

**Social Interactions at Work: Can a More Forgiving Attitude Explain the Association Between a Growth Mindset and Employee Job Satisfaction?**

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## **Abstract**

Job satisfaction has been broadly studied in work and organizational contexts. Its contribution to employees' health and well-being is indisputable. However, the ways employees' mindsets are associated with job satisfaction have yet to be discovered. A growth mindset has been found to be significantly associated with great number of work-related outcomes. Taking that into account, this study examines whether there is an association between growth mindset and job satisfaction, and whether this association is mediated by more positive attitudes toward forgiveness. For this purpose, a cross-sectional study was conducted measuring job satisfaction, growth mindset and attitudes toward forgiveness. Results from this survey ( $N = 188$ ) neither provide evidence that growth mindset is associated with employees' attitudes toward forgiveness and job satisfaction, nor that attitudes toward forgiveness mediate the association between employees' job satisfaction and a growth mindset. Nevertheless, this study has implications regarding how growth mindset, forgiveness, and job satisfaction may be more efficiently measured in future research.

*Keywords:* growth mindset, attitudes toward forgiveness, job satisfaction, interpersonal relationships, social interactions

For most people, their job is a very important and creative aspect of their life. For some, on the other hand, it is a necessary evil. What differentiates these employees' side of view, and why do some seem more cheerful when going to work? This is a rather complicated question and the answer does not depend only on one aspect of an employee's work life. Employees' job satisfaction is based on the combination of their job's characteristics, their emotional state when being at work, and the work environment, as perceived by the employees themselves (McShane & Von Glinow, 2015). Nevertheless, job satisfaction is a crucial element for employees' well-being, life satisfaction (Rode, 2004), and work commitment (Cooper-Hakim & Viswesvaran, 2005). Therefore, in order to discover how different factors can be associated with employees' job satisfaction, it is of utmost importance to first have a look into employees' different attitudes and attributions regarding various aspects of their job. How employees attribute different meaning in events is something that has not been thoroughly studied in the work and organizational contexts (Han & Stieha, 2020), and constitutes the central idea of implicit theories (Dweck, 1999).

Implicit theories are divided into a growth mindset view and a fixed mindset view. In contrast to a fixed mindset, a growth mindset view refers to people's beliefs that abilities are changeable, and failures and setbacks are seen as a learning opportunity that will facilitate people to grow further and learn new coping strategies (Dweck, 1999). Growth minded and fixed minded people use social information in a different way to make judgements about other people. Fixed minded people use specific traits, such as morality, in order to categorize individuals, whereas people with a growth mindset are based on situational and environmental cues to come to a conclusion (Dweck, 1995).

This different point of view may be associated with work-related outcomes. There is some preliminary evidence that employees with a growth mindset express higher job satisfaction, because they are more likely to engage in learning initiatives, develop new, more effective strategies that foster successful interventions or solutions to problems at work, and because they develop better relations with their coworkers (Rattan & Dweck, 2018; Van Tongeren & Burnette, 2018; Drewery, Sproule, & Pretti, 2020).

Given that a difference in mindsets has implications for peoples' motives and judgements (Rhew et al., 2018; Rattan & Dweck, 2018), and that it affects how individuals might respond under specific circumstances, one of the explanations of the growth mindset and job satisfaction association might be forgiveness. To illustrate, in case of an offense, growth minded people may be more likely to try to restore a harmed relationship by forgiving their offenders and avoiding revenge against them (Iwai & de Franca Carvalho, 2020). They are also expected to display prosocial behavior and avoid negative responses toward offenders, and therefore their job satisfaction will be higher than of those who did not forgive (Cao et al., 2021).

Thus, in accordance with the aforementioned, this study's aim is to investigate whether a growth mindset is associated with higher job satisfaction, and if this association can be explained by enhanced levels of forgiveness.

### **Job Satisfaction**

Job satisfaction remains up to date one of the most extensively studied topics in work and organizational psychology. Among different studies through the years, it has been operationalized differently; sometimes as an emotional, but mainly as a cognitive component (Wright, 2006; Schleicher, Watt & Greguras, 2004). The emotional component refers to how people feel about their job activities and tasks,

while the cognitive component refers to their thoughts and beliefs regarding their job activities and tasks. Job satisfaction has been measured in two different ways; as a global job satisfaction and as a facet job satisfaction. The first measures the overall attitudes employees have about their jobs, whereas the second focuses on employees' attitudes regarding specific job aspects. These aspects concern payment, promotion opportunities, supervision, colleagues, and the work itself. The last three categories have the strongest association with job satisfaction (Colquitt, Lepine, & Wesson, 2014).

One reason why job satisfaction is so thoroughly studied is its association with many work and non-work-related benefits. To start with, job satisfaction is positively associated with life satisfaction (Burnette & Pollack, 2013; Demirel, 2014; Rode, 2004). This relation is not surprising, considering how much time one spends at work. At the same time, job satisfaction is stronger correlated to life satisfaction than does income (Kahneman & Deaton, 2010).

Furthermore, job satisfaction is positively linked to organizational citizenship behaviors, work commitment and task performance (Chen, Ellsworth, & Schwarz, 2015; Peeters, De Jonge, & Taris, 2014). Employees who report higher job satisfaction are more likely to engage in organizational citizenship behaviors, as a way of showing gratitude to their employers for the pleasant working conditions (Dalal, 2005). Results were even stronger when the global job satisfaction was accounted for (LePine, Erez, & Johnson, 2002). Satisfied employees are also less likely to express high job-related stress and burnout (Skaalvik & Skaalvik, 2017), and turn to withdrawal behaviors, like turnover, frequent absences, and lateness (Peeters, De Jonge, & Taris, 2014).

Upon considering the bibliography so far, it is not surprising why job

satisfaction has caught the attention of scholars through the years. Job satisfaction remains a crucial factor for both employees' well-being and organizations' effectiveness and growth.

### **The Relation Between Growth Mindset and Job Satisfaction**

Although many different variables have been found to have a positive or negative association with employees' job satisfaction, the attributions employees make regarding their social interactions, or about events that occur at work, and what effect these may have on their job satisfaction, still remain relatively unexplored. These attributions depend on the kind of mindset someone has. The majority of studies in the field is primarily focused on the benefits or disadvantages of the different kinds of mindset in educational and academic contexts, and especially in academic performance.

The difference in mindsets refers to a growth mindset and a fixed mindset view. This distinction stems from Carol Dweck's studies on implicit theories of personality. Implicit theories concern people's beliefs about the malleability of individuals' characteristics and abilities. That means that people with a growth mindset believe that personal characteristics, such as intelligence or talent, can be developed, improved and learned throughout life (incremental theorists), while others believe that these traits are fixed and cannot be changed significantly throughout life (entity theorists) (Dweck, 1999).

People who believe that abilities are fixed may abstain from pursuing learning goals and taking challenges. They attribute low performance, obstacles and putting high effort to their low ability. In this case, persistence toward setbacks may be shortened. In comparison to this, when in a growth mindset, people are more willing in setting goals that will promote growth and learning, and paying a lot of effort is

seen as a means of progress. Obstacles are not faced as weakness, but rather as opportunity that can be exploited in order to achieve their goals (Dweck & Yeager, 2019). When at work, growth minded employees are not only not disheartened by setbacks, but also develop mechanisms that foster their problems' resolution and put even more effort in achieving their goals. Research in work and organizational contexts confirms the beneficial outcomes of growth mindset for both individuals and organizations.

Employees with a growth mindset are more likely to participate in educational programs, be loyal and motivated, and contribute more than fixed minded employees to their organizations (Briceno, 2015; Miller, 2016; Chiu et al., 1997). They are also more committed to the organization and more passionate about their job (Chen, Ellsworth, & Schwarz, 2015). A growth mindset can be beneficial for managers and leaders, too. According to Heslin et al. (2006) growth minded managers seek to improve the way they coach their employees, as well as the way they evaluate their employees' performance (Heslin et al., 2005; Heslin & VandeWalle, 2011). They demonstrate better task performance (Hoyt et al., 2012) and continuously try to improve by learning from their mistakes (Miller, 2016). In organizational levels, growth mindset is associated with greater effectiveness, and more collaborative and ethical cultures (Dweck, 2006).

There is preliminary evidence that a growth mindset is also associated with higher job satisfaction. When growth mindset employees face setbacks at work, they find ways to deal with them, and as a result, their self-efficacy levels and job satisfaction remain high (Vettori et al., 2022). Similarly, instead of getting discouraged when offended at work, they confront their offenders, because they believe that this reaction will have an impact on their offender's future behavior. As a

result, they develop more positive attitudes toward their offenders, and demonstrate higher job satisfaction (Rattan & Dweck, 2018). Additionally, growth minded employees are more likely to engage in lifelong learning initiatives, which are associated with their career success and job satisfaction (Drewery, Sproule, & Pretti, 2020). Considering the results of these studies, the first hypothesis is structured as follows:

***Hypothesis one:***

Employees with a growth mindset report higher job satisfaction.

**The Association Between Growth Mindset and Job Satisfaction: The Role of Forgiveness**

How could a growth mindset be associated with higher job satisfaction? One of the explanations may be that people with a growth mindset are more forgiving when offended. Offenses and conflicts are a common phenomenon in everyday social interactions, especially when people need to collaborate with others to achieve a common goal. When relationships are harmed, they need to be repaired. For this to happen, the victim needs to forgive the offender and get over vindictive behaviors. Forgiveness can be defined as a “*set of motivational changes whereby one becomes decreasingly motivated to retaliate against an offending relationship partner, decreasingly motivated to maintain estrangement from the offender, and increasingly motivated by conciliation and goodwill for the offender*” (McCullough et al., 1997, p. 321).

Forgiveness is positively associated with a meaningful life (Van Tongeren et al., 2015), lower stress levels (Cox et al., 2012), better cooperation, relationship satisfaction, psychological and subjective well-being (Paleari et al., 2005; Bono et al., 2008; Karremans et al., 2003), as well as greater mental and physical health (Hannon

et al., 2012). In work and organizational contexts, forgiveness is significantly associated with enhanced organizational citizenship behaviors, and decreased job-related stress and burnout (Cox, 2011; Cao, van der Wal, & Taris, 2021). Forgiveness is not only beneficial for the victim, but also for the offender, as it fosters remorse and discourages them from repeating an offensive deed (Struthers et al., 2008).

Research in the field of forgiveness reveals that the victim's attributions regarding the offense determine their behavior toward the offender (Fehr, Gelfand, & Nag, 2010). A victim's decision to forgive depends on how severe the offense was (Fincham, Jackson, & Beach, 2005), how close the victim and the offender were (Donovan & Priester, 2017), how satisfied with the relationship the victim was (Fehr, Gelfand, & Nag, 2010), and if the offender apologized (Fehr, Gelfand, & Nag, 2010); but it also depends on individual differences, like the Big Five factors of personality (McCullough & Hoyt, 2002), narcissism (Exline, Baumeister, Bushman, Campbell, & Finkel, 2004), and empathy levels (McCullough, Worthington, & Rachal, 1997). Another crucial point to take into consideration is the extent to which one believes that personal characteristics and abilities can be changed and re-shaped; this point of view may be associated with people's interpretation about the offense and their decision to forgive.

More specifically, it is expected that people with different mindsets will end up making different attributions regarding the reasons for one's transgression. Employees with a growth mindset make judgments regarding one's decision to behave in a particular way, based on information from the environment, and the offender's goals (Dweck et al., 1995). That makes them more prone than fixed mindset individuals to adopt positive attitudes towards forgiving others. On the other hand, fixed minded employees are less likely to forgive their offenders (Iwai & de

França Carvalho, 2020). They attribute the offense's reasons to the offender's stable character traits, which are visible after shortly observing their behavior (Dweck, 1999), while at the same time they attribute the causes of their own behavior to a particular situation, a bias that is known as the fundamental attribution error (Ross & Nisbett, 1991; Dweck, 2011). According the aforementioned, the second hypothesis is structured as follows:

***Hypothesis two:***

Employees with a growth mindset show more positive attitudes towards forgiveness  
at work.

Those employees who are more forgiving toward their offenders are presumed to show higher job satisfaction. Based on McCullough's (1997) interpretation, forgiveness entails a change in the victim's motivation; that is, a decreased willingness to take revenge and be distanced from the offender, and at the same time, an increased willingness to reconcile and be well disposed towards the offender. This avoidance and control of the negative responses, and the engagement to prosocial behaviors are crucial for qualitative and enduring social relationships (McCullough et al., 1998; Karremans et al., 2003; Fincham, 2000). In work and organizational contexts, this behavior is positively related to organizational citizenship behaviors, interpersonal citizenship behaviors, and job satisfaction (Cao et al., 2021; Cox, 2011; Thompson & Simkins, 2017), and is essential for both employees' well-being, and the organization's efficacy (Aquino et al., 2003). Therefore, the third hypothesis is the following:

***Hypothesis three:***

Employees who express more positive attitudes towards forgiveness demonstrate  
higher job satisfaction.

The fourth and last hypothesis is based on the fact that people with a growth mindset report higher job satisfaction due to the high quality of the work relationships they develop with their colleagues. These better relationships are a result of the growth minded employees' tendency to develop more positive attitudes toward forgiveness, decrease negative responses and increase positive responses toward their offenders in case of a conflict.

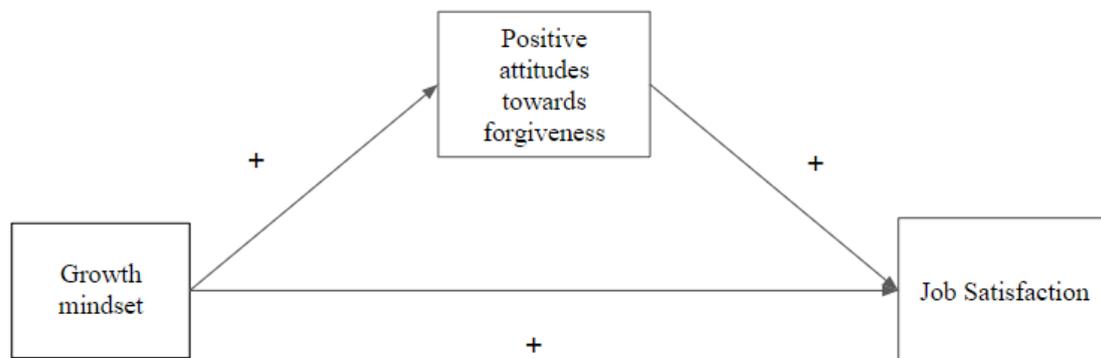
***Hypothesis four:***

The positive association between growth mindset and job satisfaction is mediated by more positive attitudes towards forgiveness in work relationships.

All the above-mentioned hypotheses are depicted in Figure 1.

**Figure 1**

*The Expected Relationship Between Growth Mindset and Job Satisfaction Mediated by Positive Attitudes Toward Forgiveness*



**Method**

**Participants**

The required sample was collected using the snowball sampling technique. That means that already recruited participants recruited more participants, until the appropriate number was reached. Personal network and social media platforms, such as LinkedIn, Facebook, Slack and email were used.

Demographics included were age, gender, country of work, and duration of current work in months and hours per week. Certain criteria were devised for a response to be considered as valid; participants should be minimum 18 years old, work in the Netherlands for at least twenty hours per week, and having spent at least six months in their current job by the time they filled out the survey.

The survey was completed by a total of 264 participants. However, due to missing data, the fact that some participants were detected from Qualtrics as potential bots (participants who filled out the survey quickly without paying attention to the questions), or did not pass the attention checks, and the fact that they did not meet all the criteria required for a response to be considered as valid, a total of 146 participants were excluded from the analysis.

That means that the final sample consisted of 118 participants ( $N = 118$ ). The required number, according to the power analysis conducted using G\*power, was at least 110 participants. Out of the final number of 118 participants, 74 were females, 43 were males, and one was third gender. Their age was between 18 and 69 years and the mean age was 31 years ( $SD = 8.67$ ). The mean values for months and hours spent in work were 35.5 ( $SD = 57.0$ ) and 36 ( $SD = 7.8$ ), respectively. Importantly, 40% of the participants worked for less than a year in their last job, and about 50% for less than 40 hours per week, which accounts for a typical full-time job in the Netherlands.

### **Procedure**

Before sharing the survey, the study was approved by the Ethical Review Board of Social and Behavioural Sciences of Utrecht University, and was filed under number 22-0707. After this, the study became available publicly on March 22<sup>nd</sup>, until May 25<sup>th</sup>. The platform used for the survey was Qualtrics.

Initially, participants were presented with an informed consent form which included information about the aim and the topic of the study, the investigators, the criteria devised for someone to take part in the study, the time the survey would take to fill out, and the declaration that all data will remain anonymous (Appendix I). After consenting to participate in this research, participants proceeded to questions regarding demographics. In the following steps, participants were instructed to fill out the growth mindset, attitudes toward forgiveness and job satisfaction questionnaires. The last step included the investigators' contact details and space for the participants to add their email address in case they wished to receive the results of the study.

Participation in the study was voluntary and participants were able to withdraw any time they liked. All data remained anonymous and accessible only to the investigators of the study. The questionnaire included two attention checks to ensure the quality of the results, and that participants did not randomly choose an answer. The form of these attention checks was as follows: "*For this question, please select 'x' (number of a specific answer)*". In total, five participants were removed because they wrongly responded to the attention checks.

## **Measurements**

### ***Growth Mindset***

Growth mindset was measured through the eight-item 'Kind of Person' Implicit Theory Scale from Levy, Stroessner, and Dweck (1998). Responses were measured on a seven-point Likert scale, with 1 = '*strongly disagree*' and 7 = '*strongly agree*'. Half of the items of the scale assessed growth mindset beliefs (e.g., "*Everyone, no matter who they are, can significantly change their basic characteristics*"), and the other half fixed mindset beliefs (e.g., "*The kind of person someone is, is something very basic about them and it can't be changed very much*").

Fixed mindset belief items were reversed, so that a higher score indicated a higher growth mindset belief. Cronbach's Alpha was 0.89.

### ***Attitudes towards forgiveness***

Attitudes toward forgiveness were assessed with the six-item 'Attitudes toward Forgiveness Scale' (Brown, 2003). Again, responses were given on a seven-point Likert scale (1 = '*strongly disagree*', 7 = '*strongly agree*'). Three items were reverse coded such that a higher score indicated a more positive attitude toward forgiveness. Since Cronbach's Alpha was low ( $\alpha = 0.44$ ), item six was excluded from the analysis ("*People should work harder than they do to let go of the wrongs they have suffered*"). After this, Cronbach's Alpha improved, but remained low  $\alpha = 0.57$ .

### ***Job Satisfaction***

Finally, based on the 'Michigan Organizational Assessment Questionnaire' (Lawler et al., 1975), job satisfaction was measured with one item ("*Overall, I am satisfied with my current job*"), using a seven-point Likert scale (1 = '*strongly disagree*', 7 = '*strongly agree*').

All three questionnaires can be found in Appendix II.

### **Data analysis**

To analyze the data, version 26 of the statistical software system SPSS was used, as well as the extension of PROCESS macro from Andrew F. Hayes, version 4.1 (Hayes, 2022). After removing the invalid responses, descriptive analyses were conducted, exploring means, standard deviations, and correlations of all study variables. Next, the reliability of both growth mindset and attitudes towards forgiveness scales were measured. Finally, mediation analysis with PROCESS macro was conducted to test total, direct, and indirect effects. In this analysis, job

satisfaction was the dependent variable, growth mindset the independent variable, and attitudes toward forgiveness the mediator.

## Results

In Table 1 the means, standard deviations and correlations for the main study variables are presented. The mean of the growth mindset has a slight skewness toward a more growth mindset view. This aligns with the results of other studies that used the same scale (Heslin & VandeWalle, 2011; Schumann & Dweck, 2014; Iwai & de Franca Carvalho, 2020). Attitudes toward forgiveness and job satisfaction have a larger skewness towards more positive attitudes, and higher job satisfaction, respectively. Next, correlation analysis was used to examine any association between the variables (see Table 1).

**Table 1**

*Descriptive Statistics and Correlations for the Main Variables*

	M	SD	1	2
1. Growth mindset	4.22	1.19		
2. Attitudes towards forgiveness	5.00	0.85	.089	
3. Job satisfaction	5.13	1.50	.043	.098

*Note.*  $n = 118$ . Responses to all variables were given on a seven-point Likert scale (1 = 'strongly disagree', 7 = 'strongly agree').

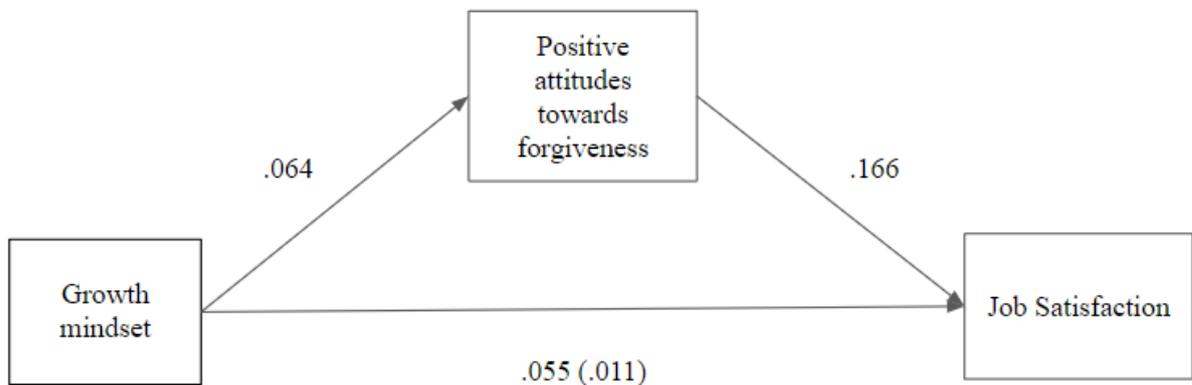
Results from the correlation analysis did not reveal any significant associations. A growth mindset is neither associated with more positive attitudes toward forgiveness, nor to greater job satisfaction. These findings are inconsistent with previous studies showing that growth mindset beliefs are associated with higher job satisfaction (Vetorri et al., 2022; Drewery, Sproule, & Pretti, 2020; Rattan & Dweck, 2018) and more positive attitudes towards forgiveness (Iwai & de Franca

Carvalho, 2020). Similarly, they do not correspond with Cox (2011) and Cao et al.'s (2021) findings, which support that forgiveness is associated with enhanced job satisfaction. Hence, hypotheses one, two and three are rejected.

Although no support was found for associations between growth mindset, attitudes toward forgiveness and job satisfaction, we did proceed with the a-priori mediation hypothesis using PROCESS macro. Not surprisingly, results (see Figure 2) revealed that a growth mindset was not associated with enhanced job satisfaction ( $b = 0.044$ , 95% CI [ - 0.190, 0.277],  $t = 0.373$ ,  $p = 0.71$ ), nor enhanced attitudes toward forgiveness ( $b = 0.064$ , 95% CI [ - 0.068, 0.20],  $t = 0.96$ ,  $p = 0.340$ ). Likewise, more positive attitudes toward forgiveness were not associated with enhanced job satisfaction ( $b = 0.166$ , 95% CI [ - 0.157, 0.490],  $t = 1.019$ ,  $p = 0.311$ ). The total effect of growth mindset on job satisfaction was not significant ( $b = 0.55$ , 95% CI [ - 0.177, 0.287],  $t = 0.466$ ,  $p = 0.642$ ), and after the inclusion of the mediator, the effect of growth mindset on job satisfaction remained insignificant ( $b = 0.011$ , 95% CI [ - 0.033, 0.040]).

## Figure 2

*The Association Between Growth Mindset and Job Satisfaction, Mediated by Positive Attitudes Toward Forgiveness*



*Note.* Values depict the standardized regression coefficients (betas). The indirect effect of growth mindset on job satisfaction is shown in parenthesis.

## Exploratory Analyses

Given that none of the hypotheses were supported, additional analyses were conducted to further explore the data. First, correlations between demographic variables and the key variables (growth mindset, attitudes toward forgiveness, and job satisfaction) were explored. Despite the fact that some significant associations between the demographic variables were found, there were no significant results between the demographic variables and the key variables (Table 2).

**Table 2**

*Correlations Between Main Variables and Demographic Variables*

	1	2	3	4	5	6	7
1. Age							
2. Gender	-						
3. Contract Hours	.18	-.16					
4. Months worked	.59*	-.04	.25*				
5. Growth mindset	-.14	-.04	.05	-.01			
6. Attitudes toward forgiveness	-.01	-.07	.05	-.04	.09		
7. Job satisfaction	.04	-.13	.08	0.11	.04	.10	

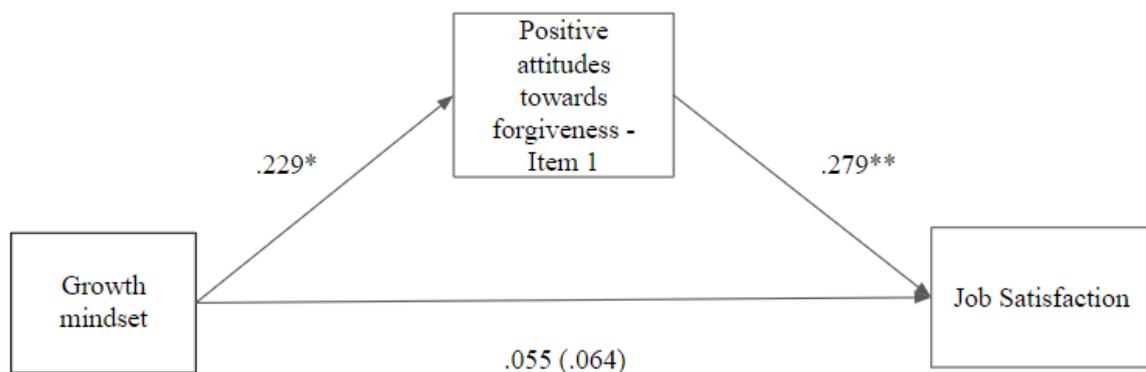
*Note.*  $n = 118$ . \* $p < .01$ .

Next, considering that the reliability of the attitudes toward forgiveness scale was relatively low, even when one of the items ( $\alpha = .57$ ) was excluded, an additional correlation analysis was conducted, to explore associations between the separate items of the attitudes toward forgiveness, growth mindset, and job satisfaction scales. Results revealed that item one of the attitudes toward forgiveness scale (“*I believe that forgiveness is a moral virtue*”) was positively associated with both a growth mindset ( $r = .21, p = < .05$ ), and job satisfaction ( $r = .24, p = < .01$ ). Then, we proceeded with a mediation analysis with item one of the attitudes toward forgiveness

scale, to examine whether it mediates the association between growth mindset and job satisfaction. Findings revealed that a growth mindset was significantly associated with item one ( $b = .23$ , 95% CI [.03, .43],  $t = 2.29$ ,  $p = .024$ ), and that it explained 4% of the variance in item one. However, growth mindset was not significantly associated with job satisfaction ( $b = -.01$ , 95% CI [-.24, .22],  $t = -.08$ ,  $p = .94$ ). Item one of the attitudes toward forgiveness scale was significantly associated with job satisfaction ( $b = .28$ , 95% CI [.07, .49],  $t = 2.64$ ,  $p = .009$ ). Both growth mindset and item one explain 6% of the variance in job satisfaction. The total effect of growth mindset on job satisfaction was not significant ( $b = .06$ , 95% CI [-.18, .29],  $t = .47$ ,  $p = .64$ ). Lastly, item one did not mediate the association between growth mindset and job satisfaction ( $b = .06$ , 95% CI [-.01, .14]) (see Figure 3).

### Figure 3

*The Association Between Growth Mindset and Job Satisfaction, Mediated by Item one of the Attitudes Toward Forgiveness Scale*



*Note.* Values depict the standardized regression coefficients (betas). \* $p < .05$ . \*\* $p < .01$ .

The indirect effect of growth mindset on job satisfaction is shown in parenthesis.

### Discussion

The aim of this study was to investigate the association between growth mindset and job satisfaction, and if attitudes toward forgiveness mediate this

association. For this purpose, we first examined whether there is an association between the study variables, and secondly if positive attitudes toward forgiveness mediate the relationship between growth mindset and job satisfaction. The results of the statistical analysis did not confirm any of the hypotheses proposed.

One reason that could explain the non-significant results is the fact that mindsets refer to domain-specific aspects and do not have a strong correlation with broader meanings (Van Tongeren & Burnette, 2018). For instance, one may believe that intelligence is something that can be changed through time, but at the same time they may not believe that one's behavior is possible to change and become less offensive. In this case, it is uncertain if they will be willing to forgive an offender, because they may be not convinced that the offender's behavior is going to change. Likewise, some people may be very forgiving, and also believe that one's behavior can change, but this may not be associated with a growth mindset. This could be a reason why growth mindset was significantly associated with item one of the attitudes toward forgiveness scale, which corresponds to the moral facet of forgiveness, and not more positive attitudes toward forgiveness in general. A positive association between a growth mindset and morality has already been confirmed by Chiu et al. (1997). Therefore, a growth mindset may be associated with more specific aspects of forgiveness and not forgiveness in general.

Furthermore, it is worth to mention that the 'Attitudes toward Forgiveness Scale' measured the attitudes of the participants and not the behavioral change, that is actual forgiveness. However, the studies we used to explain how attitudes toward forgiveness may be associated with growth mindset and job satisfaction measured actual forgiveness tendencies and not attitudes. In both studies of Cox (2011) and Iwai and de Franca Carvalho (2020) experimental designs were used, that measured

whether participants were willing to forgive a person from a scenario they had just read, or asked them to recall transgressions from the past. In the study of Cao et al. (2021), the 'Tendency to Forgive Scale' from Brown (2003) was used to measure forgiveness. Furthermore, growth mindsets refer to a cognitive aspect people unconsciously rely on in order to make decisions or interpretations of their experiences. Nevertheless, attitudes toward forgiveness are a more affective aspect, and that is why they may not be associated with a growth mindset to the same extent as a cognitive aspect would. To summarize, that means that a growth mindset may be associated with more forgiving attitudes through its association with more cognitive aspects, like for instance decision making or judgements.

Finally, the relation between growth mindset and attitudes toward forgiveness may be influenced by other conditions that were not taken into account in this study, like the cultural context. In a more fixed mindset context, where people's tendency to forgive is considered to be a weakness, or where the group is less cohesive, even more growth minded people are less likely to forgive or develop positive attitudes toward forgiving others (Cox, 2011; Fehr & Gelfand, 2012; Dweck, 2016; Iwai & de Franca Carvalho, 2020).

### **Limitations and further research directions**

The current study has some limitations, and therefore the results should be interpreted cautiously. One important limitation concerns the scales we used to measure the main study variables. To begin with, there was low variance in the responses of the study variables, especially in the 'Attitudes Toward Forgiveness Scale' ( $\sigma^2 = .74$ ), which most likely affected our results and analysis. Moreover, the means of the main study variables were skewed toward higher growth mindsets, more positive attitudes toward forgiveness, and higher job satisfaction.

Secondly, job satisfaction was measured with only one item (“*Overall, I am really satisfied with my job*”), Although we had pragmatic reasons for including just one item, it might have affected the findings, since content validity would become low, considering the limitations of having a single item represent the whole job satisfaction concept. Also, one-item measures are more vulnerable to random measurement errors (Diamantopoulos et al., 2012). One suggestion for another questionnaire that could be used is the ‘Job Satisfaction Scale’ from Warr et al. (1979). This questionnaire has been widely used in work and organizational contexts, and covers a large number of aspects that are associated with job satisfaction. Considering that the association between growth mindset and job satisfaction remains relatively unexplored, these different aspects would provide valuable insights into which factors of job satisfaction actually associate with growth mindset.

Thirdly, growth mindset refers to domain-specific and not broader aspects. However, the scale used in this study measured the general growth mindset of the participants. Given that we found a significant association between growth mindset and the moral facet of forgiveness, we could suggest that a more specific scale, like this from Han et al. (2020) that measures a moral growth mindset, would be of greater value. Maybe a moral growth mindset is more significantly associated with attitudes toward forgiveness than a general growth mindset.

Additionally, Cronbach’s alpha of the ‘Attitudes toward Forgiveness Scale’ was initially very low ( $\alpha = .44$ ), and remained low even when one item was excluded ( $\alpha = .57$ ). This low reliability means that the values measured do not accurately reflect the individuals’ attitudes towards forgiveness. Future research should focus on other scales, like the ‘Decision to Forgive Scale’ (Davis et al., 2015), which refers to the cognitive aspect of forgiveness. However, this scale refers to transgressions that have

occurred, and not the general forgiveness tendency of the participants. In this case, recalling an incident or reading a scenario should first be asked of the participants, and then the measurement of their decision to forgive would follow. Another option would be the 'Tendency to Forgive Scale' (Brown, 2003), which measures the actual willingness of people to forgive. This scale has been used to measure forgiveness in association with work-related outcomes with reliable results (Cao et al., 2021).

Considering the fact that the growth mindset and job satisfaction association was not confirmed to be significant when mediated by more positive attitudes toward forgiveness, it would be interesting if a more cognitive component was to be tested as a mediator of this relationship, such as self-efficacy. Previous research showed a positive association between growth mindset and self-efficacy, but also between self-efficacy and job satisfaction (Klassen & Chiu, 2010; Judge & Bono, 2001; Vettori et al., 2022). In general, growth mindset theory suggests that people's mindset has an impact on people's motivations, decision making and judgements, which eventually also affect the kind of strategies people develop, and the kind of goals they set. Growth minded people are more likely to set learning goals, while fixed minded performance goals. Thus, growth mindset is expected to be more strongly associated with cognitive, rather than affective factors (Dweck et al., 2009; Dweck et al., 1995).

Finally, another important aspect is the fact that the current study is cross-sectional. A longitudinal study would provide more robust results, given that growth mindset is a dynamic concept. People do not have only a growth mindset or a fixed mindset view. Their responses depend on each circumstance, and therefore repeated measures might be of greater value than a one-time measurement.

## **Conclusion**

Job satisfaction has been the focus of research in work and organizational settings for many years. A lot of different aspects have been proven to affect its levels. However, if employees' perception of the interpersonal relationships at work can have an impact on job satisfaction, is something that has not been thoroughly studied. A more growth minded view was expected to be associated with employees' different attitudes regarding transgressions at work, and their job satisfaction. Even though no significant results of the association examined were found, this study provided suggestions of how future research could study this topic.

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## Appendix I

Dear participant,

You are being invited to participate in a research study of the Department of Social and Behavioral Sciences of Utrecht University. This study is part of the students' final thesis project of the 'Social, Health and Organisational Psychology' master's program. Hereby, we provide you with some further information with regards to the purposes of our study and the use of your data.

In the context of an organization, interpersonal relationships and teamwork are factors that have a great impact in both the quality of personal experiences within the workplace, as well as the quality of the output created by the individuals and teams within the organization. In this study we aim to investigate how individuals' attitudes about their relationship with their colleagues and teams' characteristics may have an influence on the levels of job satisfaction.

For the purposes of the current research, we are recruiting participants who work in the Netherlands, are 18 years old and above, and who work for at least 20 hours per week and for at least 6 months, together with other people (colleagues). If you agree to participate, you will be asked several questions regarding your experiences at work and how you handle different situations under certain circumstances. Also, a few attention checks are added in the survey. It is anticipated that the entire survey will take 10 minutes.

Participation in this study is voluntary. You may refuse to participate or answer any questions, or withdraw from the study at any time you like, without any repercussions. All data collected will remain confidential and accessible only to the investigators of this study. Even if results are published, no names or personal data will be revealed. In case you choose to withdraw from this study, your data will be removed from the database.

If you require any further information regarding this research or your participation in this study you may contact one of the following student researchers: Dimitra Nousi ([d.nousi@students.uu.nl](mailto:d.nousi@students.uu.nl)), Eva Thorsdottir ([e.l.thorsdottir@students.uu.nl](mailto:e.l.thorsdottir@students.uu.nl)).

## Appendix II

### **‘Kind of Person’ Implicit Theory Scale**

Age: Teen, Adult

Duration: < 3 minutes

Reading Level: 9th-12th grade

Number of Items: 8

Answer Format: 1 = strongly agree; 2 = agree; 3 = mostly agree; 4 = mostly disagree; 5 = disagree; 6 = strongly disagree.

#### ***Scoring***

The fixed mindset subscale items are Q1, Q2, Q4, and Q6. The growth mindset subscale items Q3, Q5, Q7, and Q8, and should be reverse-scored. Reverse-scored items are worded in the opposite direction of what the scale is measuring. The formula for reverse-scoring an item is:

$((\text{Number of scale points}) + 1) - (\text{Respondent's answer})$

For example, Q3 is a 6-point scale. If a respondent answered 5 on Q3, you would re-code their answer as:  $(6 + 1) - 5 = 2$ .

In other words, you would enter a 2 for this respondents' answer to Q3.

To calculate subscale scores for each participant, take the average by adding respondents' answers to each subscale's items and dividing this sum by the number of items in the subscale (4).

You can either consider fixed and growth mindset subscale scores separately or generate a total growth mindset score by summing the two subscale averages and dividing by 2.

1. The kind of person someone is, is something very basic about them and it can't be changed very much.

2. People can do things differently, but the important parts of who they are can't really be changed.
3. Everyone, no matter who they are, can significantly change their basic characteristics.
4. As much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.
5. People can always substantially change the kind of person they are.
6. Everyone is a certain kind of person, and there is not much that can be done to really change that.
7. No matter what kind of person someone is, they can always change very much.
8. All people can change even their most basic qualities.

#### **Attitudes Toward Forgiveness Scale(ATF)**

1. I believe that forgiveness is a moral virtue.
2. Justice is more important than mercy. (reversed)
3. It is admirable to be a forgiving person.
4. I have no problem at all with people staying mad at those who hurt them.  
(reversed)
5. Forgiveness is a sign of weakness. (reversed)
6. People should work harder than they do to let go of the wrongs they have suffered.

Note: Responses to the scale are given on 7-point Likert-type scales anchored with strongly disagree (1) and strongly agree (7).

#### **Michigan Organizational Assessment Questionnaire Job Satisfaction**

1. Usually, I really enjoy my work.
2. Generally speaking, I'm really satisfied with my job.
3. I am satisfied with my current job.

