

**Growth Mindset Ineffective in Lowering Negative Affect Over Workplace Failure:  
Importance of Self-Compassion**

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### **Abstract**

The benefits of adopting a growth mindset have been widely studied across domains, but little research has focused on its application to the workplace. The present study investigates the effect of professional skills and abilities mindset on the levels of negative affect after workplace failure. The moderation of this relationship by self-compassion is also tested. A sample of 98 participants completed the experiment by filling out an online questionnaire. Following a mindset manipulation which prompted the activation of either growth or fixed beliefs, the feelings of failure were induced by bogus negative feedback and measures of negative affect and trait self-compassion were taken. Professional skills and abilities mindset did not have a significant effect on the negative emotions following failure. The moderation by self-compassion was insignificant. The present results suggest that professional skills and abilities mindset interventions might not be effective in lowering immediate negative affect over setbacks in the workplace. Self-compassion alone seems to be a strong protective factor against failure-inflicted negative emotions in comparison to mindset.

*Keywords:* mindset, implicit theories, negative affect, self-regulation, professional skills and abilities, self-compassion

## **Growth Mindset Ineffective in Lowering Negative Affect Over Workplace Failure: Importance of Self-Compassion**

People often say we learn by failing. It seems to be an inevitable part of the work experience; everyone fails at a goal at one point or another. People do not differ on whether or not they experience failure, but rather on how they react to this setback. Failure can lead to lowered self-esteem (Nussbaum & Dweck, 2008) and feelings of depression, anxiety, and worry, as well as a tendency to give up the goal altogether (Carver & Scheier, 1990; Cury et al., 2008; Plaks & Stecher, 2007). In other cases, people seem to be motivated by failure, and they bounce back fast, ready to tackle the challenge and improve their work performance (Hong et al., 1999; Nussbaum & Dweck, 2008). It is therefore reasonable to assume that one's reaction to setbacks influences subsequent goal achievement (Burnette et al., 2013; Hong et al., 1999). It may well be that we do not learn merely by failing; perhaps what one does with that failure determines the final learning outcome.

Studies indeed show that failure setbacks can be followed by different emotional reactions (Carver & Scheier, 1990; Miyagawa et al., 2018; Plaks & Stecher, 2007), different expectations about the outcome (Burnette et al., 2013), and different rates of success (Cury et al., 2008). Why do some people recover after hurdles and conquer their goal, while the rest struggles to try again? The present piece aims to explain this phenomenon by looking at people's systems of beliefs. People hold certain fundamental beliefs about themselves and the world, and new information is incorporated and understood in line with these beliefs (Dweck et al., 1995; Hong et al., 1999). In a professional setting, beliefs about the malleability of one's skills can influence one's interpretation of workplace failure, and even impact further steps in one's goal-directed behavior (Hong et al., 1999). Simply put, what we believe to be true strongly affects how we perceive, feel about, and act on things that happen to us. This paper sets out to explore whether people who believe their professional skills are malleable

rather than fixed fare better than their counterparts in terms of negative affect linked to work-related setbacks.

### **Self-Regulation and Beliefs**

The concepts of beliefs and goal-directed self-regulation can be combined using the goal setting, operating, monitoring, and achievement (SOMA) model by Burnette and colleagues (2013). The model describes four stages of self-regulation and the role of implicit theories is embedded in each stage of the model. First, in goal setting, one defines their desired end state and formulates it in terms of either performance- or learning-oriented goals. Second, one engages in goal operating: executing the strategies one uses to achieve their goal. These can be helpless strategies, ineffective in achieving the goal, or mastery strategies, emphasizing persistence and work. Third, one turns to goal monitoring for an evaluation of the progress made thus far. Goal monitoring can involve emotional processes such as negative affect as a measure of how effective one's efforts are, and success expectations as an approximation of how realistic the goal achievement seems. These processes form informative feedback loops until one arrives at the fourth and final stage of goal achievement. The value of the SOMA model lies in the following proposition: The four stages of self-regulation can be significantly impacted by implicit theories. Implicit theories represent systems of beliefs about the malleability of skills (Burnette et al., 2013) and involve two types. Entity theories claim that qualities are fixed and unchangeable; incremental theories view them as subject to development (Dweck et al., 1995). The SOMA model posits that incremental and entity theorists display differences throughout the goal pursuit trajectory (Burnette et al., 2013). Hence, goal achievement is influenced by both goal-directed behavior and implicit theories, rendering these concepts very relevant to post-setback setting.

The stage of goal monitoring is strongly connected to the implicit beliefs one holds. In a large meta-analysis, Burnette et al. (2013) concluded that incremental theorists show

significantly lower amounts of negative affect and more optimistic success expectations than entity theorists; one could say incremental beliefs frame both the present and future goal pursuit in a more positive light. This benefit does not end just with a somewhat more pleasant monitoring phase; lower negative affect and higher success expectations are in turn positively linked to final goal achievement (Burnette et al., 2013). Another finding suggests a relationship between beliefs and increased goal monitoring: Incremental theorists make use of more diverse sources of feedback (Papi et al., 2019). Thoroughly monitoring one's progress and feeling better about the present and future stages might hence be what sets incremental theorists apart, thereby facilitating a more effective self-regulation and successful goal attainment (Burnette et al., 2013; Nussbaum & Dweck, 2008).

### **The Role of Mindset**

Popular psychology has recently seen an overflow of research on the concept of mindset (Han & Stieha, 2020). Being equivalent to implicit theories, mindset plays a key role in the processing of social information (Dweck et al., 1995) and allows people to readily make attributions regarding daily life according to their belief systems (Hong et al., 1999). Building upon implicit theories, mindsets can vary across situations and diverges into two types: fixed mindset in which attributes hardly change, and growth mindset which allows for development (Dweck, 2015). It has been found that fixed-minded people are less likely to address their weaknesses after an insufficient performance (Hong et al., 1999) and react defensively rather than by self-improvement (Nussbaum & Dweck, 2008). Conversely, people with a growth mindset look for novel ways of tackling the problem, seek advice (Dweck, 2015), and actively work on their learning (Nussbaum & Dweck, 2008). These findings have triggered a large-scale application of mindset to a range of life domains, such as academics (Dweck, 2015), sports (Vella et al., 2016), creativity (Ting & Yeh, 2023), leadership (Kouzes & Posner, 2019), and many more.

While a large number of studies investigated academic mindset, a smaller subset focused on its application to the workplace. The occupational equivalent of this concept has been coined the professional skills and abilities (PSA) mindset, and concerns one's beliefs about the malleability of their skill and ability level on work-relevant tasks, such as problem-solving, multi-tasking, and social skills (Schmitt & Scheibe, 2022). Growth mindset in the workplace has been linked to increased creativity, performance, and work engagement (Caniëls et al., 2018; Han & Stieha, 2020) as well as employee satisfaction and wellbeing among minorities (Rattan & Dweck, 2018). Schmitt and Scheibe (2022) reasoned that PSA mindset is linked to career adaptability, which encompasses interest, responsibility, curiosity, and confidence in one's work. It is through this link with career adaptability that PSA growth mindset facilitates career engagement and further learning. In contrast, fixed-minded people do not benefit from higher career adaptability, and subsequently suffer a disadvantage in learning and work involvement. These findings can provide crucial guidance in moments of work setbacks and organizational shifts, as employing a growth mindset could help workers learn autonomously and dynamically adjust to changes.

### **Setbacks and Negative Affect**

Work failure and setbacks are very common and routinely communicated through negative feedback, which can bring unpleasant emotional consequences such as sadness, anxiety, or vulnerability (Carver & Scheier, 1990; Plaks & Stecher, 2007). Negative emotions indicate the effectiveness or ineffectiveness of past strategies and serve as important predictors of final goal achievement: High levels of negative emotions are correlated with lower goal success (Burnette et al., 2013; Carver & Scheier, 1990). While setbacks can facilitate growth in some, they might lead to withdrawal in others (Blackwell et al., 2007). Setback-related negative affect can cause a hiatus in active efforts, possibly leading to giving up the goal and diminishing chances of achievement (Carver & Scheier, 1990). Setbacks and

the emotions elicited by them thus play a decisive role in goal pursuit; a deep understanding of their impact on self-regulation is crucial for optimizing employee persistence and achievement.

The present paper investigates the relationship between professional skills and abilities mindset and negative affect upon receiving negative feedback. Such context often elicits automatic negative feelings, which in turn influence the goal-pursuit process (Burnette et al., 2013). In an effort to understand this process, several studies have previously drawn the link between emotions and mindset. People with a fixed mindset were found to show increased worry about the possibility of failing, thereby hindering their performance (Cury et al., 2008). A meta-analysis by Burnette et al. (2013) likewise found a weak yet significant negative association between growth mindset and negative affect. Suggesting a slightly more complex mechanism, Plaks and Stecher (2007) discovered that when compared to the growth-minded group, participants with a fixed mindset experienced more anxiety over a declining performance, but less anxiety when performance remained stagnant despite efforts to improve. Concerning workplace behavior, Schmitt and Scheibe (2022) argued that people's responses in a professional context are influenced by career adaptability, and this adaptability is positively correlated to PSA growth mindset. The present study uses a negative-feedback context to test the causal relationship between professional skills and abilities mindset and negative emotions. Based on the existing research, we propose the following:

Hypothesis 1: Fixed mindset prompting will lead to more negative affect after a setback in comparison to growth mindset prompting.

### **Self-Compassion as a Moderator**

Secondly, we expect that the link between mindset and negative affect will be moderated by self-compassion, a variable largely studied due to its protective properties (e.g.,

Jennings et al., 2022; Waring & Kelly, 2019). Self-compassion is defined as treating oneself with kindness, understanding the common human experience, and being aware of one's negative thoughts and emotions (Miyagawa et al., 2018). It has been repeatedly linked to a decrease in negative affect and less fear of failure (Miyagawa et al., 2018; Neff et al., 2005). Self-compassion seems to counter self-criticism and the internalization of negative messages, thus allowing for easier acceptance of self-enhancing information (Leary et al., 2007; Swee et al., 2023). In line with this, emotion-focused coping strategies of people with high self-compassion have been found to involve more adaptive acceptance of the circumstances and less potentially counterproductive negative-emotion venting (Neff et al., 2005). In the workplace specifically, Jennings et al. (2022) have linked self-compassion to heightened self-esteem, resilience, and wellbeing. This had long-reaching consequences, as the employees experienced increased goal progress and elevated meaning in life.

During setbacks, self-compassion acts as a buffer against negative affect by lowering the automatic emotional reaction to ego threat (Neff et al., 2007). Furthermore, it supports learning from one's mistakes (Petersen, 2014) and predicts goal re-engagement (Semenchuk et al., 2018), thereby compensating for the handicap inflicted by setbacks. Several studies (Breines & Chen, 2012; Neff et al., 2007; Waring & Kelly, 2019) have emphasized its crucial protective and adaptive function, especially in times of difficulty. Since the existing research on implicit beliefs indicates that holding a fixed mindset is a risk factor for negative emotionality (Burnette et al., 2013), it can be theorized that self-compassion could buffer this increased negative affect upon failure. We thus propose the following:

Hypothesis 2: High self-compassion will weaken the positive relationship between fixed mindset and negative affect, while low self-compassion will strengthen it.



## Method

### Participants

The link to the questionnaire was opened 369 times and by people who were reached by the means of social media and the personal networks of the research team. After removing individuals who did not meet the inclusion conditions, 98 participants remained. The inclusion criteria were as follows: giving informed consent before and after the experiment (245 excluded cases), and being over the age of 18 and working part-time, full-time, or on a zero-hour contract (14 excluded cases). Finally, 12 more participants who guessed the aim of the study or were aware of the deception were excluded from further analyses.

The participants were mostly female (62.2%), with a mean age of 37.0 ( $SD = 14.4$ ) and a university degree education (49.0%). Their countries of residence were mainly the Netherlands (57.1%) and Germany (17.3%). The average number of working hours per week as stated in their contract was 32.0 ( $SD = 11.7$ ). The sample was approximately equally divided between the experimental conditions (see Table 1).

**Table 1**

*Demographic Characteristics and Experimental Condition of Participants*

Characteristic	<i>n</i>	%
Gender		
Male	35	35.7
Female	61	62.2
Not Specified	2	2.0
Country of Residence		
Netherlands	56	57.1
Germany	17	17.3
Other	25	25.5
Level of Education		
University Degree	48	49.0
High School Diploma	34	34.7

Other	16	16.3
Mindset		
Growth	53	54.1
Fixed	45	45.9

*Note.*  $N = 98$ . Participants were on average 37.0 years old ( $SD = 14.4$ ) and worked on average 32.0 hours per week as per their contract ( $SD = 11.7$ ).

## Materials

### *Negative Affect Measure*

The measure of current negative affect involved 3 items relating to specific negative emotions (angry, ashamed, and disappointed), which had been taken from broader emotion scales with reliability  $\alpha > .75$  (Harley et al., 2019; Pekrun et al., 2011). In our analysis, the reliability of the scale was shown to be  $\alpha = .79$ . Following the example of Betella and Verschure (2016), the items were scored on a slider instead of a Likert scale to enhance the response range. Furthermore, three additional positive-emotion items (Harley et al., 2019; Pekrun et al., 2011) and two affective sliders for the dimensions of pleasure and arousal (Betella & Verschure, 2016) were included as distractor items.

### *State Self-Compassion Scale (Short Form)*

The short form of State Self-Compassion Scale (SSCS-S) is a self-report measure of one's state self-directed compassion. It contains six items rated on a 5-point Likert scale ranging from "Not at all true for me" to "Very true for me" (e.g., I'm keeping things in perspective). Cronbach's alpha for the long scale was found to be around 0.9. Scores on the short form were shown to be highly correlated with the long form and evaluated as comparably reliable (Neff et al., 2021). Our calculations yielded an alpha of .73, which was considered a satisfactory level of reliability.

## Procedure

This research was conducted in the form of an experimental one-level study with two conditions. Data was gathered through an online Qualtrics questionnaire with a duration of approximately 25 minutes, which involved manipulation vignettes, experimental tasks, and measurement scales.

Firstly, participants were asked to sign informed consent, in which they were introduced to the research and granted the permission to start. Participants were then presented with a manipulation by reading a vignette to prime one of the two conditions: a growth mindset or a fixed mindset. The vignettes were fabricated news articles appearing to be from 'Psychology Today' (see Appendix A for the vignettes used). To strengthen the manipulation, participants were asked to rate statements about the PSA mindset corresponding to their condition. This was done using a 4-point Likert scale ranging from "Neutral" to "Strongly Agree", blocking the option to disagree with the statements in line with their assigned PSA mindset. A manipulation check consisted of writing down the central message of their vignette.

Following this, participants carried out two HR-inspired occupational propensity tasks chosen to appeal to a variety of individuals (Shafir et al., 2017). These included a video-based emotion-recognition task ("To what extent is the person feeling sad?") and a pattern-recognition task focused on selecting the missing tiles from six incomplete pictures (see Appendix B for an example question). After fulfilling each task, participants were falsely informed about their below-average performance to elicit feelings of failure and were asked to fill out measures about their current affect. Participants then answered items regarding self-compassion, the suggested moderator. After answering demographic questions, participants were shown a movie clip aimed to restore their mood. Finally, participants were debriefed and informed about the research design and rationale. Another consent was asked allowing the participants to withdraw their data, as the study involved deception.

**Statistical procedure*****ANOVA***

The obtained data was analyzed by the program SPSS Statistics (version 28). To test Hypothesis 1, ANOVA was used to check whether a significant difference exists between people in the growth- and fixed-mindset conditions. The significance level was set to  $p = .05$ .

***ANCOVA***

For testing Hypothesis 2, the ANCOVA procedure was conducted. In an effort to investigate a potential moderator, ANCOVA was used to test a model of negative affect considering group differences in mindset, self-compassion, and their interaction. Applying this method in a slightly unconventional manner, we sought to confirm the interaction effect of the moderator instead of ruling it out. Assumptions for both the ANOVA and ANCOVA had been checked prior to the main analyses. This was achieved by the Shapiro-Wilk test to assess normality, scatterplots and residual vs. fitted plots to test linearity, and Levene's test to check homogeneity of variance.

## Results

### Descriptive Statistics

As part of the preliminary analysis, descriptive statistics including means, standard deviations, and correlations were calculated (see Table 2). The mean negative affect for growth mindset was greater than for fixed mindset on the combined score ( $M = 41.8$  and  $M = 34.9$ , respectively) as well as after the individual tasks. The scores for negative affect on task 1 and task 2 were strongly correlated ( $r = .61$ ), suggesting a reasonable reliability of the measures. Self-compassion and negative affect showed a moderate negative correlation ( $r = -.44$ ).

**Table 2**

*Means, Standard Deviations, and Correlations of Negative Affect and Self-Compassion*

Measure	Growth		Fixed		Correlations			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Task 1	Task 2	Combined	SC
NA								
Task 1	41.5	23.4	37.6	23.2	-			
Task 2	42.0	26.9	32.2	26.6	.61**	-		
Combined	41.8	21.7	34.9	23.3	.88**	.91**	-	
SC	3.4	0.8	3.3	0.8	-.36**	-.42**	-.44**	-

*Note.* NA = Negative Affect (after Task 1, after Task 2, and the composite score of both). SC = Self-Compassion.

\*\* $p < .01$

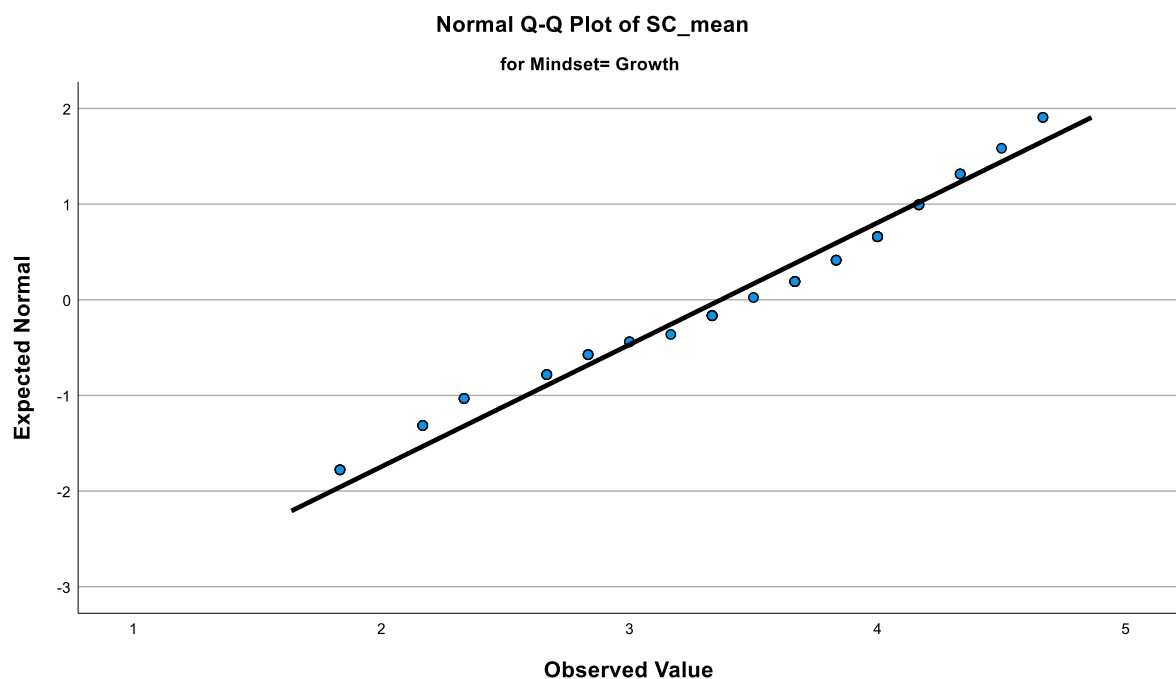
### Assumptions

To ensure the validity of further analysis, several assumptions for ANOVA and ANCOVA were tested. To assess normality, the Shapiro-Wilk test was carried out for both mindset conditions. The test was insignificant in both growth ( $W(52) = .98$ ;  $p = .56$ ) and fixed mindset condition for negative affect ( $W(45) = .96$ ;  $p = .09$ ) and in the fixed mindset condition for self-compassion ( $W(45) = .96$ ;  $p = .14$ ), suggesting there was no evidence for

the assumption being violated. The growth mindset condition in self-compassion showed a significant p-value ( $W(52) = .95$ ;  $p = .04$ ), potentially suggesting a deviation from normality. However, upon the inspection of the respective Q-Q plot (see Figure 1), this assumption was assessed as satisfied.

### Figure 1

*A Normal Q-Q Plot of Self-Compassion for Growth Mindset*

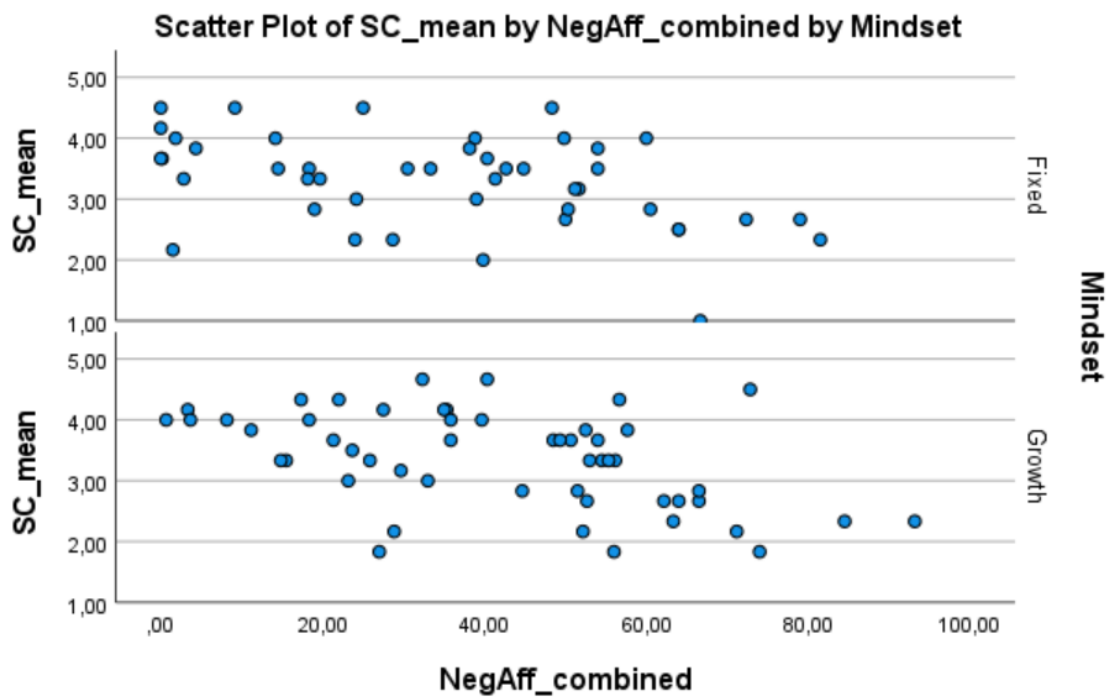


In order to assess the homogeneity of variances, Levene's test was conducted for the measure of negative affect. The assumption was not violated, neither for the ANOVA ( $F(1, 95) = .34$ ,  $p = .56$ ), nor the ANCOVA procedure ( $F(1, 95) = 1.06$ ,  $p = .31$ ).

Lastly, the assumption of linearity for the relationship between the dependent variable and the covariate was addressed. The scatterplots of self-compassion and negative affect seem to reflect a linear relationship for both types of mindset (see Figure 2). Furthermore, plotting residuals against the fitted values for the two variables did not reveal any systematic scatter for either mindset (see Figure 3). The assumption of linearity was assessed as not violated.

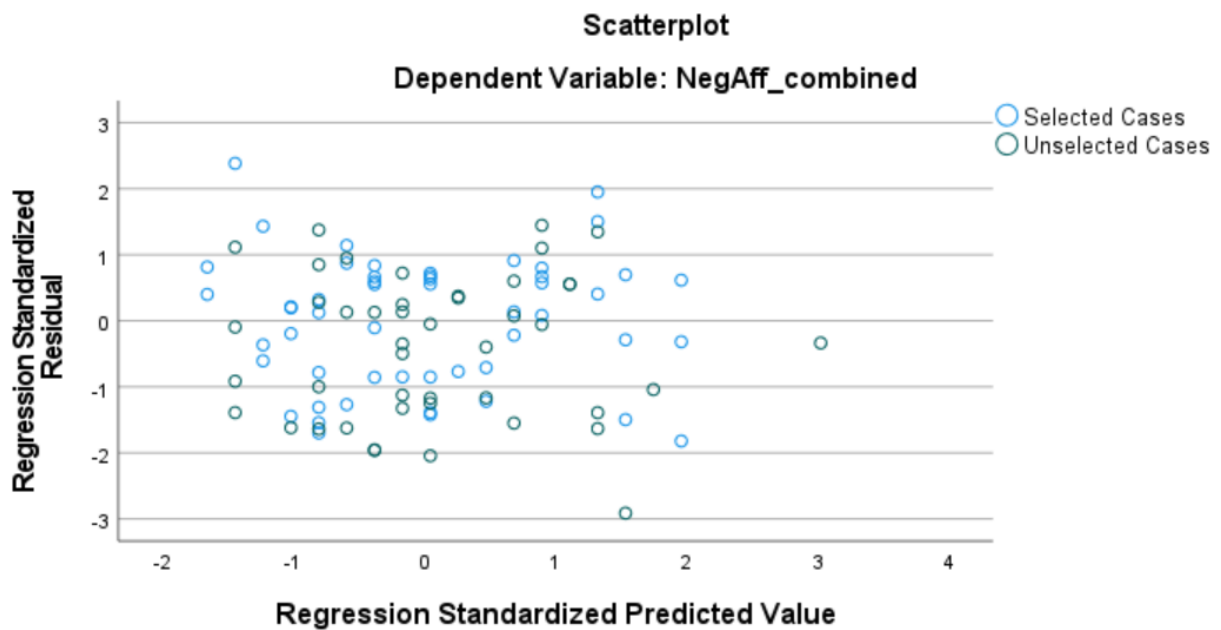
**Figure 2**

*Scatterplots of Self-Compassion and Negative Affect, Divided by Mindset*



**Figure 3**

*A Plot of Residuals to Fitted Values for Self-Compassion and Negative Affect*



*Note.* Blue = Growth Mindset. Green = Fixed Mindset.

**Main analysis**

We hypothesized that fixed mindset will lead to more negative affect after a setback in comparison to growth mindset (Hypothesis 1). This was assessed by an ANOVA procedure (see Table 3). PSA mindset did not significantly predict group differences between the negative affect of fixed versus growth condition ( $F(1, 95) = 2.25, p = 0.14$ ), thereby failing to support the hypothesis.

**Table 3**

*Means, Standard Deviations, and ANOVA in Mindset*

Measure	Growth		Fixed		<i>F</i>	<i>p</i>	$\eta^2$	95% CI for $\eta^2$	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				Lower	Upper
NA	41.8	3.0	34.9	3.5	2.25	.14	0.02	0.00	0.11

*Note.* NA = Negative Affect. CI = Confidence Interval.

**Moderator Analysis**

Our second hypothesis stated that differing levels of self-compassion will alter the main relationship between PSA mindset and negative affect, making self-compassion a moderator. An ANCOVA was conducted containing three predictors: mindset, self-compassion, and their interaction (see Table 4). Both mindset ( $F(1, 93) = 0.18, p = .67$ ) and the interaction between PSA mindset and self-compassion ( $F(1, 93) = 0.00, p = .99$ ) were rated as insignificant. The only significant predictor was self-compassion alone ( $F(1, 93) = 23.60, p < .001$ ); the analysis therefore does not lend support to Hypothesis 2.

**Table 4**

*ANCOVA for Negative Affect as Predicted by Mindset, Self-Compassion, and Interaction*

Predictor	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
(Intercept)	32328.128	1	32328.128	78.690**	<.001
MIND	74.613	1	74.613	.182	.67
SC	9696.045	1	9696.045	23.601**	<.001
MIND x SC	.029	1	.029	.000	.99



Error	38207.048	93	410.828
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*Note.* MIND = Mindset. SC = Self-Compassion.

**\*\*** $p < .01$

## Discussion

This study investigated the effects of mindset on the negative feelings accompanying workplace failure and examined self-compassion as a potential moderator in this relationship. Our first hypothesis that PSA mindset (growth of fixed) will influence negative affect was not supported. Contrary to our prediction, negative affect was not significantly predicted by allocating people to groups prompted with growth versus fixed PSA mindset. Hypothesis 2 stating that levels of self-compassion will moderate the relationship between PSA mindset and negative affect was not supported either; both the prediction by mindset and the moderation were insignificant.

### Theoretical Integration

Regarding the lack of support for Hypothesis 1, our findings that PSA mindset does not influence the experienced setback-related negative affect goes against a portion of the existent research. The meta-analytic review by Burnette et al. (2013) found a weak yet significant negative association between incremental theories and negative affect, although it should be noted that these findings were of cross-sectional nature. A similar pattern was found in various domains; it has been shown that holding a growth mindset regarding one's socioeconomic status (Zhao et al., 2023) and personality (Schleider & Weisz, 2018) correlates with less anxiety and depression. On the other hand, several studies report null findings corresponding with the present results. In a sport setting, incremental beliefs had no influence on affect over failure (Spray et al., 2006). Another series of studies failed to find a consistent positive link between growth mindset and resilience to academic setbacks, arriving at several null findings and one reversed result indicating that growth mindset could be harmful to post-setback performance (Li & Bates, 2019).

The present null findings might be explained by a difference in delayed reaction. Growth- and fixed-minded people could experience the same level of negative emotions

initially, accounting for the present results, but might differ in how they cope with the emotions later on. Lending support to this possibility, it has been shown that people with different mindsets use different strategies to repair damaged self-esteem. Growth-minded individuals prefer self-improvement, while their fixed-minded counterparts use defensive strategies. Although both strategies were found to be reasonably helpful to their users (Nussbaum & Dweck, 2008), overall effectiveness might differ, and so could the delayed negative affect. The relationship between mindset, negative affect, and self-regulation might thus be more nuanced and time-moderated.

Given the existing contradictions in the field, the concept of mindset seems to be too elusive to capture unambiguously. Contributing to this, a large meta-analysis by Sisk et al. (2018) failed to find a significant effect of mindset interventions on academic achievement, with 86% of the reviewed results being null effects. Although this meta-analysis did not directly investigate negative affect, its findings could suggest that mindset might not be as powerful a factor in achievement as previously thought. All in all, research regarding the effectiveness of mindset remains split, highlighting that its usefulness in practice might be highly context-dependent and thus not universally warranted.

It might come as a surprise that self-compassion did not act as a moderator for this relationship, contradicting Hypothesis 2. Given its protective effects, higher self-compassion was expected to flatten negative affect while lower self-compassion was expected to exacerbate it, specifically so in the fixed mindset group. However, while our results did not support self-compassion as a significant moderator, it was found to be a reliable standalone predictor of lower negative affect. This finding largely aligns with previous research: Numerous studies have reported that self-compassion predicts better coping with failure (Jennings et al., 2022; Neff et al., 2005; Waring & Kelly, 2019) and lower psychological distress (Miyagawa et al., 2018; Neff et al., 2007; Semenchuk et al., 2018). It therefore seems

that self-compassion does not interact with PSA mindset to decrease negative emotionality, but rather exerts strong protective effects independent of and superior to the ones of PSA growth mindset.

### **Strengths and Limitations**

While mindset has been studied in various domains, the present study represents one of relatively few attempts to bring the concept of mindset into the workplace. Even less attention has been dedicated to the professional skills and abilities mindset; this construct, valuable precisely because of its high context specificity, has so far only been studied by Schmitt and Scheibe (2022). Our study makes use of this workplace-specific concept and pioneers the establishment of its very first links to other crucial variables, embedding it in the scientific research and highlighting its usefulness for future studies.

This study utilized an experimental design, therefore potentially allowing for causal conclusions. A novel attribute of this study was the manipulation by original priming vignettes specifically created for PSA mindset (see Appendix A). Taking the form of fabricated yet believable articles from a popular-science website “Psychology Today”, the vignettes mimic a reliable and accessible source of information, aiding the effectiveness of the manipulation. These vignettes might help integrate the concept of PSA mindset in the scientific literature as well as serve to inspire other manipulation procedures across domains.

Additionally, the present study used manipulation strengthening items for the mindset priming. After reading the vignettes, participants were asked to rate statements about the mindset they had been assigned to; however, the Likert scale offered to them only included options ranging from “Neutral” to “Strongly Agree”. The items hence only allowed for agreement, not disagreement, with the assigned mindset. While the use of such manipulated items is purely exploratory at this point, they might act both as an element strengthening the

manipulation as well as an indicator of the participant's reported alignment with the assigned mindset. Future research might investigate the merit and applicability of such items.

The present study also showed certain limitations. A sample size larger than the current 98 would have allowed for a more robust testing of the studied effects. Additionally, our study investigated PSA mindset across a wide range of participants, arguably with very diverse professions. It might have been the case that the manipulation and HR tasks used were too general and thus distant from the participants' occupations, lowering their subjective relevance to the participants. Hindered subjective importance might have in turn affected their performance on these tasks as well as the extent to which the bogus negative feedback played its role. Adding to this is the fact that the experiment was not carried out in participants' specific work environments, which could have limited the survey's ecological validity and hindered its similarity to real workplace self-regulation challenges.

### **Future Research**

In the light of the present study and the existing research, we suggest the following directions of inquiry. Firstly, we stress the importance of testing hypotheses in a naturalistic setting, and propose that studies be conducted directly in the workplace. Such settings would allow researchers to use naturally occurring setbacks and study the pursuit of participants' own goals, measuring the relevant reactions as they happen. Studies utilizing an appropriately modified form of ecological momentary assessments (EMAs) could do just that, and ensure a fine-grained, workplace-specific insight into the interplay of mindset and workplace setbacks.

Secondly, it has been suggested that current mindset manipulations do not reach their maximum effectiveness (Sisk et al., 2018). It can also be the case that while they do exert an effect, this does not translate into manipulation checks. To address this, we suggest that manipulation vignettes can be made more occupation-specific to enhance their applicability and subjective importance to the participant. Furthermore, future studies might employ a

more naturalistic way of assessing mindset instead of manipulating it. Just like for the aforementioned measurement of outcome variables, participants could answer questions about mindset through app-based EMAs every time they receive feedback in their real work setting, thereby securing an immediate and ecologically valid reflection of personally relevant circumstances.

Finally, we suggest that future research should more closely examine the protective qualities of self-compassion in the workplace. Our analysis has hinted at its superiority over mindset in buffering negative affect and thus positively influencing goal pursuit. Future studies might focus on identifying work settings where self-compassion might be most helpful and investigating ways in which interventions with maximum effect could be designed and integrated to counter negative emotionality.

### **Practical and Theoretical Implications**

The present study arrived at null findings with regards to the effect of PSA growth mindset on negative affect. In the light of the existing conflicting research, there does not seem to be convincing evidence that general mindset interventions are effective in lowering negative emotions over workplace setbacks. However, our research and others (Carver & Scheier, 1990; Xing et al., 2021; Xu et al., 2020) converge on the fact that negative affect is the general initial reaction to negative feedback, irrespective of mindset. It therefore seems worthwhile to explore ways to counter negative affect in the workplace, as affective states are significantly correlated with goal achievement (Burnette et al., 2013).

Our research has yielded a suitable candidate for such an intervention. Self-compassion does not only seem to outperform PSA mindset in lowering setback-related negative affect, but is also associated with more resilience (Miyagawa et al., 2018), intrinsic motivation (Semenchuk et al., 2018), self-improvement through experience (Petersen, 2014), and goal progress (Jennings et al., 2022). With all of these variables being important for self-

regulation in the workplace, integrating effective self-compassion interventions into company practices could provide a multi-faceted solution to the question of employee wellbeing and efficiency, especially in times work failure and setbacks.

### **Conclusion**

The present study examined the effects of PSA mindset on negative affect accompanying workplace setbacks and the moderation of this relationship by self-compassion. This is one of the first studies that used the concept of professional skills and abilities mindset by Schmitt and Scheibe (2022) and experimentally tested its relevance for workplace self-regulation processes. According to our findings, people holding different PSA mindsets do not differ in how much negative affect they experience over workplace setbacks. While our findings go against several discoveries of a significant negative association between implicit theories and negative emotions, the existent research appears to be somewhat conflicted on this topic. We therefore suggest that the effectiveness of general PSA mindset interventions for lowering negative emotions might not be sufficiently supported by scientific inquiry. Our results also showed that self-compassion does not alter the relationship between PSA mindset and negative affect. However, self-compassion alone reliably predicts lower levels of negative emotions, suggesting that its protective effects might be superior to the ones of mindset. On the basis of the present research, future studies should focus on studying mindset in naturalistic settings and exploring the effectiveness of self-compassion interventions in the workplace to evaluate the merit of integrating such interventions into company practices. These efforts can significantly enhance employee wellbeing and subsequent goal progress in times of setbacks, which will prove beneficial to employees and companies alike.



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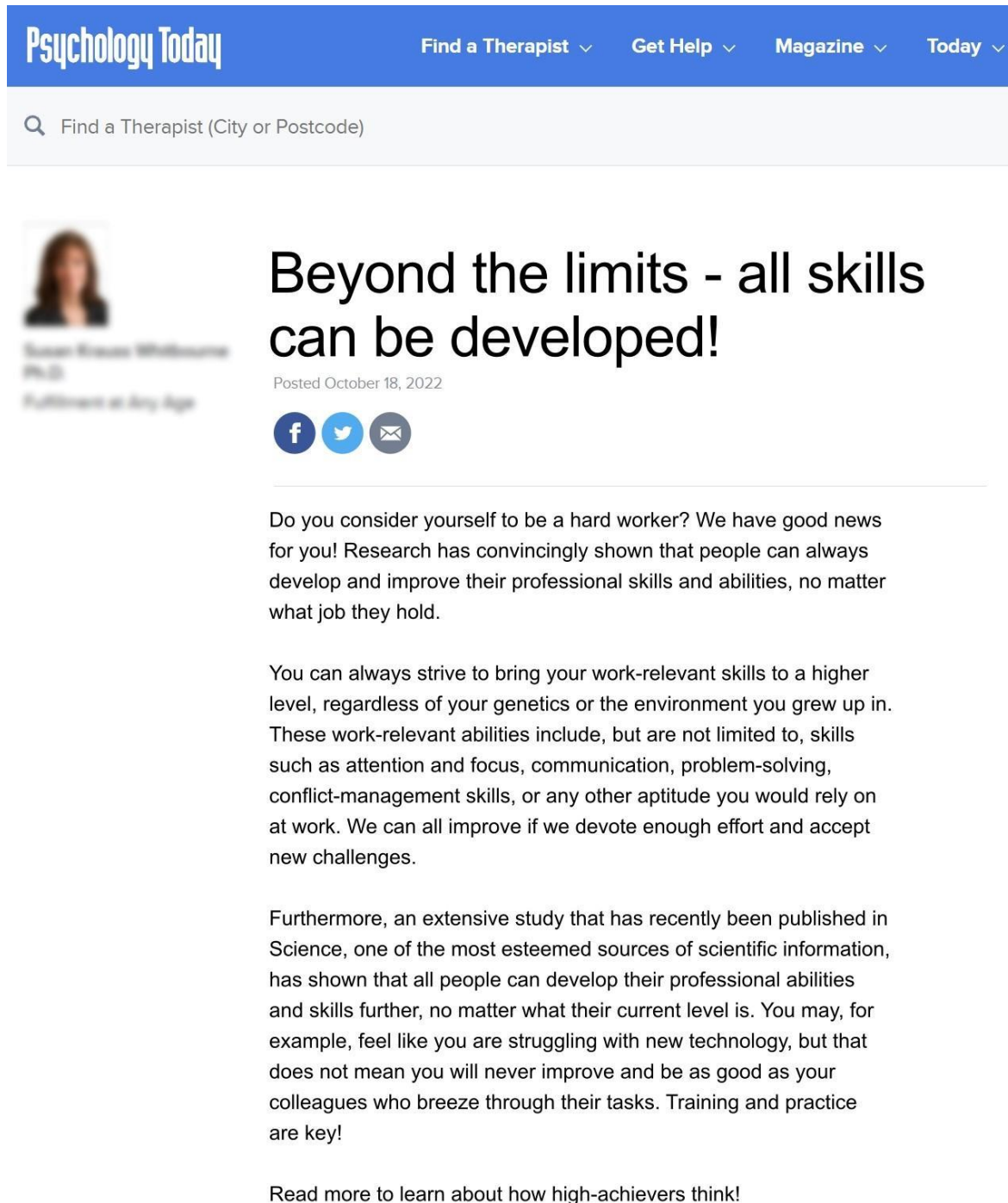
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## Appendix A

### Manipulation Vignettes for Professional Skills and Abilities Mindset


Figure A1

*Manipulation Vignette Priming PSA Growth Mindset*



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Susan Krauss Whitbourne, PhD  
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## Beyond the limits - all skills can be developed!

Posted October 18, 2022

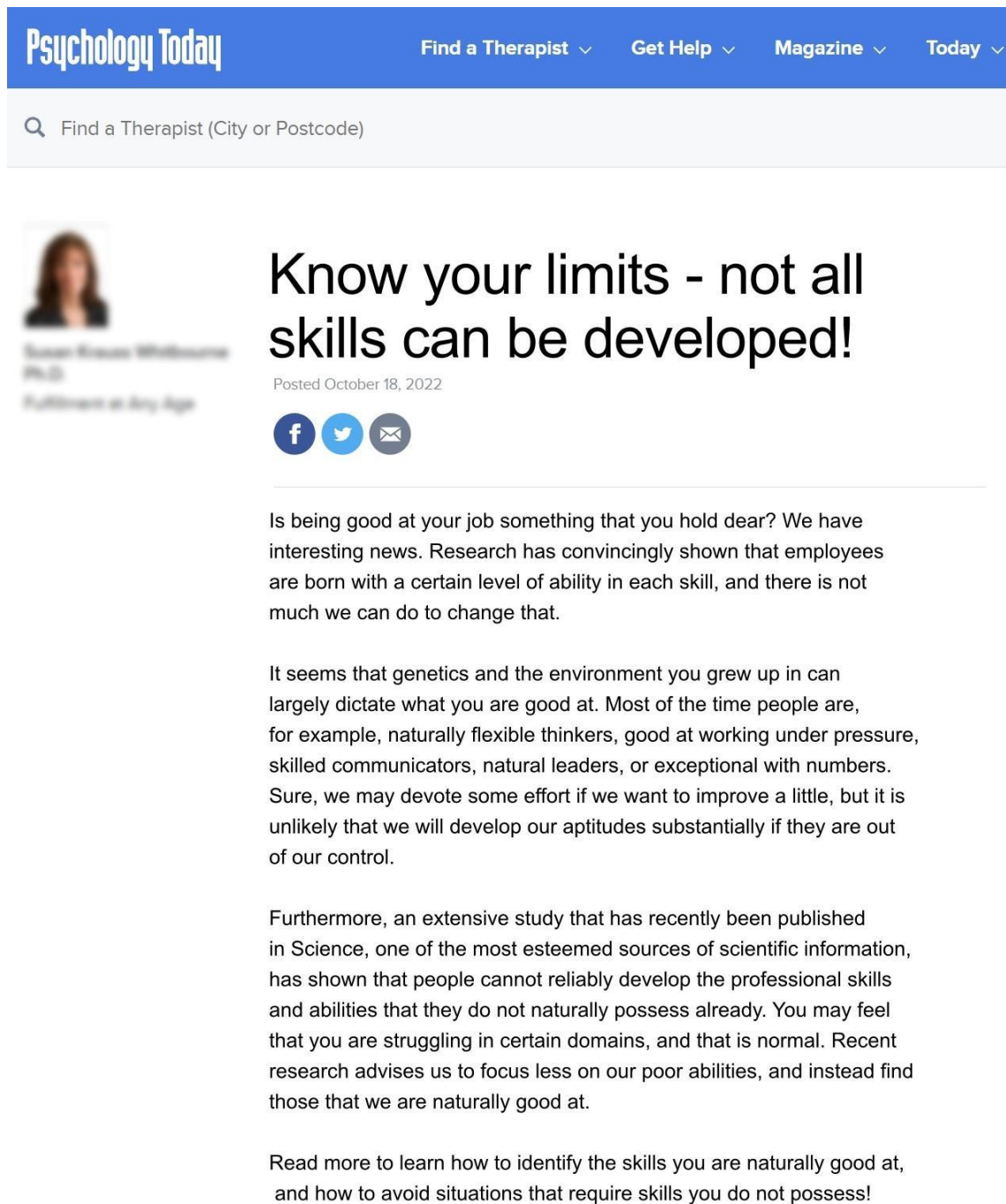
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Do you consider yourself to be a hard worker? We have good news for you! Research has convincingly shown that people can always develop and improve their professional skills and abilities, no matter what job they hold.

You can always strive to bring your work-relevant skills to a higher level, regardless of your genetics or the environment you grew up in. These work-relevant abilities include, but are not limited to, skills such as attention and focus, communication, problem-solving, conflict-management skills, or any other aptitude you would rely on at work. We can all improve if we devote enough effort and accept new challenges.


Furthermore, an extensive study that has recently been published in Science, one of the most esteemed sources of scientific information, has shown that all people can develop their professional abilities and skills further, no matter what their current level is. You may, for example, feel like you are struggling with new technology, but that does not mean you will never improve and be as good as your colleagues who breeze through their tasks. Training and practice are key!

Read more to learn about how high-achievers think!

**Figure A2***Manipulation Vignette Priming PSA Fixed Mindset*

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Susan Krauss Whitbourne  
Ph.D.  
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## Know your limits - not all skills can be developed!

Posted October 18, 2022

[f](#) [t](#) [✉](#)

Is being good at your job something that you hold dear? We have interesting news. Research has convincingly shown that employees are born with a certain level of ability in each skill, and there is not much we can do to change that.

It seems that genetics and the environment you grew up in can largely dictate what you are good at. Most of the time people are, for example, naturally flexible thinkers, good at working under pressure, skilled communicators, natural leaders, or exceptional with numbers. Sure, we may devote some effort if we want to improve a little, but it is unlikely that we will develop our aptitudes substantially if they are out of our control.

Furthermore, an extensive study that has recently been published in *Science*, one of the most esteemed sources of scientific information, has shown that people cannot reliably develop the professional skills and abilities that they do not naturally possess already. You may feel that you are struggling in certain domains, and that is normal. Recent research advises us to focus less on our poor abilities, and instead find those that we are naturally good at.

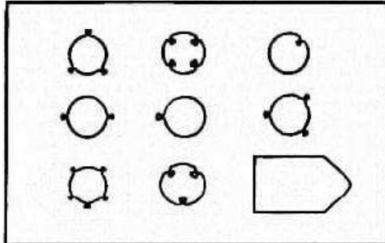
Read more to learn how to identify the skills you are naturally good at, and how to avoid situations that require skills you do not possess!



**Appendix B**

**Example Question From the Pattern-Recognition Task**

Which of the following alternatives best matches the image displayed?



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