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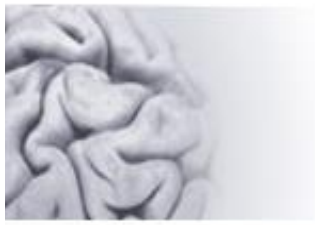

Ostracism in the dictator game: it threats fundamental needs and causes retaliation

Bystanders do not make a difference in the game

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Abstract Many studies have shown that victims in an ostracism situation experience the threat of four basic psychological needs by instance. In the current study, such negative consequence also occurs when victims are excluded from a monetary share in an economic game: the dictator game. They believe the blame is on the perpetrator but themselves for such exclusion. Moreover, the victim seeks retaliation to the perpetrator when they are given the chance to be the dictator themselves. The negative impact from the perpetrator does not get affected when there are bystanders in this situation, no matter if they try to speak up for the victim or stay silent. However, the retaliation by the victim is also targeted at those bystanders when they did not make an effort to help in the ostracism situation. After being a victim of ostracism in the dictator game, people restore their needs satisfaction by becoming a dictator and given the power over the previous perpetrator.

Key words: Ostracism Bystanders Dictator-game Retaliation Self-blame

Introduction

In life, many have encountered times when some decisions that concern them are made excluding their opinions by others unfairly. The victim in this situation, How would this affect them psychologically? Compared to an ostracism without bystanders, would the presence of others induce greater self-blame? How would the victims behave after such negative events? Retaliate or forgive? Who would they blame? Would they blame the perpetrator? The bystanders? Or themselves?

The answer to these questions is what this study was trying to explore: the psychological and behavioral consequences of the victim after experiencing

ostracism with the presence of bystanders.

Even though there are many studies about ostracism and bystanders, very few looked into both of them. One study shows that people are less likely to help after experiencing ostracism (van Bommel et al., 2016). In another study, teenage boys are more likely to exclude a victim of a bully with a passive bystander (Howard, Landau& Pryor, 2014). However, in these previous research, the relationship of ostracism and bystanders are either very implicit or causal. No research on how they can affect the victim as parallels is found. This study aimed to explore how ostracism and bystanders would effect the victim psychologically and behaviorally through economic games.

Bystander

Bystander effect refers that a bystander is less likely to offer help to a victim with the presence of others (Latané & Nida, 1981). People react differently as bystanders when negative events happen based on different scenarios. For example, women were more likely to offer help no matter they know the perpetrator or not, and men are more likely to help if they do not know the perpetrator (Bennett, Banyard & Edwards, 2015); people online have less intention to help a victim of cyber-bullying when the victim showing higher personal disclosure (Schacter, Greenberg & Juvonen, 2016). At the same time, a reversal of bystander effect can appear when increase bystanders' self-awareness (Van Bommel, Van Prooijen, Elffers, & Van Lange, 2012).

Even though many studies can be found for in what situations bystanders are

more likely not to intervene as well as reasons behind it, very little research is about what would such bystander effect affect the victim. In this study, a deeper exploration of such will be conducted.

Ostracism

Social ostracism is when someone is being ignored by others or the group (Williams, 1997). Ostracism threatens a person's four basic needs: need to belong, need for control, self-esteem and meaningful existence (Williams, 1997). Such effect is powerful and instant (Williams, 2009). No matter if such ostracism is done intentionally or unintentionally, by programmed computer or humans (Zadro et al., 2004), even some group one loathes (Gonsalkorale & Williams, 2007), or only due to technical issues (Eisenberger, Lieberman, & Williams, 2003), people experienced ostracism reported four needs mentioned above were threatened.

At the same time, ostracism in both online and offline interactions can increase negative moods, like sadness (Williams & Sommer, 1997; Williams, Cheung, & Choi, 2000). Moreover, after being ostracized, people can also show retaliation such as anti-social behavior like aggressive behavior (Twenge et al., 2001) as well as reduction of prosocial behavior (Twenge et al., 2007). They're also likely to undermine the ostracizers as a coping strategy (Bourgeois & Leary, 2001). However, there are also studies showing that social exclusion can lead to prosocial response for both new possible group for affiliation (Maner et al., 2007) and people who previously ostracized them (Will et al., 2015). And such different results can be explained by whether the ostracized individual is stably highly accepted in life or

chronically rejected but with higher cognitive control in their brain activity (Will et al., 2016).

Victim and self-blame

In short, ostracism affects basic needs (such as the need to belong), and behavior (such as being prosocial). There is, however, also evidence that the victims of the bystander effect will experience warped cognitions. Victims of events like rape, for instance, can have self-blame afterwards (Janoff-Bulman, 1979). Studies have found victims of negative events tend to overtake how much they are responsible (Ross & Ditecco, 1975). To what extent they blame themselves can have positive relationship with regarding coping for victims from serious accidents (Bulman & Wortman, 1977). However, many studies show that self-blame can be the cause of depression and maintains it (Hursch, 1977; Weis & Borges, 1973).

Such conflicting findings can be explained by the types of self-blame. There are two types of self-blame: behavioral self-blame where faults in one's actions and characterological self-blame where faults in one's character (Janoff-Bulman, 1979). The latter focuses on aspects of themselves that rendered them more deserving of being victimized. The latter leads to depression and helplessness.

In this study, during an economic game, when a person receives no money, what would they consider as the reasons?

Dictator game

In a regular dictator game, one dictator decides how to divide a certain amount of money between them and one recipient. The recipient can only accept the

amount of money the dictator gives (Engel, 2011). There are many variants of the dictator game. One of them is multiple dictators to one recipient. One study used such N-person dictator game for bystander effect, in which dictators give less money to recipients with more dictators and recipients get less money when there are more than one dictator (Panchanathan, Frankenhuis, & Silk, 2012). In the studies of ostracism, dictator game is used to test after ostracism, individuals will show retaliation or forgiveness (Will et al., 2016). However, in such studies, ostracism is manipulated by ball-toss game before the dictator game. No research has been found to test how would people react when being ostracized during the dictator game.

In current study, an N-person dictator game with one dictator and multiple recipients is designed, aiming to manipulate ostracism and bystander effect through dictator game and see how it effects the victim. Like discussed above, victims of ostracism can suffer from psychological consequences (Williams, 1997; Williams & Sommer, 1997; Williams, Cheung, & Choi, 2000), therefore recipients feeling ostracized from dictator games can experience such negative outcomes.

To manipulate ostracism, no share of the money in the dictator game was made for the players. There is a study showing that perceived unfairness for ostracism situation leads to more severe negative consequences, both emotional and behavioral (Twenge et al., 2001). Moreover, not getting any payoffs from a divide can lead to s sense of exclusion for those who fail to negotiate (De Dreu & Carnevale, 2003). Therefore, a chance to request redistribution were given to

recipients. But the dictator still had the final call for doing it or not. This was also designed to create bystanders with or without intervention. Compared with unfair game with merely one recipient, being treated unfairly as the only one recipient among multiple ones can make one feel even more excluded. However, if other recipients choose to intervene, even the amount of money for the victim stays the same in the end, negative consequences may be reduced. Self-blame and greater negative consequences can appear during the game when bystander choose not to intervene.

Hypotheses

In terms of psychological responses, when recipients treated unequally (excluded from a share of the money), there will be negative consequences including lower satisfaction of belonging, self-esteem, meaningful existence and control, which will be more salient with bystander effect and less salient if other recipients choose to intervene:

H1a: There will be negative psychological outcomes (for belonging, self-esteem, control and meaningful existence) in the N-person dictator game when recipients get no money.

H1b: Such negative outcomes are more salient when there are bystanders (the existence of other recipients who are divided with money).

H1c: Such negative outcomes are more salient when other recipients choose not to intervene than they do.

H1d: Being a dictator can restore four fundamental needs.

There will also be behavioral consequences, mostly being seen through the amount of money the players decide to give later on when they switch the role and play as a dictator. Retaliation is expected for those getting unfair share by not giving or giving less money than before as a dictator.

H2a: Compared to being a dictator in the game before getting unfair distribution, recipients will donate less money later on as a dictator in the follow-up.

H2b: Such retaliation is greater with bystander effect by giving even less money.

H2c: When bystanders intervene, such retaliation can be reduced or even diminish.

When interpret the attributions of unfairness in the game, recipients can experience certain levels of self-blame.

H3a: Recipients receiving unequal amount of money than other recipients in the N-person dictator game are more likely to experience characterological self-blame than those in the 1-person dictator game.

H3b: Recipients will experience less self-blame when other recipients choose to intervene than when they do not.

Methods

Participants and design

Students and working-status people (above age 18) were recruited to do this research online. They were asked if they have heard about the experiment from previous participants and to finish the whole experiment by themselves. They were

randomly assigned to one of the condition in a 2 (1 vs 3 recipients) x 2 (equal vs unequal distribution) +1 (3 recipients, unequal after intervention) between-subjects design. After the study, they got 5 Eros or school credits as compensation. After excluding participants with completion time duration under 5 minutes and gender ambiguity, together a data set of 181 participants from online were collected (92 males and 89 females, M age 27.85, D=10.55).

Procedure

Using Qualtrics, a mixed model of within and between subjects were designed (see Figure 1). Participants were told at the beginning of the study that they would be playing 4 rounds of dictator game with other 3 participants while in fact each participant finished the study without interacting with other players. The confiderents were referred as letter X, Z and W in the game. The participants were told to play as player Y. The game contained four rounds, 2 pre-games, the experiment game and the follow-up game. In each game, the dictator can choose the amount of chips to share with the recipient(s) in a total of 20 chips worth 4 Eros. Due to the limitation of the platforms and standards of Ethics Psychology Committee of the Institute of Psychology, Leiden University, participants were told that they will get a fixed amount of money or credits for this study. But they were requested to imagine the 20 chips as real money. Some studies have shown that people can still feel ostracized knowing the ostracizers are computer programs (Zadro, Williams & Richardson, 2004) or people they despite (Gonsalkorale & Williams, 2007).

Before starting the game, participants were asked to finish the brief Hexaco

Inventory (BHI, see appendix) in order to get to know other plays and were given 5 minutes to access the results for all 'players'. The BHI scores of W, X, Z, were designed to be positive (random numbers above 10 out of 20) to control participants not to blame others based on this test results later on in the game. After each round of the dictator game, participants were given a questionnaire asking them to rate the game on fairness and justness on a 1-5 likert scale and their four fundamental needs on a 1-7 likert scale, then give reasons for how they distributed money or interpreted reasons for the amount of money they received.

Pre-game. After reading instructions about dictator game, they played two rounds: 1. when the participant is the dictator to 3 recipients and 2. the participant is the recipient to 1 dictator. In game 1 (P1), they were notified that the recipients were given the opportunity to request redistribution the divide of money that the participant donated (if they donated any) but when recipients request to redistribute, the dictator still has the final call whether to or not. In Pre-game 2 (P2), the participant was appointed as the recipient in a 1-recipient dictator game against a random player among W, X, Z. The dictator shared 10 chips with them, as a 'fair' distribution.

There was a screen following the questionnaire informing them that the other participants were finishing their questionnaire before the next game. The order of P1 and P2 was counterbalanced.

Main game. The design of the main game is a 2 (1 vs 3 recipients) x 2 (equal vs unequal distribution) +1 (3 recipients, unequal after intervention) between-subjects design. In all groups participants were recipients. In the equal, 1 recipient condition

(E1), the game was the same as P2. The dictator gave the participant 10 chips. In equal, 3 recipients condition (E3), participants were one of the three recipients. The dictator gave each recipient 5 chips. Participants were asked if they wanted to request to redistribute the money. Even participants asked to redistribute, dictator would decline therefore the amount of chips for each recipient stayed the same. In the unequal, 1 recipient condition (U1), the game was the same as P2. But this time the dictator gave the participant no money. In unequal, 3 recipients condition (U3), the dictator Z gave the participant no money, but the other 2 recipients received 6 chips each. And later, when asked to the recipients if they chose to redistribute the money, the participant was told that other recipients chose not to redistribute and the dictator declined the request. In the +1 intervention condition(U3b), the condition stayed the same as U3b, only this time the other 2 players both requested to redistribute but the dictator still declined the request.

There was a screen following the questionnaire informing them that the other participants were finishing their questionnaire before the next game.

Follow-up game. In the follow-up game (F), the participant was assigned as the dictator to distribute 20 chips among themselves and the other 3 players.

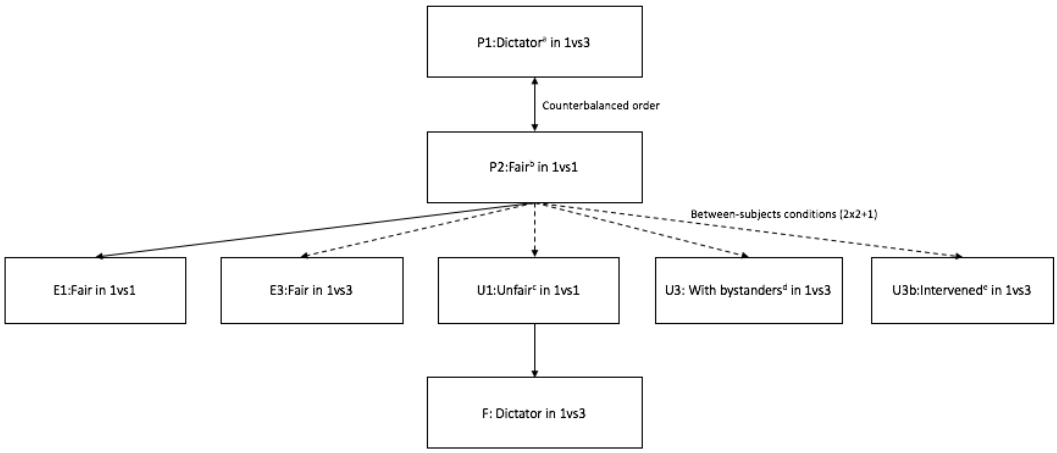

Figure 1. Procedure of the study. A mixed model of within and between subjects. a. Players as Y allocated 20 chips with themselves and other 3 confiderents. b. Players got an equally split allocation from one of the confiderents Z. c. Players did not get any share from Z. d. Other two confiderents as recipients got 6 chips while players did not get any share, and no other recipients requested a redistribution. e. Other two confiderents as recipients got 6 chips while players did not get any share, but another recipient requested a redistribution which dictator Z rejected.

Independent measures

Negative psychological outcomes. Four fundamental needs: a likert 7-point scale with 12 items will be used for belonging ($\alpha \geq .789$ for all 4 times of measure): 'I felt disconnected', 'I felt rejected', 'I felt like an outsider'; self-esteem ($\alpha \geq .825$ for all 4 times of measure): 'I felt good about myself', 'My self-esteem was high', 'I felt liked'; meaningful existence ($\alpha \geq .815$ for all 4 times of measure): 'I felt invisible', 'I felt meaningless', 'I felt non-existent'; control ($\alpha \geq .814$ for all 4 times of measure): 'I felt powerful', 'I felt I had control over the course of the interaction', 'I felt superior'. This scale is widely used for the influence of ostracism to a person's needs (Gonsalkorale & Williams, 2007, Wittenbaum, Shulman & Braz, 2010).

Fairness. Questionnaire asking them to rate the game on fairness and justified-ness on a likert scale (1-5) (α =.723).

Retaliation. Comparison of the money participants donate in the pre-game and follow-up game: less money in the follow-up game as retaliation.

Results

Manipulation check

Fairness manipulation. Conducting multivariate analysis in SPSS, participants in unfair groups rated the game as more unfair and unjustified (M fair = 4.60, SD = .56, M justifiedness = 4.28, SD = .92) than in fair groups (M fair = 1.26, SD = .58, M justifiedness = 1.53, SD =.88, $F(2,179) = 620.58$), $P < .001$, $\eta^2 = .87$). Thus, the perceived unfairness was very explicit for the unfair groups compared to the fair ones.

Ostracism manipulation by fairness. Conducting multivariate analysis with four fundamental needs as dependent variables, the score difference for the main game was significant between fair groups and unfair groups: fair groups showed higher levels of basic needs than unfair groups ($F(4,177) = 49.03$, $P < .001$, $\eta^2 = .53$). Within the four basic needs, every individual one also presented such consistent difference significant, as the levels of each need was higher in fair groups than unfair groups (See Table 1).

Ostracism manipulation by bystander. Another multivariate analysis was ran with four fundamental needs as dependent variables for groups with and without bystanders. Result showed that even though for levels of belonging, self-esteem, and control, the scores were higher when there were no bystanders, the score difference for the main game is not significant ($F(4, 177) = 1.49$), $P = .206$, $\eta^2 = .03$). ANOVA

test for each need also showed no significant difference for groups with and without bystanders (see Table 1). Therefore, recipients excluded from a fair share of the money showed lower levels of basic needs whether with or without the presence of other recipients.

Table 1. ANOVA tests with basic needs as dependent variable, Fairness and Bystanders as the factor separately

	M	SD	M	SD	df	F	Sig.	η^2
	Fair		Unfair					
Belonging	5.70	1.22	3.09	1.54	1	145.77	<.001	.45
Self-esteem	5.03	1.18	2.91	1.22	1	134.44	<.001	.43
Meaningful Existence	5.45	1.37	3.58	1.80	1	57.16	<.001	.24
Control	3.25	1.27	1.81	1.09	1	66.85	<.001	.27
	With bystanders		Without bystanders					
Belonging	4.02	1.93	4.30	1.93	1	.96	.33	.00
Self-esteem	3.57	1.55	4.03	1.64	1	3.61	.06	.02
Meaningful Existence	4.35	1.83	4.30	1.95	1	.03	.87	.00
Control	3.26	1.24	2.56	1.51	1	2.03	.16	.01

Scale range from 1 (the lowest satisfaction score) to 7 (the highest satisfaction score) for four needs

Negative psychological outcomes

Four basic needs were tested four times in the duration of the study (two times during pre-games, one in the main game and one in the follow-up game). For each need, a repeated measures ANOVA showed that the change of scores during the study was significant in general (see Table 2). Figure 2 shows how the levels of needs change in four rounds.

To test H1b (negative psychological outcomes are more salient when there are bystanders) in this unique design of a 2*2+1 between-subjects in the main game, a 4 (Game: P1, P2, Main game (M), F) × 2 (ostracism: fair and unfair) × 2 (Bystanders: with or without) mixed-model ANOVA with the first factor as a repeated within-subjects measure and latter two as between-subjects measures (model 1).

Table 2 Repeated Measures ANOVA for four needs among 4 rounds

	M				df	F	Sig.	η^2
	Pre-game 1	Pre-game 2	Main game	Follow-up game				
Belong	5.52 (1.30)	5.73 (1.05)	4.14 (1.92)	5.53 (1.41)	3	64.44	<.001	.28
Self-esteem	4.91 (1.34)	5.06 (1.05)	3.76 (1.60)	5.02 (1.38)	3	58.84	<.001	.25
Meaningful existence	5.49 (1.27)	5.40 (1.32)	4.33 (1.88)	5.59 (1.44)	3	47.11	<.001	.21
Control	4.89 (1.40)	2.94 (1.23)	2.39 (1.36)	5.01 (1.40)	3	229.91	<.001	.56
Error					543			

Greenhouse-Geisser epsilon >.75 in all four tests, Huynh-Feldt epsilon was used for F correction.

SDs for the means are within parentheses

Four needs were significantly different both within subjects and between subjects with fairness as the between-subject factor (see Table 3). However, the presence of bystanders did not have any significant impact on the scores nor significant interaction of Fairness and bystander to the scores of all four needs (see Table 3).

To test H1c (negative outcomes are more salient when other recipients choose not to intervene than they do), a 4 (Game: P1, P2, M, F) × 2 (intervention: presence or absence) mixed-model ANOVA with the first factor as a repeated within-subjects measure and latter one as between-subjects measure (Model 2). For all 4 needs, the action of bystanders did not have any significant impact on the scores.[1]

To understand how fairness contributed during the whole game, means for self-reported levels of needs in 2 samples split by fair or unfair distribution are compared at Table 4 and the trends are showed at Figure 3 and 4.

[1] The control variable is intervention (Sample with players without intervention in the main game) in model 1 and fairness and bystanders (Sample with players treated unfairly with bystanders in the main game) in model 2. In other words, model 1 only included players in the conditions of E1, E3, U1, U3 in the main game and model 2 only included players in the conditions of U3, U3b in the main game.

Table 3: Repeated Measures ANOVA for four needs with fairness and bystanders as between-subjects factors

		Source	df	F	Sig.	η^2
Belonging	Within-Subjects Effects[a]	Game	3	47.81	<.001	.51
		Game*Fairness	3	50.30	<.001	.52
		Game*Bystanders	3	.33	.807	.01
		Game*Fairness*Bystanders	3	1.53	.210	.03
	Between-Subjects Effects	Fairness	1	21.51	<.001	.13
		Bystanders	1	1.30	.257	.01
		Fairness*Bystanders	1	1.32	.252	.01
Self-esteem	Within-Subjects Effects[b]	Game	3	36.16	<.001	.20
		Game*Fairness	3	28.55	<.001	.17
		Game*Bystanders	3	2.20	.089	.02
		Game*Fairness*Bystanders	3	.57	.634	<.01
	Between-Subjects Effects	Fairness	1	21.95	<.001	.96
		Bystanders	1	.15	.703	<.01
		Fairness*Bystanders	1	.83	.365	.01
Meaningful existence	Within-Subjects Effects[c]	Game	3	38.44	<.001	.21
		Game*Fairness	3	44.61	<.001	.24
		Game*Bystanders	3	1.65	.182	.01
		Game*Fairness*Bystanders	3	.363	.761	<.01
	Between-Subjects Effects	Fairness	1	5.88	.017	.04
		Bystanders	1	2.14	.146	.02
		Fairness*Bystanders	1	.14	.711	<.01
Control	Within-Subjects Effects[d]	Game	3	169.79	<.001	.55
		Game*Fairness	3	11.04	<.001	.07
		Game*Bystanders	3	.70	.502	.01
		Game*Fairness*Bystanders	3	.38	.683	<.01
	Between-Subjects Effects	Fairness	1	.557	.007	<.01
		Bystanders	1	1.014	.664	.05
		Fairness*Bystanders	1	.546	.135	.02

a. P of mauchly's test>.05, Pilai's trace was used for F correction

b. P of mauchly's test<.05, Greenhouse-Geisser epsilon >.75 (.94), a Huynh-Feldt epsilon is used for F correction

c. P of mauchly's test<.05 Greenhouse-Geisser epsilon >.75 (.88), a Huynh-Feldt epsilon is used for F correction

d. P of mauchly's test=<.05 Greenhouse-Geisser epsilon <.75 (.67), a Greenhouse-Geisser epsilon is used for F correction

For the needs of belonging, self-esteem and meaningful existence, fairness had influenced the scores significantly: scores of players in the two fair groups remained

stable[2], while scores of players in the three unfair groups showed significantly lower scores in the main game compared to the pre-games and follow-up game in spite of with bystanders or not[3].

Table 4 Means and SDs (within parentheses) of scores of four needs in 2 samples for 4 rounds of the game

	Fair distribution(N=73)				Unfair distribution (N=108)			
	Pre-game 1	Pre-game 2	Main game	Follow-up game	Pre-game 1	Pre-game 2	Main game	Follow-up game
Belong	5.43 (1.26)	5.77 (1.05)	5.70 (1.23)	5.64 (1.33)	5.57 (1.32)	5.70 (106)	3.01 (1.55)	5.46 (1.47)
Self-esteem	5.02 (1.39)	5.20 (1.14)	5.03 (1.18)	5.20 (1.37)	4.84 (1.31)	4.97 (.98)	2.91 (1.23)	4.90 (1.39)
Meaningful existence	5.23 (1.30)	5.37 (1.33)	5.45 (1.37)	5.50 (1.43)	5.65 (1.23)	5.41 (1.23)	3.58 (1.80)	5.65 (1.46)
Control	5.00 (1.44)	3.05 (1.34)	3.25 (1.27)	5.02 (1.38)	4.82 (1.37)	2.87 (1.15)	1.81 (1.09)	5.01 (1.42)

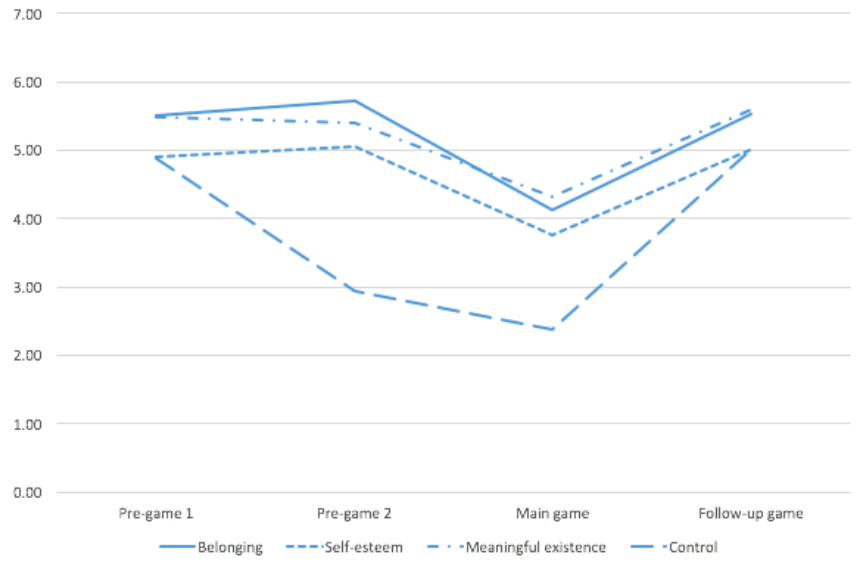

Figure 2: Means of four needs during four rounds of the game (N=181)

[2] Pairwise comparisons were run in Group E1 and E3 within subjects for Belonging, Self-esteem and Meaningful existence: no Bonferroni multiple comparison was significant (P> .05 in all).

[3] Pairwise comparisons were run in Group U1, U3 and U3b within subjects for Belonging, Self-esteem and Meaningful existence: no Bonferroni multiple comparison for the 3 needs in Pre game 1, Pre game 2 and follow-up games was significant (P> .05 in all) and all Bonferroni multiple comparison for the 3 needs between the main games and the other three rounds were significant (P<.001 in all).

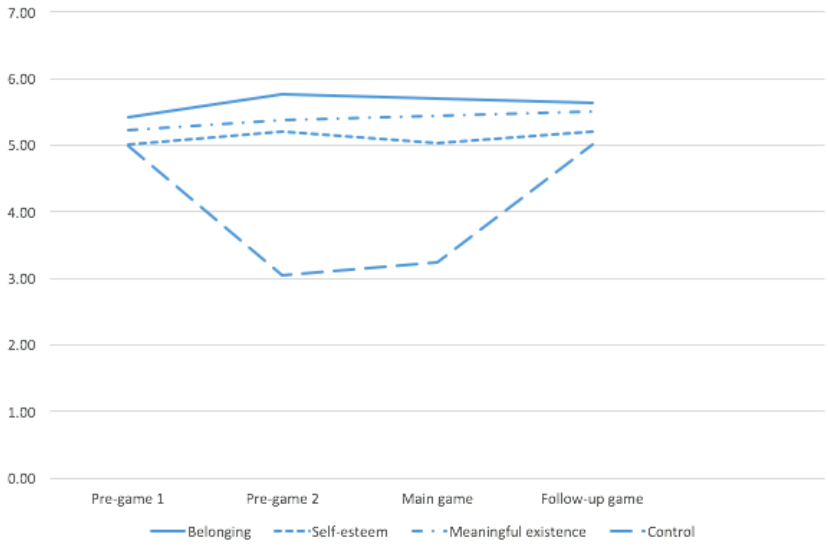

Figure 2: Means of four needs during four rounds of the game for players in fair conditions in the main game (N=73)

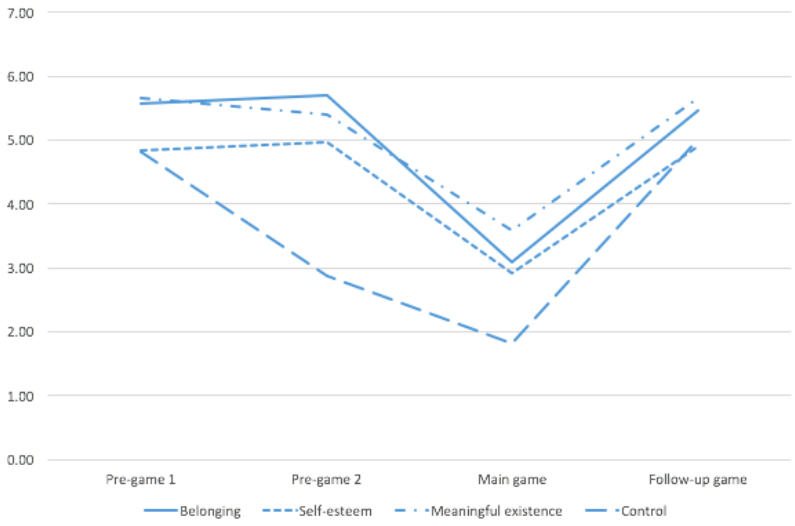

Figure 2: Means of four needs during four rounds of the game for players in unfair conditions in the main game (N=108)

For the levels of control, both pre-game 2 and the main game had lower scores, indicating that being a recipient lower one's sense of control compared to

being a dictator[4]. For all four needs, even though the levels of needs were lower in the main game than pre-games after unfair contribution, being a dictator afterwards made such levels maintained as the same as pre-game[5].

Retaliation

A repeated measures ANOVA with the divided chips for players themselves (Y) in the round of P1 and F was run. Greenhouse-Geisser epsilon >.75 (1.00), a Huynh-Feldt epsilon is used for F correction in this analysis, (M P1=6.33 SD=3.30, M F=7.0, SD=.4.54, F (1, 180) =4.94, p=.027, η^2=.03), indicating that for the whole sample with 181 participants, they gave themselves more money in the follow-up game than in the Pre-game. Split the sample by the 5 conditions in the main game (E1, E3, U1, U3, U3b) and ran the same ANOVA, such significant result can only be found in condition U3 (N=35, M P1=6.03 SD=3.10, M F=7.89, SD=5.14, F (1, 34) =4.42, p=.043, η^2=.12).

Such repeated measures ANOVA with the chips given to Player Z (Dictator in the main game) in P1 and F was also run. Result showed that for the whole sample, players gave less money to Z in F than in P1 (N=181 M P1=4.52 SD=1.20, M F=3.96 SD=1.90, F (1, 179) =18.12, p<.001, η^2=.09). Differently from money given to themselves, among the split samples, donation to Z in samples with U1 (N=35 M P1=4.35 SD=1.46, M F=3.68, SD=.2.00, F (1, 35) =4.67, p=.037, η^2=.12), U3 (N=35

[4] Pairwise comparisons were run in all groups (E1, E3, U1, U3 and U3b) for Control: all Bonferroni multiple comparisons were significant between Pre game 2/ the main game (players being recipients) and Pre game 1/follow-up game (players being dictators) (P<.001 in all).

[5] Pairwise comparisons were run in all groups (E1, E3, U1, U3 and U3b) for 4 needs between Pre game 1 and follow-up game within subjects (players being dictators), no Bonferroni multiple comparison was significant (P> .05 in all).

M P1=4.74 SD=1.04, M F=3.66, SD=.2.07, F (1, 34) =9.43, p=.004, η^2=.22). and U3b (N=36 M P1=4.56 SD=1.00, M F=3.47, SD=2.14, F (1, 35) =11.85, p=.002, η^2=.25) conditions was significantly less in F compared to in P1.

This means that retaliation to the dictator appeared as long as the dictator split the money unequally to Y (the player) than others (ostracism manipulation). Retaliation also happened to the bystanders when they chose to not intervene during unfair situation (ostracism manipulation), but when bystanders tried to intervene, even though such attempt failed, the retaliation to bystanders from Y diminished and would only target at the dictator.

Table 2. Repeated measures ANOVA tests with money gave to Y and Z in different rounds of the game [a]

	Pre-game 1		Follow-up game						
	M	SD	M	SD	N	df	F	Sig.	η^2
Donation to Y	6.33	3.30	7.00	4.54	181	1	4.94	.027	.03
Donation to Y_{U3}[b]	6.03	3.10	7.89	5.14	35	1	4.42	.043	.12
Donation to Z	4.52	1.20	3.96	1.90	181	1	18.12	<.001	.09
Donation to Z_{U3}	4.74	1.04	3.66	2.07	35	1	9.43	.004	.22
Donation to Z_{U3b}[c]	4.56	1.00	3.47	2.14	36	1	11.85	.002	.25

a. Players were asked to imagine 20 chips worth 5 Eros and measure here for money is the number of chips given to Y and Z

b. Test was run in the sample with players with condition U3 in the main game

c. Test was run in the sample with players with condition U3b in the main game

Self-blame

Players were asked after the main game to interpreted the reasons why the dictator distributed the money the way it was. Only 4 players in unfair conditions expressed self-blame, 2 of them showed behavioral self-blame where they believed the dictator retaliated for their own unfair distribution in P1 (they (Z) did it because I didn't give them any money earlier), and the other 2 showed characterological self-

blame (They (Z) didn't like my features). Among four players, only one female with behavioral self-blame. While the majority blamed Z, the dictator (74.07%, 'they were being unfair', 'they were greedy people') or the game (18.52%, 'power did this'). Therefore, self-blame did not appear during dictator games.

Discussion

In this study, we gave the participant the chance to be both dictator and recipient in dictator games, then tested their needs satisfaction and money distribution to see how they changed in different games when the participant, as a recipient, was excluded from money distribution, even with bystanders, and eventually with some effort to help from the bystanders. Will the change be different from those participants that were not excluded from the money and got equally share for all games? The answer is yes. For groups with fair distribution, only the level of control dropped when they were recipients, which was predicted as they had no power while being recipients. The other 3 needs satisfaction remained steady during the four rounds of games in these groups.

On the other hand, the manipulation of unfair distribution in the main game clearly had a significant impact on self-reported levels of 4 basic needs. With or without the presence of other recipients, recipients who were treated unfairly reported lower needs satisfaction (belonging, self-esteem, meaningful existence and control) than those treated fairly. At the same time, they were lower than the pre games. Even though the players know that such distribution would not affect how much they actually earned at the end of the study, they perceived genuine unfair and

unjustified treatment and the pain, the negative psychological consequence is real. Bystanders did not worsen the pain nor made it better when they tried to spoke up for the victim. This may be because that their intervention did not change the results.

Getting unfair distribution in the main game was a strike for the players, but they quickly recovered from it by being a dictator right after. There are several possible factors in it: maybe being a dictator with the power to divide money itself restored their needs satisfaction, or retaliation to the unfair dictator made it up (players in all three unfair distribution groups gave less money in the follow-up game compared to the pre-game), or both being a dictator and able to revenge played a role in it. Nevertheless, such retaliation was not about having more money for themselves. Only when there were bystanders that did not try to help during the main game, players held more money in the end compared to the beginning. When the other two players were not part of the unfair game or they tried to intervene (but failed), players chose not to have the extra share of the money to themselves but to give it to the other recipients. Studies about ostracism led to anti-or prosocial behavior suggested that when people are excluded from benefits (Twenge et al., 2001) or treated with inequality (van &Williams, 2006), they showed more antisocial behavior as their retaliation. While in this study, when it comes to economic game, retaliation only happened to former ostracizers and people stood by. But no retaliation did not mean prosocial behavior as the money they kept for themselves after unfair distribution was not less than before either. Thus, no retaliation for irrelevant people may be because the players had been in their shoes as recipients

before, and together with their complete dependency on the players in the last game evoked players' sense of social responsibility (Greenberg, 1978).

Moreover, even players were treated unfairly in the main game, still 57.4% of them chose to give the dictator equal share of the money (74.7% in the Pre game). Interestingly, studies have found that people observing unfair distribution in a dictator game would altruistically punish the dictator, even that meant to give up money instead of sharing it with the unfair allocator (Kahneman, Knetsch,& Thaler,1986). The reason for the 57.4% of players chose not to punish may be that being in a power position with powerless recipients made them act on equality (Handgraaf et al., 2008).

Self-blame was not an attribution for unfair allocation or bystander effect in this study. Two reasons may account for it: first, the BHI test was not an effective tool to trigger one's self-blame; second, being in an economic game, in a powerless position with no behavior could be made, equality was expected and violation of the equality reflect the dictator other than themselves. Future study could try to use stronger tools to induce self-blame to see if when it comes to the dictator game, victims of unfair distribution tend to blame people with power.

Limitation

The manipulation of ostracism by unfair distribution was not very direct. Future studies can look into how unfair distribution lead to ostracism. Even though recipients and dictators were in opposing positions, being overlooked in a self-concerning situation can also lead to feeling excluded. The results for this study may

be more salient if players are getting the amount of money they collect in these games in the end instead of a fixed figure. For measures of self-blame, the questionnaire in this study merely asked participants to write what attribution they think is for the allocation. A more detailed interview or inventory for the attribution should be used for future research on the victim to understand better on the relationship between bystanders and their effect on victims from an ostracism situation.

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Appendix

The Brief HEXACO Inventory (BHI) English version[6]

Instructions: Please indicate to what extent you agree with the following statements, using the following answering categories: 1=strongly disagree, 2=disagree, 3=neutral (neither agree, nor disagree), 4=agree, and 5=strongly agree.

Statement*
1. I can look at a painting for a long time. (O)
2. I make sure that things are in the right spot. (C)
3. I remain unfriendly to someone who was mean to me. (A)
4. Nobody likes talking with me. (Ext.R)
5.I am afraid of feeling pain. (Emo)
6. I find it difficult to lie. (H-H)
7.I think science is boring. (O.R)
8. I postpone complicated tasks as long as possible. (C.R)
9. I often express criticism. (A)
10. I easily approach strangers. (Ext)
11. I worry less than others. (Emo.R)
12. I would like to know how to make lots of money in a dishonest manner. (H-H.R)
13. I have a lot of imagination. (O)
14. I work very precisely. (C)
15. I tend to quickly agree with others. (A.R)
16. I like to talk with others. (Ext)
17. I can easily overcome difficulties on my own. (Emo.R)

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18. I want to be famous. (H-H.R)

19. I like people with strange ideas. (O)

20. I often do things without really thinking. (C.R)

21. Even when I'm treated badly, I remain calm. (A.R)

22. I am seldom cheerful. (Ext.R)

23. I have to cry during sad or romantic movies. (Emo)

24. I am entitled to special treatment. (H-H.R)

*H-H: Honesty-Humility; Emo: Emotionality; Ext: extraversion A: Agreeableness; C: Conscientiousness; O: Openness to Experience. Recode scores of items followed with an 'R' as follows: 5 to 1, 4 to 2, 3 to 3, 2 to 4, 1 to 5)