

# Focusing on the positive or the negative: Self-construal moderates negativity bias in impression updating

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### Abstract

Negativity bias in impression updating refers to the tendency to give more weight to negative information than positive information. This study examined whether self-construal moderates negativity bias in impression updating. Two experiments were conducted. In Experiment 1, participants were asked to update their impressions of a target person based on either positive or negative information. Results showed that participants with an independent self-construal showed a stronger negativity bias than those with an interdependent self-construal. In Experiment 2, participants were asked to update their impressions of a target person based on either positive or negative information. Results showed that participants with an independent self-construal showed a stronger negativity bias than those with an interdependent self-construal. These findings suggest that self-construal moderates negativity bias in impression updating.

### KEYWORDS

impression updating, negativity bias, self-construal

## INTRODUCTION

A large body of research has shown that people tend to give more weight to negative information than positive information when updating their impressions of others (Festinger, 1954; Higgins, 1997). This negativity bias in impression updating is thought to be a result of the fact that negative information is more salient and more memorable than positive information (Higgins, 1997). However, recent research has shown that self-construal moderates negativity bias in impression updating (Xie, Chen, & Wu, 2022). Specifically, individuals with an independent self-construal (ISC) show a stronger negativity bias than those with an interdependent self-construal (IC). This is because individuals with an ISC are more likely to focus on their own feelings and experiences, while those with an IC are more likely to focus on the feelings and experiences of others.

Consistent with this view, research has shown that individuals with an ISC are more likely to focus on their own feelings and experiences when updating their impressions of others (Xie, Chen, & Wu, 2022). In contrast, individuals with an IC are more likely to focus on the feelings and experiences of others when updating their impressions of others (Xie, Chen, & Wu, 2022).

Consistent with this view, research has shown that individuals with an ISC are more likely to focus on their own feelings and experiences when updating their impressions of others (Xie, Chen, & Wu, 2022). In contrast, individuals with an IC are more likely to focus on the feelings and experiences of others when updating their impressions of others (Xie, Chen, & Wu, 2022). This research has important implications for understanding how self-construal influences social perception and impression formation.

However, the underlying mechanisms of this effect remain unclear. Future research should explore the underlying mechanisms of this effect and how it might be influenced by other factors.

... (Nishiida, 2006), ... (Joshi, 2013; Kato, 2020). E... (C... 1995; S... 2020; V... & S..., 2013). I... S... (Nishiida & S..., 1992). E... (F..., 2012; R..., 2009). T... C... (2021). F... U... A... S... (M... & K..., 1991). P... T... T... C... (C..., 2011; M... & K..., 1991; S..., 1994). F... (M..., 2008), (K... & N..., 2014; O..., 1998), (M..., 2020). T... W... F...

... I... T... S... I... R... (P..., A..., 2015; P..., G..., 2015). T... T... I... I... (M..., 2010) (M..., 2022). I... I... O... P... Y... (2020) R... I... H... (P..., 2021). F... (H..., 2017; M..., 2015). T... H... (H..., 2017; M..., 2022). E... W... I... I... (S..., 2018),

P... T... (S... , 2018). T... M... (DGM), (S... , 2003). B... DGM, (LMM). I... 2, I... 1, (K... , 2020; M...-S... , 2013; M...-S... & T... , 2016).

W... ( ) T...

### STUDY 1

#### Method

P... S... T... 59... 19-29... (M = 21... , SD = 2.46), 40... A... L H... F... (2009),... 2... 50... 1... 10... W... 25... 59... 1475... W... 46...; ... 13... (IIDI) A... T... C... P... H... A... S... S... P... C... S... P... U...

P... P... I... A... 20 CNY (3.13 USD) B... 20-... A...

B... 20 CNY. I... A... B... F... F... 1, A... 5 CNY... 15... B. I... A... 20... P... A... B... T... B, A. H... T... A'... A. P... I... A...

P | I: | A... D... DS7... P... 8-... (1 = ... , 8 = ...). W... 1... T... 7, ...

P | 2: | B... 50... A... F... A... P... (F... 1). P... 9-... (1 = ... , 9 = ...). A... 9-... (1 = ... , 9 = ...). T... κ... “...”... 0 (...), 1 (...). (S... , 2018). T... κ... T... (S... , 2018; C... , 2014). T... κ... ( )

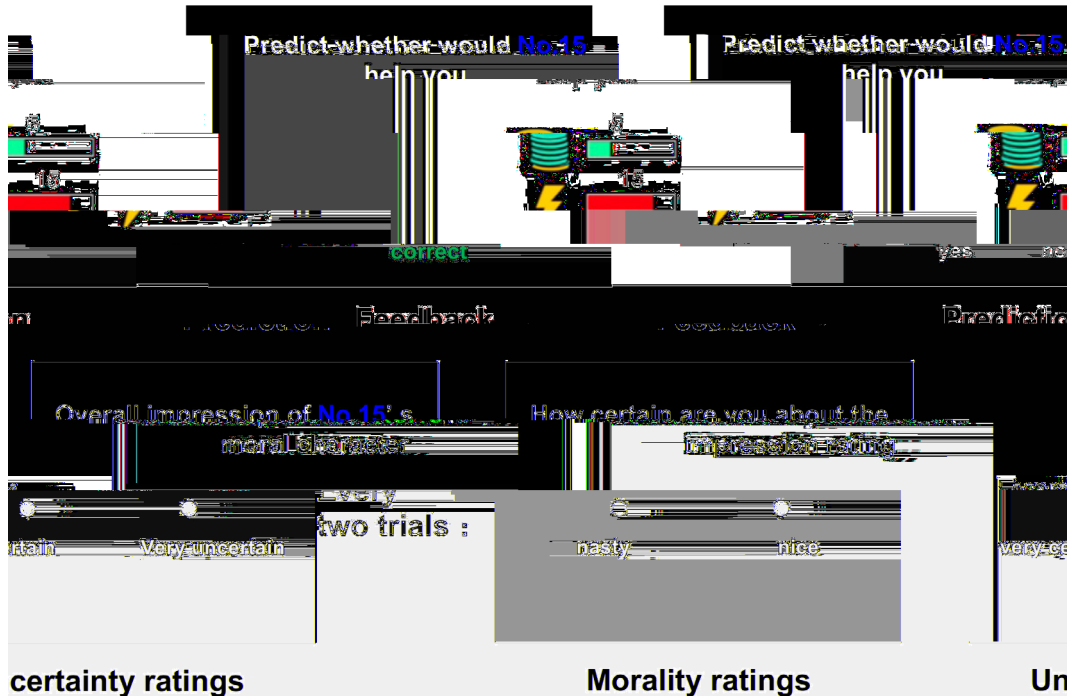


FIGURE 1 | Experimental design. Upper panel: Participants were asked to predict whether they would help No. 15. Lower panel: Participants were asked to rate their certainty about their prediction and their overall impression of No. 15's moral character.

Participants were randomly assigned to either the  $K = 0.8$  condition ( $N = 12$ ) or the  $K = 0.5$  condition ( $N = 12$ ). The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15.

**Procedure**

Participants were randomly assigned to either the  $K = 0.8$  condition ( $N = 12$ ) or the  $K = 0.5$  condition ( $N = 12$ ). The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15.

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**Results**

Participants were randomly assigned to either the  $K = 0.8$  condition ( $N = 12$ ) or the  $K = 0.5$  condition ( $N = 12$ ). The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.8$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15. The  $K = 0.5$  condition was used to test the hypothesis that interdependence mitigates negativity bias. In this condition, participants were asked to predict whether they would help No. 15 if they were in a position where they could help No. 15.



LMM

LMM, IID,  $T = 1$ ,  $T = A$ , (AIC)  $351.11$ , IID,  $\beta = -0.351$ ,  $F_{(1, 104.85)} = 4.328$ ,  $p = .040$ ,  $T = 1$ ,  $T = A$ ,  $F = 0.507$ ,  $F$

TABLE 1 | L... M... E... M... R... S...-C... , D... I... S... 1

Fixed effects	Estimate	SE	95% CI	F	p
L...	0.880	0.138	0.611, 1.148	40.653	.000
IIDI	-0.351	0.169	-0.678, -0.023	4.328	.040
D...	0.507	0.164	0.187, 0.828	9.593	.003
IIDI × D...	0.653	0.200	0.262, 1.045	10.667	.002
Random effects			Variance	SD	
P...			0.332	0.576	
R...			0.791	0.890	

N = M...;  $M_{i,t} \sim N(\mu_{i,t}, \sigma^2)$ ; \*IIDI = (1 | ...).

Abbreviations: CI = confidence interval; IIDI = interdependence in direction.

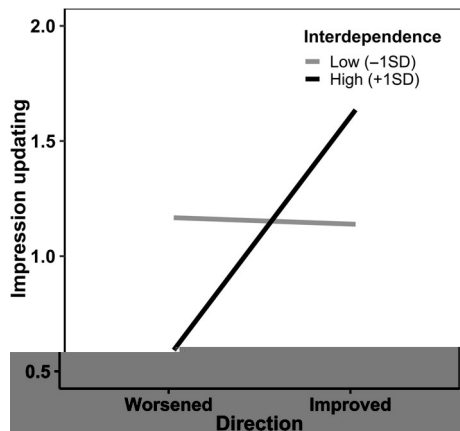


FIGURE 3 | T... (IIDI). T...

TABLE 2 | D... G... M... P... E... S... - C... M... R... W... A...

Fixed effects	Estimate	SE	df	t	p
L...-1					
L...	7.011	0.160	1410	43.886	.000
TIME-A	0.034	0.010	1410	3.388	.001
TRANS	-0.765	0.126	1410	-6.069	.000
POST	-0.047	0.024	1410	-1.950	.051
L...-2					
L...	7.011	0.160	1407	43.804	.000
TIME-A	0.034	0.010	1407	3.301	.001
TRANS	-0.765	0.120	1407	-6.348	.000
POST	-0.047	0.024	1407	-1.970	.049
IIDI	0.187	0.196	57	0.958	.342
TIME-A × IIDI	-0.005	0.013	1407	-0.386	.700
TRANS ×					

Figure 3 shows the interaction between direction and interdependence. The high interdependence group (+1SD) shows a significant increase in impression updating as the direction improves, while the low interdependence group (-1SD) shows a much smaller effect.

## STUDY 2

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T (Liu et al., 2021). H<sub>0</sub>:  $\beta_1 = 0$ .  $T_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .

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## Results

### LMM

A<sub>1,2518.00} = 9645.40.  $T_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .</sub>

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$M_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .

$M_{1,2518.00} = 4.333$ ,  $SD = 2.342$ ;  $M_{1,2518.00} = 4.295$ ,  $SD = 2.408$ ,  $\beta_1 = -0.039$ , (2585) =  $-0.598$ ,  $= .550$  (T<sub>1,2518.00} = 4, F<sub>1,2518.00} = 5). I<sub>1,2518.00} = 0.721,  $95\% \text{CI} = [0.721, 0.789]$ .</sub></sub></sub>

### C<sub>1,2518.00} = 9645.40</sub>

A<sub>1,2518.00} = 9645.40.  $T_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .</sub>

## Discussion

S<sub>1,2518.00} = 9645.40.  $T_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .</sub>

## GENERAL DISCUSSION

W<sub>1,2518.00} = 9645.40.  $T_{1,2518.00} = 4.298$ ,  $SD = 2.338$ ;  $M_{1,2518.00} = 4.030$ ,  $SD = 2.524$ ,  $\beta_1 = -0.283$ , (2585) =  $-4.308$ ,  $< .001$ ;  $\text{IIDDI} = 0.721$ ,  $95\% \text{CI} = [0.721, 0.789]$ .</sub>

TABLE 4 | L<sub>1</sub> Normed Maximum Likelihood Estimates, Random Effects Standard Deviations, and Standard Errors of Estimates for the Mixed-Effects Linear Regression Model (Equation 2).

Fixed effects	Estimate	SE	95% CI	F	p
Interdependence	4.153	0.184	3.956, 4.672	547.139	.000
IIDi	-0.062	0.232	-0.516, 0.392	0.071	.790
Direction	-0.161	0.174	-0.511, 0.189	0.859	.376
IIDi × Direction	0.200	0.074	0.054, 0.345	7.248	.007
Random effects			Variance	SD	
Person (Interdependence)				4.343	2.084
Item (Interdependence)				0.085	0.291
Residual				1.411	1.188

*N* = 100;  $M_{\text{Interdependence}} = 4.153 \pm 0.184$ ;  $SE_{\text{IIDi}} = 0.232$ ;  $SE_{\text{Direction}} = 0.174$ ;  $SE_{\text{IIDi} \times \text{Direction}} = 0.074$ .

Adjusted *R*<sup>2</sup>: CI = 0.054, 0.345; IIDi = 0.054, 0.392; IIDi × Direction = 0.054, 0.345.

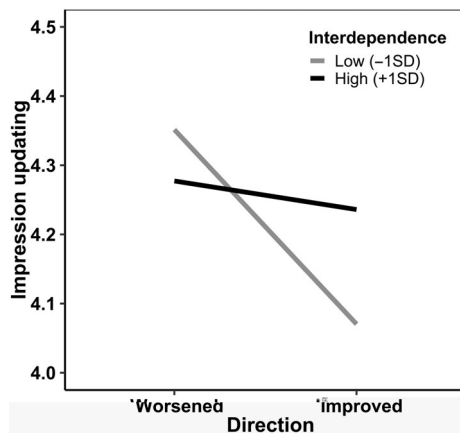


FIGURE 5 | The interaction between Interdependence (Low (-1SD) and High (+1SD)) and Direction (Worsened and Improved) on Impression updating. *N* = 100. Error bars represent standard errors of the mean.

Generalized Linear Mixed Model (GLMM), using the Default Generalized Linear Model (DGLM) function in R (R Core Team, 2021). The dependent variable was Impression updating. The independent variables were Interdependence (Low (-1SD) and High (+1SD)), Direction (Worsened and Improved), and their interaction. The model was fitted using the Restricted Maximum Likelihood (REML) method.

Interdependence was centered around the mean (4.153) and scaled to have a standard deviation of 1.0. Direction was coded as 0 for Worsened and 1 for Improved. The interaction term was calculated as the product of the centered Interdependence variable and the Direction variable.

Key findings: The main effect of Interdependence was significant ( $F(1, 99) = 547.139, p < .000$ ), indicating that higher interdependence led to higher impression updating scores. The interaction between Interdependence and Direction was also significant ( $F(1, 99) = 7.248, p = .007$ ), suggesting that the effect of interdependence on impression updating depended on the direction of the event.

Specifically, the interaction term was positive ( $B = 0.200, SE = 0.074, 95\% \text{ CI} = [0.054, 0.345]$ ), indicating that the negative effect of the direction (Worsened) on impression updating was mitigated (less negative) for individuals with high interdependence compared to those with low interdependence.

Overall, the results suggest that interdependence plays a role in how individuals update their impressions based on the direction of an event. Higher interdependence appears to buffer against the negative impact of a worsened event on impression updating.

Estimated marginal means (EMMs) for Impression updating are shown in Figure 5. For the Low (-1SD) interdependence group, the mean score was approximately 4.35 for Worsened and 4.08 for Improved. For the High (+1SD) interdependence group, the mean score was approximately 4.28 for Worsened and 4.24 for Improved.

These findings are consistent with the literature on interdependence and negativity bias. Interdependence is thought to increase the weight given to social information (O'Leary & Kunda, 1991; O'Leary, 2002). This may lead to a greater reliance on social feedback, which could mitigate the negativity bias associated with a worsened event.

The interaction effect suggests that the negative impact of a worsened event on impression updating is less pronounced for individuals with high interdependence. This could be due to the increased social support and feedback available to these individuals, which may help to counteract the negativity bias.

Limitations: The study used a self-report measure of interdependence, which may not fully capture the complexity of social relationships. Additionally, the study did not control for other factors that may influence impression updating, such as personality traits and cognitive biases.

Conclusion: The results of this study suggest that interdependence plays a significant role in impression updating, particularly in the context of a worsened event. Higher interdependence appears to mitigate the negativity bias associated with such events.



(H. ... , 2017; X. ... , 2019). O. ...

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## ACKNOWLEDGMENTS

W. ... D. I. ... C. B. ... E. ...

## CONFLICT OF INTEREST STATEMENT

O. ...

## ORCID

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I. ...  ... // ... /0000-0002-8672-1591

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