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Research Article

The Influence of Mindfulness at Work on Prosocial Behavior in Independent Workers in Bukittinggi City with Empathy as A Mediation Variable

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Abstract: This research aims to examine: (1) the influence of mindfulness at work on prosocial behavior (2) the influence of mindfulness at work on empathy (3) the influence of empathy on prosocial behavior (4) the influence of mindfulness at work on prosocial behavior through empathy. This research is cursal research. The population of this research is independent workers in Bukittinggi City. The number of samples used was a population of 150 independent workers taken using non-probability sampling. Data collection used a questionnaire with a Likert Scale. The analysis technique used is through SmartPLS 4 software. The results of data processing in this study show that: (1) mindfulness at work has a positive and significant effect on prosocial behavior in independent workers (2) empathy has a positive and significant effect on prosocial behavior in independent workers (4) empathy mediates the effect of mindfulness at work on prosocial behavior in independent workers.

Keywords: mindfulness, work, empathy

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1. Introduction

Prosocial behavior is an important aspect in creating a healthy work environment, especially for independent workers such as online motorcycle taxi drivers who often work alone. Prosocial actions, such as helping coworkers and customers, have been shown to improve mental health and build strong social networks (Keng et al., 2019). However, not all independent workers exhibit this behavior. Many of them actually feel individualistic because of the pressure of targets and competition. One approach that encourages prosocial behavior is mindfulness at work, namely full awareness while working which can increase social sensitivity (Hafenbrack et al., 2020). Previous research also states that empathy acts as a link between workplace mindfulness and prosocial behavior which is an important mediator (Fuochi et al., 2020).

A number of previous studies have explored the relationship between mindfulness at work and prosocial behavior. Hafenbrack et al. (2020) found that mindfulness at work can increase social openness. Meanwhile, Schindler et al. (2022) emphasize that empathy has an important role in encouraging prosocial actions. De la Fuente-Anuncibay et al. (2019) revealed that mindfulness at work can increase empathy through its influence on cognitive awareness. In addition, analytical studies by Malin (2023) and Yu & Lin (2022) confirm that empathy functions as the main mediator in the relationship between mindfulness at work and prosocial behavior. These studies consistently show that mindfulness at work not only promotes empathy, but also contributes to a more significant increase in prosocial behavior.

Although many studies have discussed the relationship between mindfulness at work and prosocial behavior with empathy as a mediator, most of these studies were conducted in formal or institutional work contexts. Only a few have explored this phenomenon in the context of independent workers, such as online motorcycle taxi drivers, who have independent and flexible work patterns. This research is very important because an independent work environment requires emotional regulation and higher social awareness

without direct supervision. Therefore, this research offers novelty by highlighting the mediating role in the relationship between mindfulness at work and prosocial behavior, especially in independent workers, as well as its practical relevance in designing mindfulness-at work-based interventions in the informal sector.

This research aims to examine the influence of mindfulness at work on prosocial behavior in independent workers, the influence of mindfulness at work on empathy, the influence of empathy on prosocial behavior, and the role of empathy as a mediator in the relationship between mindfulness at work and prosocial behavior in independent workers, especially online motorcycle taxi drivers in Bukittinggi City.

2. Preliminaries or Related Work or Literature Review

Differences in Research Objects

Many previous studies have examined the relationship between mindfulness at work and prosocial behavior in formal organizational contexts, such as corporations (Bailey et al. 2021), educational institutions (De la Fuente-Anuncibay et al., 2019), and the service sector (Wu & Chen, 2019). The subjects in these studies generally consist of permanent employees or students. However, this research focuses on independent workers, especially online motorcycle taxi drivers, who face challenges in working independently, direct competition, and a lack of organizational structure. These characteristics create different social dynamics, making this research more contextual and relevant in analyzing prosocial phenomena.

Methodological Limitations of Previous Studies

Most previous studies applied simple experimental or quantitative approaches without conducting in-depth exploration of mediation models (Good et al., 2020); Hafenbrack et al., 2022). In this research, the Partial Least Square (PLS-SEM) method was used which allows testing direct and indirect effects simultaneously, so as to test the role of empathy as a mediator more clearly. Thus, this study not only confirms the relationship between variables, but also explains the psychological mechanisms linking mindfulness at work to prosocial behavior.

The Role of Empathy as a Primary Mediator

Although many studies acknowledge the importance of empathy, only a few address it as a key mediating variable in the context of workplace mindfulness. This research fills this gap by adopting findings from Schindler et al. (2022), who emphasize that empathy is an important psychological mechanism of turning mindfulness into supportive social behavior. With this approach, empathy is not only considered as an additional factor, but as the main functional bridge that shapes the prosocial responses of independent workers.

Integrasi Theory: Self-Determination Theory (SDT)

As a theoretical basis, this research adopts Self-Determination Theory (SDT) developed by Ryan & Deci (2000). This theory suggests that human behavior is influenced by three basic psychological needs: autonomy, competence, and relatedness. Mindfulness in the workplace is believed to strengthen emotional regulation and awareness of personal values (autonomy and competence), while empathy increases the sense of connectedness, namely emotional ties to other people. Thus, this model provides a comprehensive theoretical approach to explain how mindfulness at work can encourage prosocial behavior through empathy in autonomous work contexts.

Research Urgency

Digitalization and work flexibility after the pandemic have increased the number of independent workers. However, psychological and managerial research on this group is still limited. Meanwhile, the sustainability of independent work is very dependent on interpersonal relationships, reputation and non-formal social capacity. By analyzing how mindfulness and empathy can increase sustainable prosocial behavior, this research becomes important and relevant from both academic and practical perspectives.

3. Proposed Method

Types of research

This research uses quantitative methods with a causal design to test the direct and indirect influence between three variables: Mindfulness at work as the independent variable (X), empathy as the mediating variable (M), and prosocial behavior as the dependent variable (Y). This design was chosen because it is suitable for seeing the cause-and-effect relationship between the three variables.

The first step in this research is to formulate a literature review hypothesis. Research by Bailey et al. (2021) and Malin (2023) show that mindful-ness practices can increase prosocial behavior through increasing empathy and self-compassion. Additionally, De la Fuente-Anuncibay et al. (2019) emphasize that mindfulness can directly increase empathy, which then encourages positive social action. From here, four hypotheses were formulated; (1) Mindfulness at work has a positive and significant influence on prosocial behavior, (2) mindfulness at work has a positive and significant influence on empathy, (3) empathy has a positive and significant influence on prosocial behavior, and (4) empathy functions as a mediator between mindfulness at work and prosocial behavior.

After formulating a hypothesis, the next step is to identify the variables and indicators. The mindfulness at work variable was measured using indicators developed by Zivnuska et al. (2016), such as; observing, describing, acting with awareness, non-judgment of inner experience, and non-reaction. The empathy variable is measured by five indicators from Decety & Jakcson (2021), emotional awareness, empathetic listening, appropriate emotional response, empathetic communication, and social support. Meanwhile, prosocial behavior refers to indicators from Eisenberg & Miller (2022), which include direct assistance, volunteer activities, emergency response, involvement in the community, and intrinsic motivation.

The next step is to determine the population and sampling technique. The population in this study were independent workers in Bukittinggi City, especially online motorcycle taxi drivers (Gojek, Grab, Maxim). The sampling method used was purposive sampling, with criteria; aged over 18 years and relies on primary income from independent work. Based on the formula of Hair et al. (2019), the minimum number of samples required is 150 people (number of indicators multiplied by 10).

Data collection was carried out using a Likert scale, with 5 rating levels from "Strongly Disagree (1)" to "Strongly Agree (5)". All data was then analyzed using descriptive and inferential statistics. Descriptive statistics are used to see respondents' perceptions of variables, calculated using the formula:

$$P = \frac{x}{100\%}$$
n
$$(A \times 5) + (B \times 4) + (C \times 3) + (D \times 2) + (E \times 1)$$
Mean =
$$\frac{x}{100\%}$$

For inferential analysis, the Structural Equation Modeling (SEM) approach with the SmartPLS application was used. The analysis stages consist of: Measurement Model (Outer Model) to test the validity and reliability of the construct. Validity is tested through convergent validity and validity, while reliability is tested using the Composite Reliability (CR) value, which must exceed 0.7. Structural Model (Inner Model) To determine the influence between latent variables, the coefficient of determination (R2) and path coefficient values are used. R2 is used to see how much influence exogenous variables have on endogenous variables. Hypothesis testing, the test is carried out by comparing the t-statistic value of bootstrapping results with the t-table (1.96). If t-count > t-table then the hypothesis is accepted. To test mediation (H4), the indirect effect was tested through the total effect value.

Location and Time of Research

This research will be conducted on independent workers in Bukittinggi City, West Sumatra, Indonesia. Meanwhile, the research was carried out from February to March 2025.

4. Results and Discussion

Data analysis

This research uses the Structural Equation Modeling (SEM) method with the help of the SmartPLS version 4.0 application to analyze complex relationships between variables simultaneously. The SEM method was chosen because of its ability to evaluate structural models and measurements simultaneously. This model testing process consists of two main stages, namely external model testing and internal model testing. The external model test focuses on validity and reliability, where validity is tested through convergent and discriminant validity analysis to ensure that each indicator truly measures the construct in question. Meanwhile, reliability is assessed from internal consistency using Cronbach's Alpha and Composite Reliability. On the other hand, model testing evaluates the relationship between latent variables through R-square values and hypothesis testing. The R-square value shows how much the independent variable can explain variations in the dependent variable, while hypothesis testing is used to determine the significance of the relationship between variables. With this testing, research not only ensures the accuracy of each variable in the model, but also provides a deeper understanding of the contribution between variables, so that it is hoped that the results can provide meaningful theoretical insights in the relevant field.

Outer Model Analysis

The external model analysis in this research includes two main aspects, namely validity testing and reliability testing, which aims to ensure that each indicator can measure the latent variables in the model accurately and consistently. The external model has an important role in ensuring that each construct has relevant indicators, thereby producing valid and reliable analysis. This test is carried out using the algorithm in the SmartPLS version 4.0 application, which offers various methods for evaluating indicator quality. Validity tests on the external model are divided into convergent validity and discriminant validity. Convergent validity measures how strong the correlation is between indicators of the same construct, ensuring consistency in measuring the construct, with the Average Variance Extracted (AVE) value as a reference; A high AVE value indicates that the construct can explain variations in its indicators well. On the other hand, discriminant validity ensures that each construct can be distinguished from other constructs by comparing the correlation between constructs and the AVE value of each construct to show a unique identity. In addition, external model analysis also includes reliability tests that measure the internal consistency of indicators using values such as Cronbach's Alpha and Composite Reliability, which ensure that each construct has good consistency in its measurement.

Convergent Validity

Convergent validity aims to evaluate the validity of each relationship between indicators and other variables. If the measured correlation value is greater than 0.70, then the correlation level is considered high. However, in the initial development stage of research, external loading values between 0.50 and 0.60 are still acceptable. An indicator is declared valid if it has a loading factor value of more than 0.70. Indicators with high factor loadings show a significant contribution in explaining the latent construct, and vice versa. To measure the Average Variance Extracted (AVE) value, if the AVE value is greater than 0.5, then the construct is considered valid. The standard loading used in this study was 0.70. The following is an initial description of the research construct:

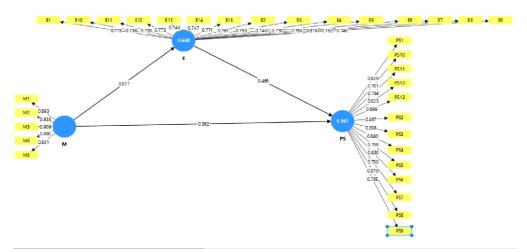


Figure 1. results of outer loading smartPLS Version 4.1.8 initial model

To make it easier to understand, below is a table of outer loading values for each indicator measured. From the final outer loading results that can be seen in the picture, it can be illustrated that the indicators for each variable provide high convergent validity, because all indicators have a loading factor above 0.7. Likewise, the cross loading value shows good discriminant validity, namely if the comparison of the correlation of variable indicators has a higher value compared to the correlation of other variable indicators.

Another method that can be used to assess discriminant validity is by comparing the Square Root of Average (AVE) value for each construct with the correlation between one construct and the other constructs in the model. A construct can be said to be valid if it has an AVE value >0.5.

Apart from using outer loading, convergent validity is also seen from the AVE value. AVE values above 0.5 are declared valid.

Table 1 Average Variance Extracted (AVE) Value

	Average Variance Extracted (AVE)
Е	0,554
MF	0,796
PS	0,612

Source: SmartPLS data processing version 4 (2025)

Based on the table above, it can be concluded that each construct has a validity above 0.5. Therefore it can be concluded that each variable has a good or acceptable level of validity.

Reliability Test

This reliability test was carried out by looking at the composite reliability value and Cronbach's alpha block indicator to measure the construct. The results of composite reliability and Cronbach's alpha can be said to be reliable if they have a value above 0.7. The following are the composite reliability results from SmartPLS input:

Tabel 2. Reliability Test

	Composite reliability (rho a)	Cronbach's alpha
E	0,956	0,954
MF	0,951	0,838
PS	0,936	0,936

Source: SmartPLS data processing version 4 (2025)

Structural Model Test (Inner Model)

This structural model testing was carried out to determine the relationship between variables, significant values and R-Square of the research model. The structural model can be evaluated using R-Square for endogenous constructs "t test" as well as the significance of the structural path parameters. This can be seen in the structural model and estimation results from R-Square using the SmartPLS application, as follows:

Table 3 R-Square

	R-Square
Empati (Z)	0,667
Perilaku Prososial (Y)	0,974

Source: SmartPLS data processing version 4 (2025)

Based on the table above, it shows that the R-Square of the prosocial behavior variable is 0.974, meaning this value states that the prosocial behavior variable can be explained by the empathy and mindfulness at work variables, while the remaining 2.60% is explained by other variables not included in this research. Furthermore, the R-Square value of the empathy variable is 0.667, meaning that this value states that the empathy variable can be explained by the mindfulness at work variable of 33% and the remaining 67% is explained by other variables not included in this research.

Discussion of Results

Midfulness at work has a positive and significant effect on prosocial behavior in independent workers

The results of the first test show that the variable mindfulness at work with prosocial behavior shows a statistical value of 10.968. This value is smaller than the t-table value (1.96). Meanwhile, the path coefficient value is 0.460, which means that mindfulness at work has a positive and significant influence on prosociality. So the higher the mindfulness at work you have, the higher the level of prosocial behavior in independent workers will be. Likewise, if your mindfulness at work is low, it will have an impact on your prosocial behavior. The results of this research indicate that the first hypothesis is accepted.

The results of this research are in line with research by Chen and Jordan (2020) which states that mindfulness has a positive and significant effect on prosocial behavior. This research explains that short but ethical mindfulness at work practices will encourage someone to behave prosocially. In addition, Kill et al. (2021) in their research also found that mindfulness at work will motivate someone to behave prosocially.

Mindfulness at work has a positive and significant effect on empathy in independent workers

The results of testing the first hypothesis show that the variable mindfulness at work with empathy shows a tstatistic value of 23.722. This value is greater than the t-table value (1.96). Meanwhile, the path coefficient value is 0.817, which means that mindfulness at work has a positive influence on empathy. So the higher the level of mindfulness at work that one

has, the higher the level of empathy for independent workers will be. Vice versa, if your mindfulness at work is low, it will have an impact on your low empathy. The results of this research indicate that the second hypothesis is accepted.

This research is supported by Reb et al. (2014) found that individuals who applied mindfulness in work activities showed more positive interpersonal behavior, including increased empathy towards coworkers. Mindfulness in the workplace has a significant and positive influence on empathy, so the relationship between the two variables is accepted. Good et al. (2016) in their integrative review explained that mindfulness increases social awareness and emotional regulation, two core components in the formation of empathy.

Empathy has a positive and significant effect on prosocial behavior in independent workers

The results of testing the third hypothesis show that the prosocial behavior empathy variable shows a t-statistic value of 14.859. This value is greater than the t-table value (1.96). Meanwhile, the path coefficient is 0.575, which means that empathy has a positive and significant effect on prosociality. So the higher the empathy you have, the higher the level of prosocial behavior in independent workers will be. The results of this research indicate that the third hypothesis is accepted.

The results of this study are similar to research by Bokuchava et al. (2025) shows that mindfulness values play an important role in increasing empathy and reducing emotionality in independent workers. In addition, research by Barbosa et al. (2023) found that mindfulness research in the work environment significantly increased the empathetic understanding of independent workers, which then had an impact on increasing healthy teamwork. Meanwhile, Morley et al. (2021) the effectiveness of a digital application-based mindfulness intervention on empathy in independent workers, and found that an increase in mindfulness scores after the intervention was accompanied by a significant increase in empathy and prosocial behavior.

Empathy mediates the effect of mindfulness at work on prosocial behavior in independent workers.

Mindfulness at work has a significant and positive effect on prosocial behavior which is mediated by empathy. This is supported by the test results which show that the t-statistic is 11.886 which is greater than 1.96, which means that the parameter is significant. Judging from the results of the indirect influence test, it shows that the influence of mindfulness at work on prosocial behavior through empathy is positive and significant. This shows that empathy is a mediator in the influence of mindfulness at work on prosocial behavior in independent workers in Bukittinggi City. This also means that mindfulness at work has an indirect effect on prosocial behavior through empathy.

This research is supported by research by Donald et al. (2019) and Kreplin et al. (2020) revealed that mindfulness practice increases a person's empathetic abilities, both emotionally and cognitively, which in turn strengthens the tendency to act prosocially. Independent workers with high levels of mindfulness at work can overcome thoughts that disturb them at work. They will always focus on the work they are doing at the moment. Passion for work, a sense of security, enjoyment of work, and feelings of finding work enjoyable will increase empathy in them. Meanwhile, empathy can be a catalyst for prosocial behavior. Independent workers who are confident in their ability to focus their minds on the work they are currently doing will be more enthusiastic and comfortable with their work. Overall, high levels of mindfulness at work can increase independent workers' sense of empathy for their work, which in turn can have a positive and significant influence on independent workers' prosocial behavior.

5. Conclusions

This research aims to analyze the influence of mindfulness at work on prosocial behavior among independent workers in Bukittinggi City regarding the importance of prosocial behavior towards their environment in order to create an environment that is always safe, comfortable and peaceful. Based on the analysis and discussion in the previous section, the following conclusions can be drawn: (1) mindfulness at work has a positive and significant effect on prosocial behavior in independent workers. These results indicate that independent workers who have a high level of mindfulness at work tend to have high prosocial behavior, (2) mindfulness at work has a positive and significant influence on empathy in independent workers. These results indicate that independent workers who have high mindfulness at work when working tend to feel high empathy for independent workers. (3) empathy has a positive and significant effect on prosocial behavior in independent workers. These results indicate

that independent workers who have high empathy for their employees tend to be encouraged to behave prosocially. (4) There is an indirect (mediation) effect which is significant and positive between the relationship between mindfulness at work on prosocial behavior and empathy as a mediator for independent workers in Bukittinggi City. This shows that high mindfulness at work in the workplace will be able to increase empathy for independent workers. So that in the end it will tend to increase prosocial behavior in independent workers.

6. Suggestion

Based on the results of the research conducted, the author provides the following suggestions: (1) For independent workers in Bukittinggi City, based on this research, researchers suggest that independent workers in Bukittinggi City can increase their mindfulness at work. Independent workers are expected to be able to increase awareness of the current moment in the workplace, accept without judgment the work experience, always regulate emotional regulation at work, pay attention to awareness of social interactions and the work environment, and always focus on involvement in work tasks.

Mindfulness at work felt by independent workers can be one of the encouraging and inhibiting factors in prosocial behavior. When the mindfulness at work felt by independent workers is high, it will give rise to the ability to behave prosocially. However, the opposite also applies, if the condition of independent workers' attention at work when working is low, the prosocial behavior of independent workers will be low so that the environment that should need help is not paid attention to. With high levels of mindfulness at work possessed by independent workers, their empathy will increase. This means that those who have mindfulness in their work will increase empathy towards themselves which will ultimately increase prosocial behavior in independent workers. Therefore, it is important for independent workers to have a state of mindfulness within themselves and always maintain this state. This will have a positive impact on the social environment and also on oneself. (2) For future researchers. It is hoped that for future researchers, this thesis can become reference material for future researchers. However, it would be better for future researchers to conduct research regarding the relationship between mindfulness at work and prosocial behavior with the latest indicators to expand and obtain more varied data.

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