



# When Life Gives You Lemons, Make Lemonade: Self-Compassion Increases Adaptive Beliefs About Failure

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## Abstract

Two studies were conducted to examine how self-compassion relates to beliefs about failure. Study 1 ( $N=252$ ) showed that, after controlling for self-esteem, trait self-compassion correlated positively with the belief that failures are learning opportunities and part of life, and negatively with the belief that failures are aversive and something that must be avoided. In Study 2, participants ( $N=124$ ) first recalled their weaknesses, then wrote either (a) a compassionate message toward themselves (self-compassion condition), (b) a description of their strengths (self-reflection condition), or (c) a list of Japanese prefectures (control condition), and completed measures of state self-compassion and beliefs about failure. Self-compassion manipulation increased positive responses to the self (comprising self-kindness, common humanity, and mindfulness components of the Self-Compassion Scale) relative to control, which in turn, predicted a stronger belief that failures are learning opportunities. Self-reflection manipulation also predicted this adaptive belief by increasing the positive responses relative to control and, more importantly, it also increased negative responses to the self (comprising self-judgment, isolation, and over-identification components of the Self-Compassion Scale), which, in turn, predicted the beliefs that failures are aversive and must be avoided. In sum, this research confirms that people high in self-compassion hold adaptive beliefs about failures; it also suggests that one could promote adaptive beliefs by increasing the positive responses to the self and decrease maladaptive beliefs by decreasing the negative responses to the self.

**Keywords** Self-compassion · Beliefs about failure · Self-reflection · Self-esteem · Learning · Growth

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## 1 Introduction

Self-compassion represents a tendency to treat oneself compassionately (i.e., self-kindness, understanding of common humanity, and mindful awareness to one's suffering) as well as a reduced tendency to treat oneself harshly (i.e., self-judgment, feeling of isolation from others, and becoming overwhelmed by one's own suffering; Neff 2003, 2011). Cumulative evidence suggests that self-compassion is essential for psychological well-being (MacBeth and Gumley 2012; Neff et al. 2018; Zessin et al. 2015). Self-compassion is associated with lower depression, anxiety, and stress responses (MacBeth and Gumley 2012), and higher life satisfaction, gratitude, and happiness (Neff et al. 2018). Self-compassion helps people cope with failures, such as unsatisfactory results of a mid-term exam (Neff et al. 2005), rejection following job interviews (Miyagawa and Taniguchi 2018), negative feedback on self-presentation (Waring and Kelly 2019), and experiences of regret (Zhang and Chen 2016).

Most research assumes that self-compassion increases resiliency toward adversities and failures by alleviating the suffering resulting from the hardship (Miyagawa and Taniguchi 2018; Neff et al. 2005; Waring and Kelly 2019; Zhang and Chen 2016). However, self-compassion may also increase resiliency by reducing the threat of failures and by preventing people from feeling hurt in the first place. People with high self-compassion may not perceive failures as a threat, but may instead see an opportunity for growth and hence, may be less likely to experience negativity. Because self-compassion relates to various domains of psychological function, including emotional intelligence and motivation (Neff et al. 2018), it is conceivable that self-compassion would be associated with the conceptualization of failure as an opportunity for growth, rather than a threat. However, little is known how self-compassion relates to the conceptualization of failure, despite of a large body of research that has examined the influence of self-compassion on coping strategies in times of failure (Miyagawa and Taniguchi 2018; Neff et al. 2005; Waring and Kelly 2019; Zhang and Chen 2016). Our research thus attempted to fill this lacuna by showing that self-compassion is positively associated with adaptive beliefs about failure, and negatively associated with maladaptive beliefs about failure.

Research suggests that people high in self-compassion are less likely to have maladaptive beliefs about failure, but no research to date has directly examined whether self-compassion relates to adaptive beliefs about failures. Self-compassion correlates negatively with fear of failure (Neff et al. 2005, 2018), a maladaptive belief that predicts lower motivation to master course materials (Conroy and Elliot 2004), lower well-being, and lower exam grades (Berger and Freud 2012). However, people with a lower fear of failure do not necessarily see failures as learning opportunities; some people may not find failures threatening because they are indifferent and disengaged (De Castella et al. 2013). Thus, further investigation is needed to clarify the relation of self-compassion to adaptive beliefs about failure. Our research sought to provide evidence that people with self-compassion are resilient to failures, not only because they have reduced maladaptive beliefs but also because they have greater adaptive beliefs about failures.

Whereas self-compassion focuses on *how people relate to themselves* (Neff 2003, 2011), beliefs about failure are conceptually distinct, as they reflect *how people see and interpret failures* (Ikeda and Misawa 2012). Whether people think of failures as challenges or threats varies from individual to individual (Berger and Freud 2012; Cannon and Edmondson 2001; Conroy and Elliot 2004; Crocker et al. 2006). Several studies have investigated people's beliefs about failure in education (Berger and Freud 2012; Nishimura et al. 2017)

and in industry (Cannon and Edmondson 2001). Based on a review on the perception of failures and the classification of qualitative descriptions of failures provided by 53 Japanese graduate and undergraduate participants, Ikeda and Misawa (2012) developed items to measure beliefs about failure that can be applicable across situations. Further factor analysis of data from 702 Japanese undergraduates (Ikeda and Misawa 2012) showed that there are four possible classifications for general beliefs about failure: that failures are (a) learning opportunities, (b) aversive experiences, (c) something that must be avoided, and (d) part of life. *Failures as learning opportunities* is the belief that failure is a chance for growth and learning, which is considered an adaptive belief, as it correlates with higher self-efficacy and optimism and with lower anxiety (Ikeda and Misawa 2012). *Failures as aversive experiences* is the belief that failure causes one to feel depressed and disappointed. People who believe that failure is *something that must be avoided* view failure as a shameful, unforgivable, and irreparable incident that must be avoided at any cost. These latter two beliefs are considered maladaptive, as they correlate with lower self-esteem, self-efficacy, optimism, and achievement goals, and with higher anxiety and perfectionism (Ikeda and Misawa 2012). Finally, *failures as part of life* is the belief that failures happen every day and are inevitable. This belief reflects how frequently people estimate failures to occur in their daily life and is considered neither adaptive nor maladaptive. This belief showed no correlation with self-esteem, self-efficacy, optimism, achievement goals, anxiety, and perfectionism (Ikeda and Misawa 2012).

In Study 1, we examined how self-compassion correlated with adaptive and maladaptive beliefs about failure. Then, in Study 2, we examined whether experimentally inducing self-compassion strengthened adaptive beliefs and weakened maladaptive beliefs about failures, relative to a control condition.

## 2 Study 1

Does self-compassion predict stronger adaptive beliefs about failure, weaker maladaptive beliefs about failure, or both? Using a correlational design, Study 1 investigated whether individuals high in self-compassion hold stronger adaptive and weaker maladaptive beliefs about failures. Because self-compassion entails emotional stability and helps people engage in what they need for their well-being (Neff 2003, 2011), we hypothesized that people high in self-compassion would be more likely to hold the adaptive belief that failures are learning opportunities (H1) and less likely to view failures as aversive experiences (H2). Self-compassion offers mindful awareness and understanding of the human condition that no one is perfect (Neff 2003, 2011), and thus, we further hypothesized that people high in self-compassion would be less likely to hold the belief that failures should be avoided at any cost (H3) and more likely to view failures as part of everyday life (H4).

We expected to see these associations even after controlling for self-esteem. Self-esteem is positively correlated with self-compassion, and it similarly represents a positive attitude toward the self (Neff 2011). Self-esteem also relates to beliefs that failures are aversive and best avoided (Ikeda and Misawa 2012). However, research has repeatedly shown that self-compassion is related to mental health and adaptive coping strategies beyond the influence of self-esteem (Miyagawa and Taniguchi 2016, 2018; Neff 2011; Zhang and Chen 2016), and thus, we expected the relationship between self-compassion and failure beliefs to remain significant even after statistically controlling for self-esteem.

## 2.1 Method

### 2.1.1 Participants

A total of 272 Japanese undergraduates completed a self-report questionnaire. Among them, data from four participants were excluded because they were judged to have responded carelessly. In addition, data from 16 participants were excluded because they had missing data on self-compassion, self-esteem, or beliefs about failure.<sup>1</sup> The final sample, thus, comprised 252 Japanese undergraduates (121 men, 130 women, 1 unspecified) with a mean age of 19.3 years ( $SD = 1.2$ ).

### 2.1.2 Procedure

At the beginning of the study, participants were provided with a consent form and those who agreed then participated in the study during class time. At the end of the study, participants were debriefed and thanked. This research was approved by the Institutional Review Board of the university to which the first and third authors belong.

### 2.1.3 Measures

Participants completed the Japanese version of the Self-Compassionate Reaction Inventory (SCRI; Leary et al. 2011) developed and validated by Miyagawa and Taniguchi (2016). The SCRI captures self-compassion defined by Neff (2003, 2011) as a single factor. Although the Self-Compassion Scale (SCS) is a commonly used scale to measure trait compassion, in Study 1 we used the SCRI because it is shorter and written in simpler, more concrete language than the SCS. Participants were given eight negative situations, such as “You made a stupid mistake,” and four response options for each situation. Among the four response options, two represented self-compassionate reactions, such as “I would remind myself that everyone makes stupid mistakes,” and the other two were filler items. Participants were asked to choose the two responses they would make in each of the situations. Thus, for each situation, participants received a score from 0 to 2. Trait self-compassion was calculated by the sum of the self-compassionate reactions over the 8 situations, with scores ranging from 0 to 16 ( $\alpha = .84$ ,  $M = 7.66$ ,  $SD = 3.92$ ).

Participants also completed the Japanese version of the Rosenberg Self-Esteem Scale (Yamamoto et al. 1982). Participants responded to items such as “On the whole, I am satisfied with myself” on five-point scales (1 = *disagree*, 5 = *agree*). Because the item “I wish I could have more respect for myself” was reported to have a low factor loading in Japan (Sekiya and Kodama 2012), we dropped this item and calculated the mean score using the remaining nine items ( $\alpha = .88$ ,  $M = 2.79$ ,  $SD = .85$ ).

Finally, participants completed a 24-item measure of beliefs about failure (Ikeda and Misawa 2012) on 5-point scales (1 = *disagree*, 5 = *agree*). This scale includes the following four subscales: failures as learning opportunities (e.g., “When I fail, I can come out of my shell;”  $\alpha = .86$ ,  $M = 3.53$ ,  $SD = .79$ ), failures as aversive experiences (e.g., “I tend to be concerned about my failures for a long time;”  $\alpha = .88$ ,  $M = 3.85$ ,  $SD = .86$ ),

<sup>1</sup> Those who dropped out did not differ from the rest of the participants on any of the study variables ( $p > .154$ ).

**Table 1** Correlations among variables in Study 1

	1	2	3	4	5	6
1. Self-compassion	–					
2. Self-esteem	.61***	–				
3. Failures as learning opportunities	.40***	.31***	–			
4. Failures as aversive experiences	–.65***	–.59***	–.24***	–		
5. Failures should be avoided	–.56***	–.43***	–.39***	.53***	–	
6. Failures as part of life	.04	–.12 <sup>†</sup>	.23***	.19**	–.04	–

<sup>†</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

failures as something that should be avoided (e.g., “I should never fail;”  $\alpha = .88$ ,  $M = 2.83$ ,  $SD = .68$ ), and failures as part of life (e.g., “failure is something that often happens;”  $\alpha = .76$ ,  $M = 3.69$ ,  $SD = .68$ ). We calculated the mean values of the six items for each subscale.

## 2.2 Results

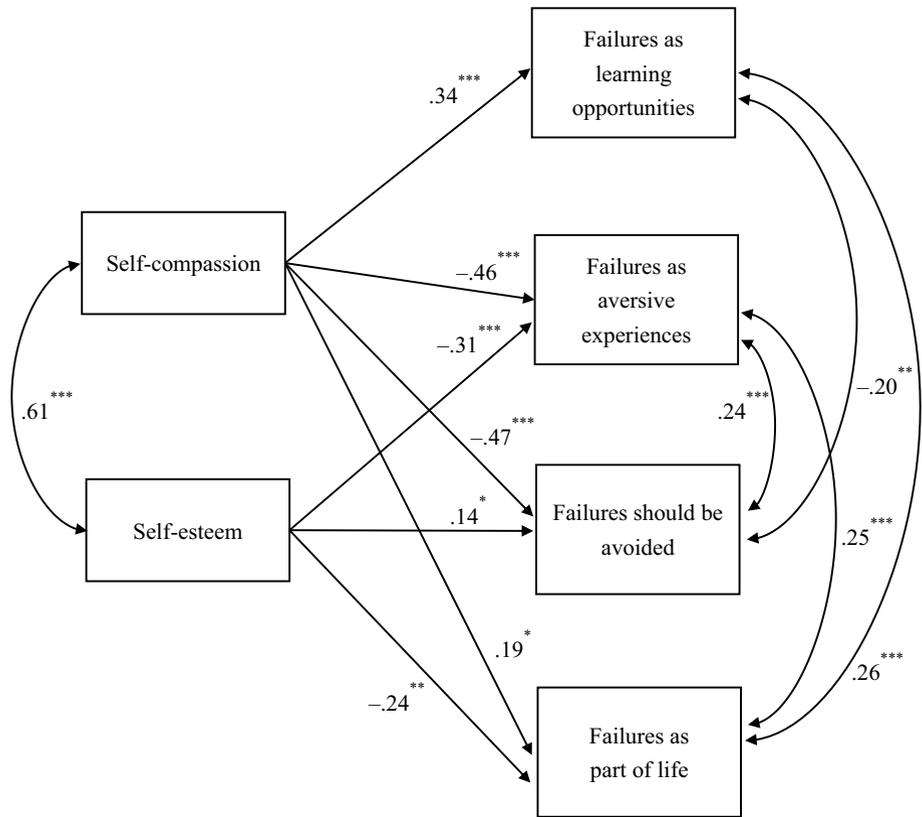
### 2.2.1 Correlations

Table 1 shows the correlations of the variables. People with higher self-compassion were more likely to believe that failures were learning opportunities ( $r = .40$ ,  $p < .001$ ), and less likely to believe that failures were aversive experiences ( $r = -.65$ ,  $p < .001$ ) and something that should be avoided ( $r = -.56$ ,  $p < .001$ ). Unexpectedly, self-compassion was not related to the belief that failures are part of life ( $r = .04$ ,  $p = .48$ ).

### 2.2.2 The unique variance of self-compassion on beliefs about failure

Because self-compassion was strongly correlated with self-esteem ( $r = .61$ ,  $p < .001$ ), we investigated the unique relations between these two variables and beliefs about failure using a path analysis with the maximum likelihood estimator of Mplus. Specifically, we tested a saturated model where both self-compassion and self-esteem were related to each type of beliefs about failure (see Fig. 1). Because all the paths in this model were identified, fit indices were not available.

As predicted, controlling for the shared variance with self-esteem, self-compassion was positively related to the belief that failures are learning opportunities (H1;  $\beta = .34$ ,  $p < .001$ ) and part of life (H4;  $\beta = .19$ ,  $p = .012$ ), and negatively related to the belief that failures are aversive (H2;  $\beta = -.46$ ,  $p < .001$ ) and something that must be avoided (H3;  $\beta = -.47$ ,  $p < .001$ ). Self-esteem was also negatively correlated with the belief that failures are aversive experiences ( $\beta = -.31$ ,  $p < .001$ ). However, in sharp contrast with self-compassion, it was negatively related to the belief that failures are part of life ( $\beta = -.24$ ,  $p = .002$ ), and positively related to the belief that failures should be avoided ( $\beta = .14$ ,  $p = .028$ ). Self-esteem was not a significant predictor of the belief that failures are learning opportunities ( $\beta = .10$ ,  $p = .164$ ).



**Fig. 1** Path diagram for testing the relations of self-compassion to four beliefs about failure. *Note:* Standardized values are presented. Non-significant paths are not represented for the sake of clarity. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## 2.3 Discussion

Consistent with the hypotheses, Study 1 showed that self-compassion was positively related to adaptive beliefs and negatively related to maladaptive beliefs about failure even after controlling for self-esteem. These unique relations of self-compassion beyond self-esteem are consistent with previous studies (Miyagawa and Taniguchi 2016, 2018; Neff 2011; Zhang and Chen 2016). Unlike self-esteem, which is an evaluation of the self, self-compassion is an innate orientation to be caring and kind toward the self (Neff 2011). This orientation has presumably allowed people to recognize the positive aspects of failure while preventing them from overemphasizing its negative aspects. In contrast, people high in self-esteem were more likely to believe that they should avoid failure at any cost and were less likely to view failures as part of life. Given that failures can threaten the positive view of the self (Crocker et al. 2006; Neff 2011), people with high self-esteem may be more vulnerable and hence, more defensive to failures than those with high self-compassion.

Study 1 showed that self-compassion correlates positively with adaptive beliefs and negatively with maladaptive beliefs about failures, but the correlational nature of the study did not allow us to make a causal claim. Thus, Study 2 experimentally induced people to

have high self-compassion and examined whether heightened self-compassion caused people to endorse different beliefs about failures.

Furthermore, Study 2 investigated which components of self-compassion account for the relationship between self-compassion and beliefs about failure. Why do people high in self-compassion hold weaker maladaptive and/or stronger adaptive beliefs about failure? Is it because they treat themselves compassionately (i.e., they are kind to the self, understand common humanity, and bring mindful awareness to one's suffering), because they do not treat themselves harshly (i.e., they do not engage in self-criticism, feel isolated from others, and get overwhelmed with suffering), or both? Is treating oneself compassionately associated with perceiving failures as opportunities, and treating oneself harshly associated with perceiving failures as threats? Alternatively, does treating oneself with compassion simultaneously increase the perception of failures as opportunities while decreasing the perception of failures as threats? Study 2 addressed these questions by examining the independent contribution of the subcomponents of self-compassion in predicting the beliefs about failure. Answering these questions would advance our understanding of the process through which self-compassion influences the conceptualization of failures in more adaptive and less maladaptive ways.

### 3 Study 2

Study 2 had two goals. First, it aimed to investigate the causal relationship between self-compassion and beliefs about failure. We assigned participants to self-compassionate, self-reflective, or a control writing condition. We tested whether those in the self-compassionate writing condition would show a higher level of self-compassion, which would in turn predict greater beliefs that failures are learning opportunities and part of life and reduced beliefs that failures are aversive and as something that must be avoided, relative to those in the control condition.

Second, Study 2 used the Self-Compassion Scale (SCS; Neff 2003) and separated self-compassion into two subcomponents to clarify which of them would be more likely to influence the beliefs about failures. People high in self-compassion are characterized by (a) a tendency to treat oneself compassionately (as indicated by higher scores on positive items of the SCS) and (b) a reduced tendency to treat oneself harshly (as indicated by lower scores on negative items of the SCS; Neff 2003). These two types of responses to the self (treating oneself compassionately vs. treating oneself harshly) are related to different affective and physiological brain functions (Gilbert 2009). An fMRI study found that treating oneself compassionately was related to the activation of the left temporal pole and insula, brain areas responsible for compassion toward others (Longe et al. 2010). Treating oneself harshly, on the other hand, was associated with the activation of lateral prefrontal cortex and dorsal anterior cingulate regions, brain areas responsible for error processing and resolution as well as behavior inhibition (Longe et al. 2010). Past studies also demonstrated that people high in self-compassion show less psychopathology because they do not treat themselves harshly, and more psychological well-being because they treat themselves compassionately (Brenner et al. 2018; Muris and Petrocchi 2017; Wong and Yeung 2017). A meta-analysis of 18 studies (Muris and Petrocchi 2017) found that the negative components of the SCS (i.e., negative items reflecting the degree to which one is harsh to the self) related more strongly with psychopathologies than the positive components of the SCS did (i.e., positive items reflecting the degree to which one shows compassion to the

self). The positive components of the SCS predicted greater well-being to a greater extent than the negative components of the SCS (Brenner et al. 2018). Among people who had experienced negative life events, only the positive components of the SCS predicted post-traumatic stress growth (Wong and Yeung 2017). Based on these findings, we hypothesized that the negative components of the SCS would be more strongly related to the belief that failures are aversive experiences and that they should be avoided, whereas the positive components of the SCS would be more strongly correlated with the belief that failures are learning opportunities and an inevitable part of life.

### 3.1 Method

#### 3.1.1 Participants

A total of 133 Japanese undergraduates participated. Among them, data from nine participants were excluded because they could not recall their weaknesses clearly before they engaged in the assigned writing tasks ( $n=5$ )<sup>2</sup> or because they were judged to have responded carelessly ( $n=4$ ). Thus, the final sample comprised 124 Japanese undergraduates (64 men, 60 women;  $M_{\text{age}}=19.7$ ,  $SD=.9$ ). Participants were randomly assigned to the self-compassion condition ( $n=43$ ), the positive self-reflection condition ( $n=41$ ), or the control condition ( $n=40$ ).

#### 3.1.2 Manipulation

To induce self-compassion, we adopted the self-compassionate writing methodology. Specifically, we asked participants to write kind and understanding messages about their weaknesses (Breines and Chen 2012; Zhang and Chen 2016). Following previous research (Breines and Chen 2012; Zhang and Chen 2016), we also added a positive self-reflection condition, for which participants were asked to describe their strengths. This condition was designed to examine whether the effect of self-compassionate writing on state self-compassion and beliefs about failure was specific to self-compassion, or whether it was the case for any positive writing exercise. In one study, those who wrote compassionate messages to themselves showed a higher state self-compassion than those who reflected on their strengths (Zhang and Chen 2016). However, in another study, those who affirmed their important value were higher in self-compassion than those who did not (Lindsay and Creswell 2014), implying that positive self-reflection can also induce self-compassion, although its effect would be smaller than that of self-compassionate writing. We, thus, compared the self-compassion condition and self-reflection condition with the control condition (i.e., writing as many Japanese prefectures as possible).

#### 3.1.3 Procedure

At the beginning of the study, participants were provided with a consent form and those who agreed participated in the study during class time. Each participant sat in front of a computer and completed this study, which was made available as a Google form. To

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<sup>2</sup> Following Sekiya and Kodama (2012), we dropped data of participants who chose 1 or 2 on a 5-point scale of the clarity of their recalled personal weaknesses.

assign participants to the conditions, we randomly distributed pieces of paper to participants, which provided instructions on how to access one of the three online questionnaires. On the Google survey form, participants were asked to recall one personal weakness and rated how clearly they could recall it on a 5-point scale (1 = *not at all*, 5 = *clearly enough*; Sekiya and Kodama 2012). Next, they engaged in one of the following three writing tasks for 3 min.

Those in the self-compassion condition responded to this prompt:

Write down kind and compassionate messages to yourself. Try not to criticize your weaknesses. Rather, show care and compassion to yourself. As you write, self-critical thoughts might arise. If so, embrace them with warmth and kindness. Take your time, view your weakness in a compassionate way, and address to yourself kindly.

Those in the self-reflection condition responded to this prompt:

Focus on your strengths that help you see your own value and competence. Recall and write down your strengths that are different from your weakness. What are your strengths? Do not focus on how others think about these qualities. You have your own strengths. When you start to write, you might think of your weakness. If so, please switch your attention to your strengths. Please take your time, look back on yourself, and recall your strengths.

Those in the control condition were instructed to list as many Japanese prefectures as possible (Japan has 47 prefectures).

After the writing task, participants responded to the state measure of self-compassion on 5-point scales (1 = *disagree*, 5 = *agree*). Participants rated the Japanese translation of the Self-Compassion Scale (Raes et al. 2011; Miyagawa et al. 2015; Neff 2003), which measures self-compassion not only as one global factor but also as two separate factors (Brenner et al. 2018; Muris and Petrocchi 2017; Wong and Yeung 2017). We employed the SCS because this scale can distinguish the two types of responding to the self, which the SCRI cannot. Furthermore, the use of a different measure of self-compassion would be useful for testing the robustness of the relationships between self-compassion and beliefs about failure. Of the 12 items of the SCS, six positive items represent treating oneself compassionately (hereinafter, the positive state SCS), while the other six negative items represent treating oneself harshly (hereinafter, the negative state SCS). We averaged items corresponding to the positive and negative components, respectively. We also computed the overall state self-compassion score by averaging all 12 items after reverse-coding the negative items. Thus, a high level of overall state self-compassion is determined by higher scores on the positive state SCS and lower scores on the negative state SCS. Cronbach's alphas were .72 for the state self-compassion, .73 for the positive state SCS, and .85 for the negative state SCS.

Participants also responded to the State Self-Esteem Scale (Minoura and Narita 2016) that comprised two items: "I am feeling I have a number of good qualities right now" and "I am taking a positive attitude toward myself right now." The mean of the two items was computed ( $\alpha = .80$ ,  $r = .67$ ,  $p < .001$ ).

Participants rated how much each belief about failure (Ikeda and Misawa 2012) was true of their thoughts "right now." Similar to Study 1, we calculated the means of each subscale. The reliabilities were all acceptable: failures as learning opportunities ( $\alpha = .88$ ), failures as aversive experiences ( $\alpha = .90$ ), failures as something that should be avoided ( $\alpha = .86$ ), and failures as part of life ( $\alpha = .75$ ).

**Table 2** Descriptive statistics of state self-compassion and self-esteem by conditions in Study 2

		Conditions			<i>F</i> (2, 121)	<i>p</i> value
		Self-compassion ( <i>n</i> = 43)	Self-reflection ( <i>n</i> = 41)	Control ( <i>n</i> = 40)		
Overall state self-compassion	<i>M</i>	3.67 <sub>a</sub>	3.43 <sub>b</sub>	3.43 <sub>b</sub>	2.60	.078
	<i>SD</i>	.54	.62	.55		
The positive state SCS	<i>M</i>	3.34 <sub>a</sub>	3.28 <sub>a</sub>	2.84 <sub>b</sub>	5.59	.005
	<i>SD</i>	.86	.60	.74		
The negative state SCS	<i>M</i>	2.00 <sub>a</sub>	2.42 <sub>b</sub>	1.99 <sub>a</sub>	3.31	.040
	<i>SD</i>	.80	.98	.81		
State self-esteem	<i>M</i>	3.14 <sub>a</sub>	3.33 <sub>a</sub>	2.84 <sub>a</sub>	1.86	.160
	<i>SD</i>	1.10	1.14	1.12		

Means with different subscripts are significantly different from each other. All the scales were on 5-point scales (1 = *disagree*, 5 = *agree*)

At the end of the study, participants were debriefed and thanked. No one expressed suspicion about the aim and procedure of this study. This research was approved by the Institutional Review Board of the university to which the first and third authors belong.

## 3.2 Results

### 3.2.1 The Effect of Writing on State Self-Compassion and Self-Esteem

Table 2 shows the descriptive statistics of state self-compassion and state self-esteem by conditions. The effect of conditions was marginally significant for overall state self-compassion,  $F(2, 121) = 2.60, p = .078$ , and significant for the positive state SCS,  $F(2, 121) = 5.59, p = .005$ , and the negative state SCS,  $F(2, 121) = 3.31, p = .040$ . A follow-up planned contrasts showed that self-compassionate writing increased the overall state self-compassion relative to self-reflective writing,  $t(121) = 1.98, p = .051$ , and control conditions;  $t(121) = 1.96, p = .053$ . The self-reflection and control conditions did not differ on this variable,  $t(121) = .30, p = .976$ . The positive state SCS was higher in the self-compassion and self-reflection conditions relative to the control condition,  $t(121) = 3.12, p = .002$ ;  $t(121) = 2.67, p = .009$ , respectively. The self-compassion and self-reflection conditions did not differ on this variable,  $t(121) = .42, p = .674$ . The negative state SCS was higher in the self-reflection condition than in the self-compassion condition,  $t(121) = 2.24, p = .027$ , and in the control condition,  $t(121) = 2.22, p = .028$ . The self-compassion and control condition did not differ on this variable,  $t(121) = .07, p = .948$ . No effect of condition was found for state self-esteem,  $F(2, 121) = 1.86, p = .160$ . In sum, self-compassionate writing significantly increased overall state self-compassion and the positive state SCS, but it did not affect the negative state SCS. In contrast, self-reflective writing increased both the positive and negative state SCS.

In the following analyses, we created two dummy-coded variables: Self-compassionate writing (self-compassion condition = 1, self-reflection condition = 0, control condition = 0) tested the effect of self-compassionate writing relative to the control condition. Self-reflective writing (self-compassion condition = 0, self-reflection condition = 1, control condition = 0) compared the effect of self-reflective writing relative to the control condition.

**Table 3** Correlations among variables in Study 2

	1	2	3	4	5	6	7	8	9
1. Self-compassionate writing	–								
2. Self-reflective writing	-.51***	–							
3. Overall state self-compassion	.20*	-.10	–						
4. The positive state SCS	.18*	.11	.65***	–					
5. The negative state SCS	-.11	.23*	-.75***	.03	–				
6. State self-esteem	.02	.14	.57***	.55***	-.26**	–			
7. Failures as learning opportunities	.13	-.05	.39***	.42***	-.14	.26**	–		
8. Failures as aversive experiences	-.19*	.25**	-.35***	.03	.49***	-.13	-.02	–	
9. Failures should be avoided	-.17 <sup>†</sup>	.11	-.38***	-.13	.38***	-.14	-.17 <sup>†</sup>	.66***	–
10. Failures as part of life	-.10	.02	-.05	.12	.17 <sup>†</sup>	-.05	.02	.33***	.21*

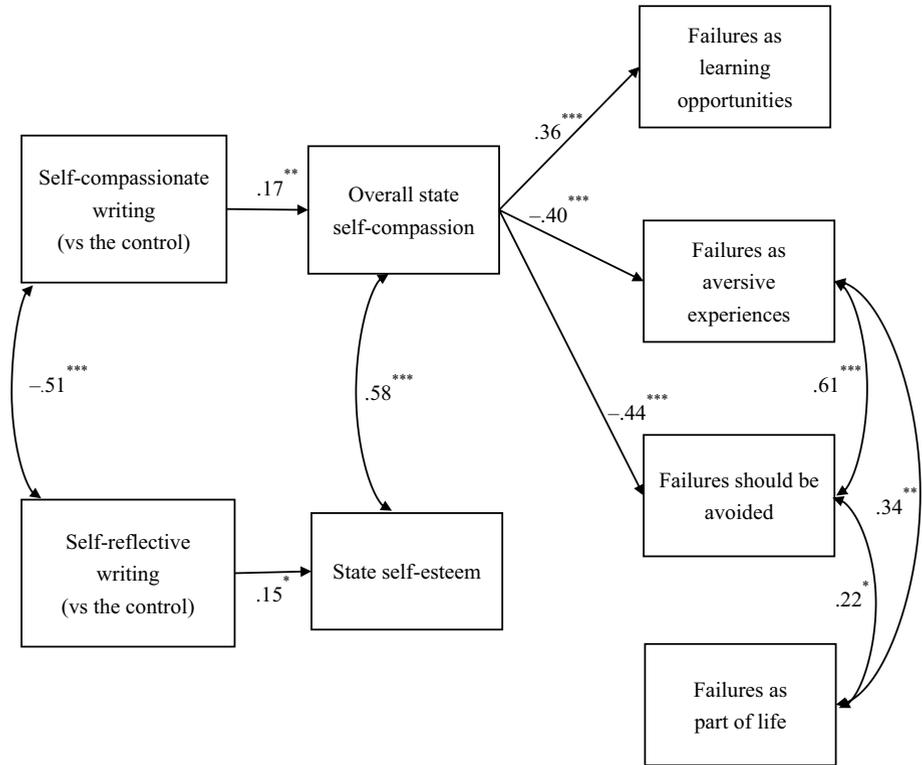
Self-compassionate writing was coded as self-compassion condition=1, self-reflection condition=0, and control condition=0. Self-reflective writing was coded as self-compassion condition=0, self-reflection condition=1, and control condition=0

<sup>†</sup> $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.2.2 The Effect of Writing on Beliefs About Failure Through Overall State Self-Compassion

First, we examined whether the increased overall state self-compassion that resulted from our manipulation predicted beliefs about failure as in Study 1. Table 3 shows the correlations of the study variables. Overall state self-compassion was positively related to the belief that failures are learning opportunities ( $r = .39$ ,  $p < .001$ ), and negatively related to the belief that failures are aversive experiences ( $r = -.35$ ,  $p < .001$ ) and that they should be avoided ( $r = -.38$ ,  $p < .001$ ). Overall state self-compassion was not related to the belief that failures are part of life ( $r = -.05$ ,  $p = .613$ ). These results were consistent with the findings of Study 1.

Next, we investigated a model where self-compassionate and self-reflective writings promoted overall state self-compassion and state self-esteem, which in turn predicted beliefs about failure using a path analysis with the maximum likelihood estimator of Mplus (see Fig. 2). The indirect effects were tested using 2000 bootstrap samples and bias-corrected 95% CI. Based on the conventional cutoff criteria (Schreiber et al. 2006), the goodness of fit indices of this model were acceptable, CFI = .990, TLI = .965, SRMR = .041, RMSEA = .043 with 90% CI [.000, .119]. As expected, the results showed that self-compassionate writing significantly increased overall state self-compassion relative to the control condition, which then predicted the belief that failures are learning opportunities,  $B = .150$ ,  $SE = .081$ , 95% CI [.017, .345],  $\beta = .07$ . In addition, self-compassionate writing reduced the beliefs that failures are aversive,  $B = -.190$ ,  $SE = .098$ , 95% CI [-.245, -.023],  $\beta = -.08$ , and that failures should be avoided,  $B = -.190$ ,  $SE = .098$ , 95% CI [-.420, -.019],  $\beta = -.09$ , through greater overall state self-compassion. Unlike in Study 1, state self-esteem was not associated with any of the beliefs about failure.

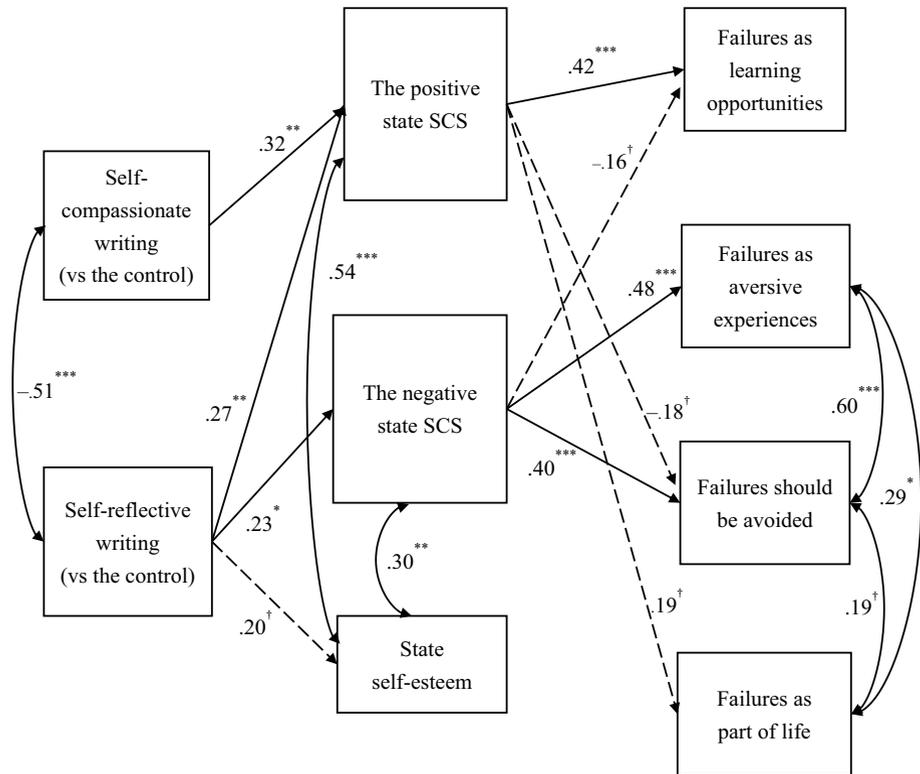


**Fig. 2** Path diagram for testing whether self-compassionate and self-reflective writing (versus the control) predicted beliefs about failure through state self-esteem and overall state self-compassion in Study 2. *Note:* Standardized values are presented. Non-significant paths are not represented for the sake of clarity. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.2.3 The Effect of Writing on Beliefs About Failure Through Components of State Self-Compassion

Next, we examined whether the positive and negative state SCS was differently correlated with beliefs about failure. As shown in Table 3, the positive state SCS was positively correlated with the belief that failures are learning opportunities ( $r = .42, p < .001$ ), but not with any other beliefs ( $p > .141$ ). The negative state SCS was positively related to the beliefs that failures are aversive experiences ( $r = .49, p < .001$ ) and that they should be avoided ( $r = .38, p < .001$ ), and marginally related to the belief that failures are part of life ( $r = .17, p = .062$ ).

Using a path analysis with the maximum likelihood estimator of Mplus, we tested whether the positive and negative state SCS and state self-esteem mediated the relationships between the writing manipulations and beliefs about failure (see Fig. 3). This model had an acceptable fit, CFI = .994, TLI = .972, SRMR = .036, RMSEA = .037 with 90% CI [.000, .116]. As predicted, self-compassionate writing significantly promoted the positive state SCS relative to the control condition, which then increased the belief that failures are learning opportunities. The indirect effect of self-compassionate writing was significant,  $B = .285, SE = .109, 95\% \text{ CI} [.103, .540], \beta = .14$ . The other indirect effects were not significant.



**Fig. 3** Path diagram for testing whether self-compassionate and self-reflective writing (versus the control) predicted beliefs about failure through state self-esteem and the positive and negative state SCS in Study 2. *Note:* Standardized values are presented. Non-significant paths are not represented for the sake of clarity. Broken lines represent marginally significant relationships.  $^{\dagger}p < .10$ ,  $^{*}p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$

Self-reflective writing had a significant indirect effect on the belief that failures are learning opportunities through the positive state SCS,  $B = .247$ ,  $SE = .098$ , 95% CI [.086, .479],  $\beta = .12$ . By increasing the negative state SCS, self-reflective writing also showed a significant indirect effect on the belief that failures are aversive experiences,  $B = .258$ ,  $SE = .126$ , 95% CI [.037, .534],  $\beta = .11$ , and on the belief that they must be avoided,  $B = .197$ ,  $SE = .104$ , 95% CI [.029, .439],  $\beta = .09$ . Although self-compassionate writing showed a larger indirect effect ( $\beta = .14$ ) than self-reflective writing ( $\beta = .12$ ) in predicting the belief that failures are learning opportunities, this difference was not statistically significant ( $B = .039$ ,  $SE = .091$ , 95% CI [-.149, .218]; Lau and Cheung 2010).

### 3.3 Discussion

Study 2 employed an experimental method to extend the correlational findings of Study 1. Consistent with Study 1, experimentally inducing overall state self-compassion through a self-compassionate writing task predicted the beliefs that failures are learning opportunities and reduced the beliefs that failures are aversive and that they must be avoided. The replication of the finding attests to the robustness of these associations, especially given

that Study 2 used (a) an experimental manipulation to momentarily boost people's state self-compassion and (b) a different scale to measure state self-compassion (the self-compassionate reaction inventory vs. the self-compassion scale).

Furthermore, Study 2 showed that self-compassionate writing promoted the positive state SCS (i.e., treating oneself compassionately), which then predicted the adaptive belief that failures are learning opportunities. Unexpectedly, this manipulation did not decrease the negative state SCS (i.e., treating oneself harshly), which was associated with maladaptive beliefs that failures are aversive and have to be avoided. The finding that these two types of responses to the self differently related to beliefs about failures is consistent with previous findings that treating oneself compassionately related more strongly to well-being and growth, whereas treating oneself harshly was a stronger predictor of psychopathologies (Brenner et al. 2018; Muris and Petrocchi 2017; Wong and Yeung 2017).

In contrast to self-compassionate writing, which increased only the positive state SCS, self-reflective writing increased both positive and negative state SCS. Instructing people to embrace their weaknesses with compassion seems to be a better strategy than instructing them to focus on their strengths if one wishes to design an intervention to promote stronger adaptive beliefs about failures. Focusing on one's strengths had an inadvertent side-effect of increasing the negative and harsh response to the self, leading people to perceive failures as threats.

The association between self-esteem and beliefs about failures differed in Studies 1 and 2. In Study 1, trait self-esteem was negatively related to seeing failure as aversive and part of life and positively related to the belief that failures should be avoided. In contrast, state self-esteem showed no such associations in Study 2. People who had high trait self-esteem in Study 1 showed stronger beliefs that failures should be avoided. Although further empirical investigation is required, it indicates that this belief may encourage them to avoid experiencing failures: either by avoiding challenges, self-handicapping, or making external excuses (Crocker et al. 2006). With a lower likelihood of experiencing failures, those with high trait self-esteem may have thought of failures as being less aversive and not part of everyday life, explaining the negative associations in Study 1. As much as trait self-esteem may orient people to avoid the experience of failures, Study 2 suggests that temporally boosting self-esteem does not change people's perception of failures as aversive.

## 4 General Discussion

How does self-compassion relate to beliefs about failures? In two studies, we found that people high in self-compassion are more likely to hold the adaptive belief that failures are learning opportunities, even after statistically controlling for self-esteem. These results imply that people with high self-compassion are resilient to failures because they see them as chances for growth. People with high self-compassion are oriented toward self-improvement because they embrace suffering with kindness and warmth and strive for their well-being (Neff 2011). Self-compassion, thus, provides emotional stability to see the positive sides of negative experiences (Neff 2011). Self-compassion also helps people to accept their imperfections mindfully and to realistically assess where they need to improve (Breines and Chen 2012; Miyagawa and Taniguchi 2018).

Moreover, both Studies 1 and 2 consistently showed that people with high self-compassion are less likely to think that failures are aversive and that they should be avoided at any cost. These results are in line with previous studies, which showed a negative relationship

between self-compassion and fear of failure (Neff et al. 2005, 2018). People high in self-compassion may be less likely to hold these maladaptive beliefs because they do not get entangled with negative thoughts, isolate their experiences from others, and treat themselves critically (Neff 2003, 2011). Indeed, Study 2 revealed that only the negative state SCS (i.e., treating oneself harshly) significantly predicted these beliefs.

The unique contribution of the present research is to advance the understanding of why self-compassion promotes resilience to negative experiences. Whereas most research assumes that people with high self-compassion are better able to alleviate the suffering that results from them (Miyagawa and Taniguchi 2018; Neff et al. 2005; Warning and Kelly 2019; Zhang and Chen 2016), the present findings indicate that they are less likely to suffer because they hold stronger adaptive and weaker maladaptive beliefs about failures in the first place. However, our research did not directly test whether beliefs about failures mediate the association between self-compassion and psychological well-being beyond the influence of coping strategies against suffering. We believe they would, given the wealth of evidence attesting to how a growth mindset can encourage people to take on new challenges and persist despite setbacks (Elliott and Dweck 1988). Although future studies should empirically test this mediation and determine how much variance these beliefs can account for, the present research implies that self-compassion influences the conceptualization of failures, which would help people to be resilient to failures.

Contrary to our hypotheses, Study 1 and 2 did not show a strong correlation between self-compassion and the belief that failures are an inevitable part of life. We expected that people with high self-compassion would be more likely to hold this belief because self-compassion motivates people to recognize their suffering as a common human experience (Neff 2003, 2011). However, the weak relationship between self-compassion and this belief would make sense when the mindfulness component of self-compassion is taken into consideration. People with high self-compassion pay mindful attention to their experiences: They see and embrace all aspects of their experiences without exaggerating or ignoring them (Neff 2003, 2011). Thus, people with high self-compassion may notice that although failures do happen and are part of life in some ways, they also know that certain failures are preventable. This mixed association may explain the weak relationship between self-compassion and beliefs that failures are part of life.

Although overall self-compassion simultaneously predicted greater adaptive beliefs and reduced maladaptive beliefs about failures, breaking down self-compassion into its subcomponents allowed us to see that each had different associations with failure beliefs. Study 2 showed that treating oneself compassionately, as indicated by the positive state SCS, was exclusively related to the adaptive belief that failures are learning opportunities, whereas treating oneself harshly, as indicated by the negative state SCS, was exclusively related to perceiving failures as threats. Thus, the present study suggests that people with high self-compassion are more likely to hold a learning-oriented belief about failure because they treat themselves compassionately, and are less likely to hold a maladaptive belief about failure because they do not treat themselves harshly. These findings are in line with findings that the positive responses to the self are more strongly associated with well-being and post-traumatic growth (Brenner et al. 2018; Wong and Yeung 2017), whereas the negative responses to the self are more strongly associated with psychopathology (Brenner et al. 2018; Muris and Petrocchi 2017). Differentiating the effect of the subcomponents of self-compassion seems beneficial for researchers interested in understanding the mechanisms by which self-compassion may promote adaptive and prevent maladaptive reactions to hardships. For example, researchers should pay close attention to the tendency to treat oneself harshly if they aim to investigate how self-compassion prevents maladaptive

reactions to hardships. On the other hand, focusing on the tendency to treat oneself compassionately would give insight into how self-compassion promotes adaptive responses to hardships.

Our research also contributes to differentiating how self-compassion differs from self-esteem. We found that self-compassion related to beliefs about failure even when the shared variance with self-esteem was controlled, in line with previous studies that reported the influence of self-compassion beyond self-esteem (Miyagawa and Taniguchi 2016, 2018; Neff 2011; Zhang and Chen 2016). Moreover, unlike self-compassion, self-esteem was positively associated with beliefs that failures should be avoided, negatively associated with the belief that failures are part of life, and not associated with any of these failure beliefs in Study 2. The distinctive feature of self-compassion relative to self-esteem is kindness and openness toward one's negativity (Neff 2003, 2011). This warm-hearted attitude toward the self could be important for holding stronger adaptive and weaker maladaptive beliefs about failure.

#### 4.1 Suggestions for Future Interventions

Consistent with previous studies (Breines and Chen 2012; Zhang and Chen 2016), Study 2 indicated that writing a compassionate message to oneself was effective in inducing self-compassion, and especially the tendency to treat oneself compassionately as indicated by the positive state SCS. Our study further showed that by increasing this positive response to the self, this writing intervention could encourage people to recognize failures as learning opportunities. Writing a compassionate message to oneself did not reduce the tendency to treat oneself harshly, as indicated by the negative state SCS, presumably because it instructed people to be kind and compassionate to themselves but did not specifically caution them to avoid feeling isolated or becoming emotionally overwhelmed with their weaknesses (see Breines and Chen 2012; Zhang and Chen 2016 for similar methodology).

Self-reflective writing also predicted endorsing positive responses to the self as did the self-compassionate writing but to a lesser extent than self-compassionate writing. This finding is consistent with past research, which showed that self-affirmation could induce self-compassion (Lindsay and Creswell 2014). However, we do not recommend emphasizing personal strengths as a method to cultivate self-compassion because self-reflective writing also increased the tendency to treat oneself harshly. Switching attention to one's strengths could backfire. As people attempt to suppress their thoughts on weaknesses, they may become more aware of them (Wegner et al. 1987) and, as a result, start to treat themselves harshly. This suppression, in turn, could fuel the belief that failures are aversive and that they should be scrupulously avoided. Thus, whereas the self-reflective writing can be a double-edged sword, the self-compassionate writing is a relatively safer means to induce self-compassion, and especially how to treat oneself with kindness, understand common humanity, and bring mindful awareness.

#### 4.2 Limitations and Future Directions

This research has three limitations. First, a relatively small sample size in Study 2 could have influenced the results. For example, the lack of power could account for the nonsignificant indirect effect of self-compassionate writing on the reduced maladaptive beliefs about failure through the positive state SCS. Thus, the results in Study 2 should be interpreted with caution. Replicating findings in a larger sample will be an important direction

for future studies. Nonetheless, we think that the relations between self-compassion and beliefs about failure in Study 2 are relatively reliable considering that these findings replicated Study 1 with a different and larger sample. Second, our manipulation of self-compassion focused on self-kindness, which may not have been enough to induce common humanity and mindfulness. This may be a reason why self-compassionate writing did not significantly affect perceiving failures as part of life through the positive state SCS. Future research should seek to employ stronger manipulation that directly incorporates common humanity and mindfulness as well as self-kindness. Finally, the participants in this research were Japanese, which begs the question if the findings are applicable to other cultural groups. We do not have an a priori reason to believe that the results might differ with non-Japanese participants because self-compassion relates to psychological well-being in Japan (Miyagawa et al. 2015; Miyagawa and Taniguchi 2016) just as in the U.S. (Neff 2003). Nevertheless, future research needs to confirm that cultural difference is not a factor in moderating the results.

Despite these limitations, this research contributes to understanding how self-compassion shapes people's beliefs about failures. Self-compassion allows people to perceive failures as chances for learning rather than aversive threats that must be avoided. Failures may be sour but with self-compassion, people may be able to make lemonade from lemons.

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