601(08)00406-1.

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the internet. *Journal of Personality and Social Psychology, 79*, 748–762. https://doi.org/10.1037/0022-3514.79.5.748.

Williams, K. D., & Nida, S. A. (2011). Ostracism: Consequences and coping. *Current Directions in Psychological Science, 20*, 71–75. https://doi.org/10.1177/0963721411402480.

Wiltermuth, S. S., & Cohen, T. R. (2014). "I'd only let you down": Guilt proneness and the avoidance of harmful interdependence. *Journal of Personality and Social Psychology, 107*, 925–942. https://doi.org/10.1037/a0037523.

Wirth, J. H., Bernstein, M. J., & Leroy, A. S. (2015). Atimia: A new paradigm for investigating how individuals feel when ostracizing others. *Journal of Social Psychology, 155*, 497–514. https://doi.org/10.1080/00224545.2015.1060934.