

**The Effect of Mindfulness on Attention Residue and Goal Progress**

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### **Abstract**

In recent years, the degree of interruptions at work has increased due to a trend of large open workplaces and more use of technology. Interruptions increase attention residue, a phenomenon happening when attention has to be divided between the interrupted and the interrupting task, leading to a high cognitive load and a deterioration in performance. Mindfulness has been shown to have a positive influence on attention sources within cognition, which could be beneficial in reducing the disadvantages of interruptions that may arise in the workplace. This paper investigates whether state mindfulness can influence goal progress via lowering attention residue. Daily diary data were obtained through assessing short daily questionnaires during ten working days, completed by 89 participants working in different work contexts with a minimum of 20 work hours a week. A negative effect of state mindfulness on attention residue was found, as well as a direct, positive effect of state mindfulness on goal progress was found. It could not be shown that this relationship was mediated by attention residue. However, it can be argued that mindfulness leads to an increase in goal progress, the specific underlying cognitive and attentional mechanisms of which are not fully known and therefore, need further investigation.

*Keywords:* work interruptions, state mindfulness, attention residue, goal progress

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### **The Effect of Mindfulness on Attention Residue and Goal Progress**

While there are many different types of workplaces, the modern workplace looks something like this for many: a physical environment with big open spaces, a vibrantly designed infrastructure containing additional services such as communal sitting areas to promote interaction and collaboration within public units (Orel et al., 2021). The open workspace may, for example, improve collaboration, creativity, and innovation on the work floor. It seems that there is a large increase in the setting up of these open-plan offices in Europe and North America (Ding, 2008). However, this form of workplace design could also affect someone's attention. Work interruptions, for instance, are common today (Mark, 2015) and are being seen more in open-plan offices. For example, an office consisting of a large open space filled with multiple workstations simultaneously brings more visual and auditory stimulants. The decrease in visual privacy and the occurrence of sudden penetrating noises and telephone conversations specifically play a role in this (Baldry & Barnes, 2012), where one is momentarily interrupted in performing a task and must shift one's attention to the intervening interruption (Puranik et al., 2018). Take the following example: an employee is occupied with a certain task and devotes most of their attention to it. When they are interrupted by something in their environment (a phone call, an email, a colleague asking a question) their attention turns to the interrupting task. Nevertheless, there is a good chance that part of their attention is still on the activity that was interrupted by the interruption. In scientific literature, this is called attention residue that is left behind on both the interrupted and the interrupting task. In short, an interruption leads to a residue of attention (because attention now is divided over two tasks) that could be unfavorable for the attention and performance of the employee on the new interrupting task. This demonstrates that it may be difficult for an employee to switch attention from one task to another. Hence, an increased

attention residue leads to a deterioration in cognitive functions, which negatively affects the performance or goal progress of the employee.

An important theme within attention, that has not only been extensively researched in recent years but has also developed a growing interest among mankind, is mindfulness. "In a mindful state, people bring attention and awareness to present-moment experiences, nonjudgmentally, nonreactively, and open-heartedly" (Hülshager & Alberts, 2020, p. 1728-1729). Being able to control your attention is essentially easier for a mindful person (Bishop et al., 2004). Keeping this in mind, it is relevant to look at the influence of mindfulness on the phenomenon of attention residue.

While we've learned that mindfulness can stabilize a person's attention, lower the attention residue and make you more resilient to a turbulent, disruptive environment (Kuo & Yeh, 2015; Long & Christian, 2015), this may be a resource that can make the constantly interrupted employee's work more effective and efficient. In other words, it may reduce attention residue and with that, increase goal progress. Studying this effect could assist in mapping out the function that mindfulness may hold as a regulator of attention and thereby, goal progress. This could ultimately contribute to the performance one delivers at work, and therefore to an overall better-functioning company.

### **The effect of State Mindfulness on Attention Residue**

Mindfulness can be seen as a state (it varies by moment), as a trait (it varies by person), and as a practice of focusing your attention in a conscious and non-judgmental way (Hülshager & Alberts, 2020). Mindfulness works through meta-awareness, a state in which one keeps track of his or her consciousness by simply noticing it without forming an opinion (Dreyfus, 2011). The interest in mindfulness seems to be growing into a more popular topic today – in the field of research as well. As a result, several companies are implementing mindfulness training in the workplace (Hyland et al., 2015) as this seems to have multiple

positive effects on cognition, including attention. In an integrative review of mindfulness at work by Good et. al (2016), mindfulness is defined as receptive attention to, and awareness of, current events and experiences. Since this includes the practice of consciously focusing one's attention, it can be seen as beneficial for dividing attention at work, for example, when one is interrupted and has to divide attention between multiple tasks. Mindfulness is known for stabilizing attention, thus it would be conducive to various aspects of attention such as stability, control, and efficiency. Practicing mindfulness supports maintaining attention in the here and now, precisely where one tends to stray off in attention (Smallwood & Schooler, 2015). It particularly makes you pay attention more efficiently. Cognitively, it increases capacity and flexibility, which could play a role in switching between different tasks: something that can happen a lot during the performance of work (Good et. al., 2016). This manifests itself mainly within working memory and fluid intelligence, the two domains of mental capacity that are usually seen as more moldable than the general, fixed mental capacity (Kane & Engle, 2002). Working memory is not only a storage place where information can be gathered and processed for a short term, but it also serves as the connecting point of attention and higher-order cognition (Baddeley, 1992). As mentioned above, it is important to note that this is where mindfulness can support capacity and flexibility. The effect of mindfulness can manifest itself in the stabilization of attention by means of the reduction of mind-wandering because attention is, as it were, returned to the here and now (Hasenkamp et. al., 2012). Due to the fact that mind-wandering takes attention away from the here and now, the available attention for the currently performed task becomes smaller, resulting in more errors in the functioning of an employee. Mindfulness trains effective control and stability of attention, which should improve performance on a task currently being performed. The controlled attention that is stimulated here by mindfulness, for example, ensures that fewer mistakes are made since attention is more stable (Smallwood

& Schooler, 2015). Due to the phenomenon of attention residue we have a reduced amount of attention available to perform at work, (Lero & Schmidt, 2016) which may lead you to wonder whether the effects of mindfulness can have a negative effect on having attention residual, and thus increase the amount of attention available. This demonstrates that mindfulness can positively influence the cognitive repertoire and therefore attention regulation. Attention is limited and therefore, has to be divided. Your attention is called upon to be able to switch between various tasks during a day or, for example, to be able to perform several tasks at the same time (Leroy, 2009). When attention is divided over several tasks, a residue of your attention remains, as it were, with each of these tasks. Taking into account that the interrupted task has not yet been finished when being interrupted with a different task, cognitive resources remain attached to the unfinished task, resulting in increased attention residue (Leroy, 2009). In this situation, the unfinished goals require attention, which is why they remain present in the mind (Moskowitz, 2002). Where attention residue remains, there is less attention to devote to the task at hand. Attention residue, therefore, increases when you divide your attention, which results in a higher cognitive load (Kanfer & Ackerman, 1989). That being said, it might be interesting to look at the influence that mindfulness can have on attention residue through the aspect of attention that includes mindfulness.

**Hypothesis 1:** State mindfulness reduces attention residue.

### **The Effect of Attention Residue on Goal Progress**

Keeping in mind that high attention residue results in a high cognitive load and therefore less attention can be used effectively, one can think of the consequences that this has for the progression of one's goals. According to past research, cognitive mechanisms have a direct relationship with one's performance results (Puranik et. al., 2020). A high attention residue, has an impact on parts of the cognitive system, namely memory and attentional

sources. This impact can negatively affect an employee's performance as it impairs performance in these areas (Puranik et. al., 2020). Think of when someone's attention is disturbed by, for example, an interruption. What happens here can be split into two parts. On the one hand, the person who is interrupted has to focus their attention entirely on the new, interrupting act, while the person in fact still has part of their attention on the interrupted task, resulting in a loss of productivity here. On the other hand, it has a negative impact on the new, disruptive task and the productivity that comes with it due to the fact that attention is still paid to the interrupted task that has not yet been completed. This might be better understood by studying one of the theories underlying it - the distraction-conflict theory (Baron, 1986). This theory argues that the distribution of attention during an interruption can negatively affect the progress of goals. The reasoning behind this is that the interruption creates a division of attention between the current activity and the interrupting activity, which results in a high mental workload and therefore a deterioration in working towards one's goals due to lower quality of performance (Gupta & Sharda, 2013). In summary, when experiencing attention residue, cognitive burdens are increased, resulting in fewer cognitive resources available for optimal employee performance. As a result of this possible relationship, I propose the following hypothesis:

**Hypothesis 2.** Attention residue reduces goal progress.

### **The Effect of State Mindfulness on Goal Progress**

If mindfulness would influence attention and thus indirectly the progression of goals, one might wonder whether there is also a direct influence of mindfulness on goal achievement. Taking into account that mindfulness has an influence on attention, it appears that it also promotes workplace functioning in general (Glomb et. al., 2011). Looking back on the topic of goal progress at work, past research has been conducted on the influence of mindfulness on performance at work. Results suggest that mindfulness positively influences



performance in several areas. Examples include improving performance levels in general and reducing performance variability and performance in relation to goal progress and motivation (Good et. al., 2016). Kuo and Yeh (2015) proposed that mindfulness causes attention residue to reduce, resulting in the availability of more attention for performance. As mentioned in the book by Chapman-Clarke (2016) on *mindfulness in the workplace*, a number of mindfulness-based interventions have already been tested and researched. The results inform us that it improved working memory in stressful situations (Jha et. al., 2007) and increased awareness and thereby job performance (Reb et. al., 2013). For these reasons, I propose the existence of a direct relationship between state mindfulness and goal progress with the following hypothesis:

**Hypothesis 3.** State mindfulness increases goal progress.

In summary, mindfulness seems to stabilize attention and allows individuals to remain efficient in the case of an interruption that may lead to attention residue. This ensures that one's attention is not infringed and that the attention residue is increased due to the total amount of attention having to be divided over several tasks. With the aim of positively influencing the goal progress of the employee, mindfulness seems to stabilize attention and allows individuals to remain efficient in the case of an interruption that may lead to attention residue. Overall, I expect that the relationship between mindfulness and goal progress is mediated by attention residue:

**Hypothesis 4.** The relationship between state mindfulness and goal progress is mediated by attention residue.

## Methods

### Participants

The participants were recruited through the social network of the researchers involved in this project. Individuals were eligible to participate with the requirement of having to work

for a minimum of 20 hours per week. Interested participants received an email containing a link that led them to the baseline questionnaire. Additionally, posters equipped with a QR code linked to the study were hung around the city of Groningen. These participants were directly led to the study by scanning the QR code. After participants completed the baseline questionnaire<sup>1</sup> they were included in an email list and were sent the daily afternoon and evening questionnaires.

In total, 109 participants responded to the baseline questionnaire<sup>2</sup>. From there, by entering their email addresses, they were invited to respond to the daily questionnaires. A sample of 96 participants answered the daily questionnaires. Of these, 7 were excluded due to incomplete data, making the final number of participants who completed the daily questionnaires 89. Out of this number, 29.20% identified as male, and 70.80% identified as female. Their age ranged from 20 years to 60 years old ( $M = 32.49$ ,  $SD = 12.21$ ). Participants were from 14 different countries. Most participants were from The Netherlands (55.10%), followed by Romania (12.40%), Slovenia (11.20%), Ireland (6.70%), Germany (5.60%) and others (9.00%). In regards to language skills, 31 participants indicated to be either native or proficient English speakers (34.80%), 33 as fluent (37.10%), 21 as conversational (23.60%), and 4 as basic (4.50%).

On average, participants indicated that they worked 36.19 hours per week ( $SD = 8.88$ ) and 8.01 hours per day ( $SD = 1.52$ ). In terms of the highest achieved level of education, 53 individuals answered university degree (59.60%), 13 individuals answered secondary school (14.60%), 8 answered doctorate degree (9.00%), 6 answered (technical) secondary school

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<sup>1</sup> Data obtained from the baseline questionnaire will not be used in this study. Thus, no further information about the data obtained from the baseline questionnaire will be reported.

<sup>2</sup> From the 96 participants 89 participants answered the questions that provided that data needed for this research. Therefore, the data of these 89 participants was used to conduct the analyses in this study.

diploma (6.70%) and finally, 9 answered other (10.10%). Generally, the majority of the participants (29.20%) are working in the health and social welfare sector.

### **Procedure**

This longitudinal study consisted of two parts: a one-time baseline questionnaire and a series of short daily afternoon and evening questionnaires. Requesting participant email addresses in the baseline questionnaire allowed for the possibility to send them the series of daily questionnaires, all of which were in English. The Ethical Committee of Psychology at the University of Groningen approved this research before conducting the study.

In order to motivate participants to take part in the surveys, there were two types of incentives. Firstly, participants received individual feedback. Second, there was a possibility of winning a prize in an anonymous raffle to encourage participants to answer the questionnaires. At the beginning of the baseline questionnaire participants were requested to give informed consent. If participants did not consent, the questionnaire then ended. In the first week of the study, participants were asked to participate in the baseline questionnaire. The baseline questionnaire was designed to take around 15-20 minutes to complete.

Starting in the second week of the study, participants received short daily questionnaires for 10 working days over a span of two weeks. The daily questionnaires entailed two short surveys, which took around 3-5 minutes to complete, per workday. For each of the daily questionnaires, the participants received a link via email, through which they could access the questionnaire. The daily questionnaires were sent out during the participants' lunch break, as well as at the end of their workday. Participants received the questionnaires specifically assigned depending on what time their workday began. The participants that started their workday early received their first survey at 12:00 pm and the second at 4:00 pm. Those that started their workday later received their first survey at 4:00 pm and the second survey at 8:00 pm.

## **Measures**

The daily questionnaires contained items that measured the variables for this thesis. The afternoon questionnaire measured attention residue. The evening questionnaire measured both state mindfulness for the whole day and goal progress of that day at work.

### ***State mindfulness***

The scale measuring state mindfulness was based on 10 items by Hülshager and Alberts (2021). The scale is frequently used to measure mindfulness in participants who did not undergo mindfulness training and have no proper meditation experience (Hülshager et al., 2013). Participants were asked to what extent, on a five-point Likert scale (1 = fully disagree; 5 = fully agree), the items applied to their experiences at work on that particular day. Sample items include: 'I had immediate intense reactions when negative things happened' and 'I found it easy to stay focused on the work task at hand' ( $\alpha = .89$ ).

### ***Attention residue***

Attention residue was assessed in the afternoon survey based on nine items from the measure of 'off-task/on-task thoughts' by Leroy and Glomb (2018). In our study, the items were adapted to reflect participants' daily experiences. Participants were requested to estimate how often their attention was impaired by interrupting tasks during work. The scale ranged from never = 1 to always = 5. A representative sample item is the following "I feel my attention was divided between the focal task and the interrupting task" ( $\alpha = .73$ ).

### ***Goal progress***

To assess goal progress, 3 items developed by Rosen et al. (2019) were used. Participants were asked to evaluate their work on a five-point Likert scale, ranging from 1 = fully disagree to 5 = fully agree. Sample items are 'I have made good progress on my work goals' and 'I had a productive day in relation to my work goals' ( $\alpha = .93$ ).

### ***Analytical procedure***

A mediation analysis has been performed via Process Macro (Hayes, 2013). Within process macro, model 4 has been used, which is usually used to analyze a mediating effect. In this analysis, it was checked whether a number of assumptions were met, to see whether the chosen statistical techniques and thus the results were adequate.

Although a multilevel analysis would be better suited for the current research, this statistical technique is not part of the curriculum. Therefore, a regression analysis using aggregated data across the ten working days was conducted. Results must be interpreted with caution.

## **Results**

### **Mediation analysis**

To consider a mediating effect between state mindfulness and goal progress through attention residue, a mediation analysis has been conducted using model 4 (mediation analysis) in Hayes' (2013) PROCESS Macro. The a-path tested the effect of state mindfulness on attention residue while the b-path measured the effect of attention residue on goal progress. The direct effect measured the effect of state mindfulness on goal progress while finally, the indirect mediating effect measured the effect of state mindfulness on goal progress mediated by attention residue. The mediation analysis was based on 5000 bootstrapped sample using bias-corrected 95% confidence intervals. Before running the mediation analysis in PROCESS all assumptions of the regression model were checked: normality, linearity, and homoscedasticity. All of these assumptions were met (see appendix A). Means, standard deviations and bivariate correlations can be found in Table 1. Additionally, figure 1 provides a visual representation of how the variables are related according to the hypotheses including effect sizes and whether or not they are significant.

Results indicated that the relationship between the state mindfulness and attention residue (path-a of mediation analysis) was significant ( $b = -0.19$ ,  $SE = 0.08$ ,  $p < 0.05$ ). Hence, H1 was supported. Furthermore, results regarding path-b showed a non-significant relationship between attention residue and goal progress ( $b = 0.07$ ,  $SE = 0.14$ ,  $p = 0.62$ ), meaning H2 was not supported. However, there was a significant direct effect between state mindfulness and goal progress ( $b = 0.45$ ,  $SE = 0.11$ ,  $p < 0.05$ ), which supports H3 providing that state mindfulness increases goal progress. The indirect effect of the relationship between state mindfulness and goal progress via attention residue was not significant because the Bootstrapping  $CI-95\%$  included zero ( $b = -0.01$ ,  $SE = 0.03$ ,  $CI-95\% = [-0.08;0.04]$ ). Therefore, attention residue is not considered a mediator variable for the effect of state mindfulness on goal progress.

**Table 1***Descriptive Statistics of variables*

	Mean	SD	1.	2.	3.
1. State mindfulness	3.79	.50	-	-	-
2. Attention residue	2.94	.38	-.25*	-	-
3. Goal progress	3.75	.53	.41**	-.06	-

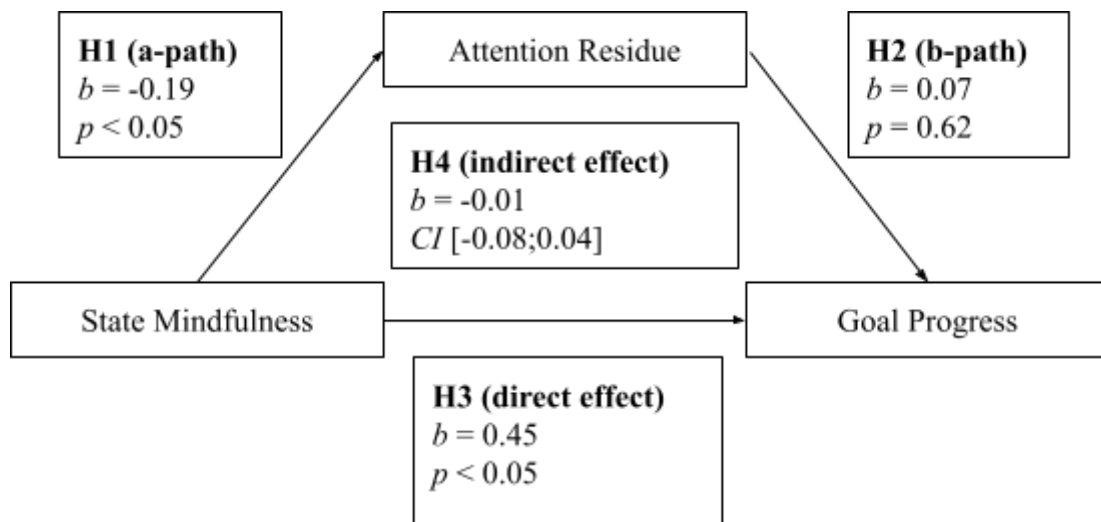
\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Sample size (n) = 89

**Figure 1**

*Mediation analysis, path A, path B, total effect, direct effect and indirect effect*



### Discussion

Mindfulness is currently a popular topic in the research field and is known, among other things, for the positive influence it may have on the functioning of the employee. The main goal of this research paper was to investigate whether there was a positive relationship between state mindfulness and goal progress, mediated by attention residue. A mediating effect was expected, with a negative relationship between state mindfulness and attention residue, a negative relationship between attention residue and goal progress, and a positive relationship between state mindfulness and goal progress. The results showed that two hypotheses were supported. We found that state mindfulness reduces attention residue, and we found that state mindfulness induces goal progress. In addition, two hypotheses are not supported. No support was found for the negative relationship between attention residue and goal progress, and no mediating effect was found for state mindfulness on goal progress through attention residue. That means that in terms of being interrupted at work, results are in line with the hypothesis that state mindfulness has a positive effect on the progress of one's goals, but that this relationship does not necessarily exist because state mindfulness reduces attention residue and with that, goal progress. That could signify that there is another possible

explanation for this positive relationship between state mindfulness and goal progress, other than attention residue functioning as mediating factor.

### **Theoretical implications**

The confirmation of the hypothesis of the direct positive relationship between state mindfulness and goal progress is in line with past research (Good et. al., 2016; Reb et. al., 2013; Tan, 2012) and was, therefore, expected. This significant positive relationship between state mindfulness and goal progress adds to the amount of support already provided by prior research into this relationship and thereby strengthens the level of evidence for the existence of this positive relationship. It may also contribute to a clearer understanding of the effects state mindfulness specifically can have on goal progress in the workplace. Prior research mainly focused on the influence of mindfulness on goal progress without differentiating between state mindfulness and trait mindfulness. Our study, on the other hand, distinguished between the two, with which we found a positive effect on goal progress at least for state mindfulness. This implies that if an employee feels mindful at a certain moment or day, that could already have a positive influence on goal progress.

However, the non-significance of the relationship between attention residue and goal progress and the non-significance of the mediating hypothesis were not expected and imply that the positive relationship between state mindfulness and goal progress might be mediated by something other than attention residue. Looking back at previous research, we expected that attention residue would reduce goal progress. For example, Gupta and Sharda (2013) argued that an interruption leads to attentional conflicts because attention must be divided between the interrupted task and the interrupting task, which causes to impairment in task performance. Furthermore, Baron's distraction-conflict theory (1986) argued that an interruption leads to cognitive overload by having to divide attention between two tasks. This leads to attentional focus, a state in which central stimuli are assigned more attention than



peripheral stimuli, which enhances performance on simple tasks while impairing performance on more difficult tasks (Muller et. al., 2004). This demonstrates that many previous research papers discussed the influence of mindfulness on overall attentional resources and with that, goal progress. The mediating hypothesis in this research paper, on the other hand, discusses attention residue as a mediating variable in particular. If past research succeeded in finding support for the existence of a relationship between attention and goal progress (Puranik, et al., 2020; Gupta & Sharda, 2013; Baron, 1986), and our research failed to find support for the existence of a relationship between attention residue and goal progress, that implies that attention residue may not be the correct component of attention that through mindfulness can influence goal progress. Instead, mindfulness may affect another component of attention, positively influencing goal progress. In order to create a better understanding of a possible mediating variable for the existing positive relationship between mindfulness and goal progress, future research could look into the underlying mechanisms regarding how attention specifically affects goal progress.

### **Practical implications**

From a practical point of view, the finding that state mindfulness can positively influence an employee's performance implies that this can lead to higher goal efficiency in work and organizational practice. Not entirely unexpected, a growing number of companies or employers are implementing mindfulness in the workplace, with the underlying idea being that offering mindfulness training promotes the results of work (Tan, 2012). "Google, General Mills, Target, Apple, McKinsey, Nike, Procter & Gamble, the Huffington Post, and many other companies have incorporated mindfulness training into their workplaces" (Wang & Adams, 2016). Spreading awareness of this positive effect state mindfulness has on goal progress, makes it possible to implement mindfulness in the workplace on a broader scale to achieve a more efficient return on goal progress. The fact that we found specific support for

the positive influence of state mindfulness, i.e. finding mindfulness at a certain moment or day, on goal progress, gives the implication that, in practice, a moment of mindfulness could already have a positive influence on goal progress. When employees' state mindfulness is widely encouraged in the workplace, it could mean that employees achieve more goals, which could be beneficial for the overall functioning of the workplace or company.

### **Limitations and future research**

In this study, we found support for a positive relationship between state mindfulness and attention residue, and for a positive relationship between state mindfulness and goal progress. Given the fact that we used questionnaires in which the participants could rate themselves on the variables, there is subjectivity in answering the questions, which means that the results should be interpreted with caution. Additionally, the reliability of this data is impacted by the sample of participants. For instance, it could be that the representation of the sample can be questioned in terms of gender distribution, given that nearly  $\frac{2}{3}$  of the sample identified as female and  $\frac{1}{3}$  as male, which is quite an uneven distribution. This distribution of gender is not representative, at the expense of the external validity to generalize it to the working population, which might be an issue for the conclusions that can be drawn.

Furthermore, one may wonder whether the questionnaire itself can be seen as an interruption at work. The participants received the daily questionnaires during working hours with the instruction to fill them in, which could temporarily distract them from their work. In this way, the questionnaire itself could influence the overall functioning of the employee in several areas, and therefore also the results.

Finally, substantively, this study mainly looks at the effect of mindfulness on goal progress in terms of attention, while state mindfulness can essentially also positively influence goal progress in another way. For example, another possible explanation for mindfulness increasing goal progress that has not been researched in this paper has to do with

the motivational aspects of mindfulness, explained by Levesque and Brown (2007). Mindful individuals seem to have a higher degree of autonomous motivation, which can be defined as a form of intrinsic motivation, meaning to be motivated in a way for things that are perceived as valuable and important to that person and ultimately enjoyable (Brown & Ryan, 2003). "Autonomously motivated action tends to be more satisfying, is persisted at longer, and shows greater success than action that is extrinsically motivated" (Good et. al., p. 125). To gain a better understanding of exactly how state mindfulness influences goal progress, future research could look at various aspects induced by state mindfulness in an employee, such as the influence of state mindfulness on motivational aspects in an employee that possibly contribute to goal progress.

### **Conclusion**

Taken together, this research has given us clarity about the positive influence that state mindfulness has on goal progress. Although we also found that state mindfulness reduced attention residue in this study, we could not find support that attention residue mediated the positive relationship between state mindfulness and goal progress. Future research could look into other factors, besides attention, arising with state mindfulness that may underlie the occurrence of an increase in goal progress. Increasing awareness of the existence of this positive relationship between state mindfulness and goal progress can ensure that employees can actually make a difference in the progression of their goals through their state mindfulness. It may thereby contribute to an increase in the implementation of mindfulness in the workplace, the progression of goals in the workplace, and finally, be beneficial for the workplace or company.

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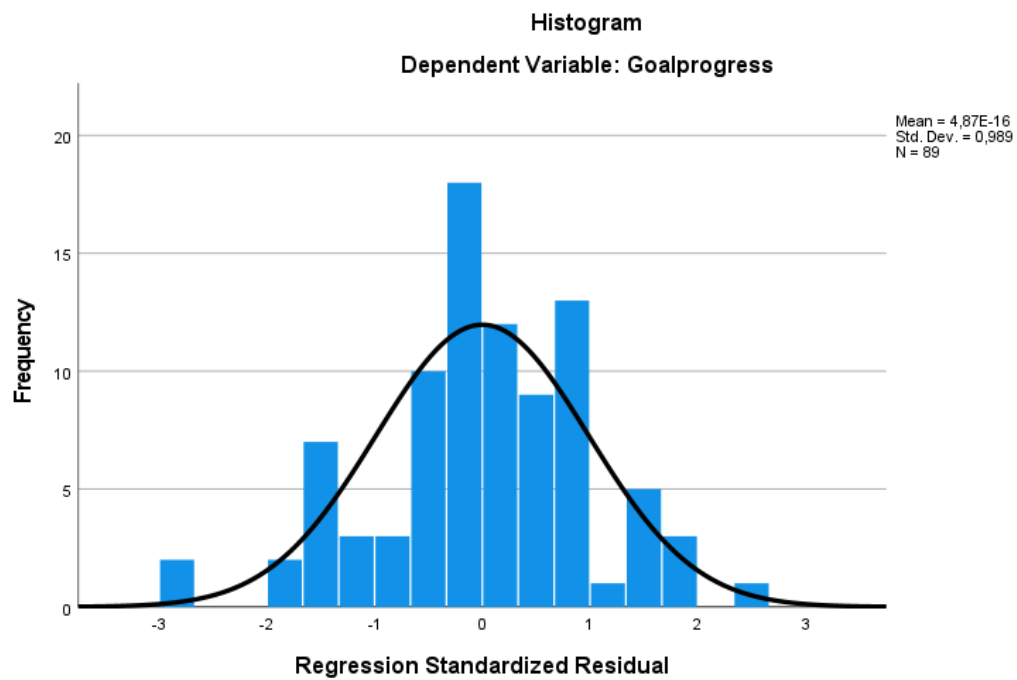
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## Appendix A

**Figure 1**

*Histogram, Dependent Variable: Goal Progress*



**Figure 2**

*Normal P-P Plot of Regression Standardized Residual, Dependent Variable: Goal Progress*

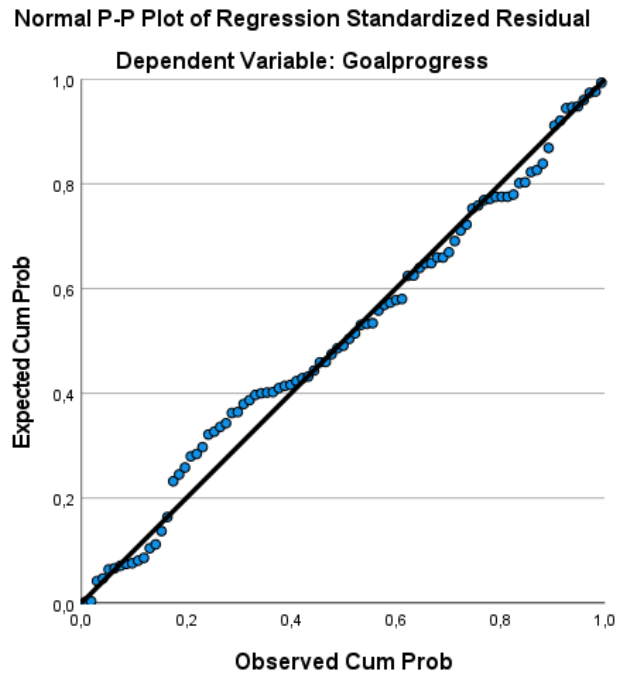


Figure 3

Scatterplot, Dependent Variable: Goal Progress

