The Impact of Happiness on Resilience: The Moderating Role of Mindfulness

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Abstract

This study examines the relationship between pro-social behaviour (PSB) and happiness, with an emphasis on three types of PSB—proactive, reactive and altruistic—and how these behaviours contribute to individual well-being. Additionally, this study also investigates the relationships between happiness and resilience, with a focus on the moderating role of mindfulness. The research aims to explore how happiness influences resilience and how mindfulness may moderate this relationship. Data were collected from a sample of 246 participants through questionnaires assessing psychological well-being and happiness. Regression analysis was used to test the impact of happiness on resilience and psychological well-being, while ANOVA was employed to examine mindfulness as a moderating factor. The findings revealed statistically significant relationships between happiness and both resilience and psychological well-being, with mindfulness showing a significant moderating effect. These results underscore the importance of happiness in enhancing psychological resilience and well-being, highlighting the role of mindfulness as a key factor in strengthening these connections. The study suggests the need for further research into how happiness promotes psychological sustainability and how mindfulness can be effectively applied in enhancing individual well-being.

Keywords

Happiness, resilience, mindfulness, psychological sustainability, pro-social behavior, nudging

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Introduction

In the realm of psychological research, the exploration of factors influencing human well-being and resilience has gained considerable attention, particularly in understanding how happiness and mindfulness contribute to personal growth and psychological sustainability. As individuals navigate the complexities of life, they constantly seek mechanisms that foster emotional stability and resilience, especially in the face of adversity. Among these mechanisms, happiness has emerged as a key element that not only enhances resilience but also promotes overall psychological well-being. Furthermore, mindfulness, a state of focused awareness and presence, has been identified as a potential moderating factor in these relationships, providing individuals with the tools to manage stress and maintain emotional equilibrium.

Happiness has long been regarded as an essential component of psychological well-being, with studies consistently linking it to higher life satisfaction and better mental health outcomes (Diener, 2000; Lyubomirsky et al., 2005). Research has shown that happiness can buffer against negative emotional experiences, fostering greater resilience in individuals (Fredrickson, 2001). Resilience, the ability to adapt to challenging circumstances and bounce back from setbacks, has been closely associated with psychological well-being, as resilient individuals tend to exhibit better coping strategies and emotional regulation (Tugade & Fredrickson, 2004). The dynamic interplay between happiness and resilience, however, remains an area that warrants further exploration, particularly in how these constructs interact to promote long-term psychological health.

Mindfulness, a psychological practice rooted in present-moment awareness, has gained widespread attention for its potential to enhance emotional regulation and mental resilience. By encouraging individuals to remain nonjudgmentally aware of their thoughts and emotions, mindfulness can cultivate a sense of calm and clarity, which may, in turn, influence how individuals navigate stressful situations. As a moderating variable, mindfulness may amplify the effects of happiness on resilience, enabling individuals to harness positive emotions more effectively and cope with challenges in a healthier way.

Through the analysis of data collected from 246 participants, this research aims to provide valuable insights into the ways in which happiness influences resilience and the extent to which mindfulness can play a significant role in reinforcing this relationship. By examining these dynamics, the study contributes to a deeper understanding of the factors that promote psychological sustainability and highlights the potential of mindfulness as a powerful intervention for enhancing resilience and improving overall well-being.

Happiness

The concept of happiness has been widely explored across various academic disciplines, emphasising its role in shaping overall well-being. Scholars have examined whether happiness is derived from feeling good or feeling right, while

others have investigated its interconnectedness with well-being and quality of life. The significance of social capital in influencing happiness levels has also been acknowledged, highlighting the impact of social ties and institutional structures. Additionally, happiness has been linked to physical health benefits and preventive healthcare behaviours, reinforcing its relevance in both psychological and physiological domains. Furthermore, studies have underscored the productivity advantages associated with happiness and subjective well-being, demonstrating its broader economic and organisational implications. These multidimensional insights emphasise the necessity of studying happiness in conjunction with resilience and psychological well-being.

Prosocial Behaviour

Prosocial behaviour (PSB) refers to actions aimed at benefiting others and can be divided into three categories: altruistic, proactive and reactive behaviours. Altruistic behaviours are motivated by a selfless concern for others' well-being, often occurring without any expectation of personal gain or reward. Proactive PSB involves intentional and planned actions to assist others, typically driven by internal values or the anticipation of long-term benefits. In contrast, reactive PSB is a spontaneous response to others' distress or immediate needs, often triggered by situational cues and empathy. Research on early childhood underscores the significant role of early parental influence and emotional regulation in fostering children's helping behaviours, highlighting the importance of socioemotional development in cultivating prosocial actions. Understanding these different forms of PSB provides a comprehensive view of the psychological, cognitive, and social factors that encourage helping behaviours, illustrating the complex interplay of these influences.

How PSB and Happiness Interact

The relationship between PSB and happiness has been the focus of considerable research, revealing that engaging in altruistic actions can significantly boost individual well-being. Studies indicate that both proactive and reactive PSBs contribute to emotional rewards, leading to increased happiness among adults. Altruistic actions, such as volunteering or offering assistance to others without expecting anything in return, often result in a profound sense of happiness and fulfilment. Moreover, proactive PSBs, which involve initiating and organising acts of kindness, promote long-term satisfaction by fostering meaningful relationships and providing a sense of purpose. In contrast, reactive PSBs, which are prompted by immediate needs or requests, enhance happiness by generating immediate positive social connections and a sense of influence. These findings underscore that PSBs universally contribute to well-being, suggesting that promoting such behaviours could be an effective strategy for enhancing happiness in various settings.

The Interplay of Happiness and Resilience

Resilience, the ability to recover from adversity, is essential for sustaining psychological well-being. It acts as a buffer against stressors, enabling individuals to navigate life's challenges with greater ease. Psychological well-being, which encompasses emotional balance, life satisfaction, and a sense of purpose, is often strengthened by resilience (M & M, 2023). Research suggests that happiness plays a crucial role in resilience development, as positive emotional states contribute to an individual's ability to cope with adversity (Tugade & Fredrickson, 2004). Fredrickson's broaden-and-build theory posits that happiness broadens cognitive and behavioural repertoires, fostering adaptive coping mechanisms and resilience over time (Fredrickson, 2001). Studies have shown that happier individuals demonstrate greater psychological flexibility, stronger coping skills and lower susceptibility to stress-related disorders (Cohn et al., 2009).

Moreover, resilience has been found to mediate the relationship between happiness and overall psychological well-being. Individuals who frequently experience positive emotions tend to develop cognitive and emotional resources necessary for resilience, contributing to enhanced life satisfaction and mental health stability (Fredrickson & Joiner, 2002). Understanding these dynamics is essential for promoting long-term psychological sustainability, which refers to the capacity to maintain mental and emotional stability over time. Given these findings, exploring the role of mindfulness as a moderator in the happiness-resilience-well-being relationship is particularly valuable.

Mindfulness as a Moderating Factor

Mindfulness, defined as the practice of maintaining present-moment awareness with a non-judgmental attitude, has gained significant attention for its psychological benefits. Mindfulness-based interventions have been shown to enhance subjective well-being, reduce psychological symptoms and improve emotional regulation (Keng et al., 2011). Brown and Ryan (2003) emphasized that mindfulness enhances present-moment awareness and promotes psychological well-being by fostering self-regulation and emotional clarity. These interventions promote adaptive coping strategies, thereby increasing resilience and reducing emotional reactivity to stress (Keng et al., 2011). Creswell et al. (2014) found that even brief mindfulness meditation significantly improves psychological and neuroendocrine responses to social stress. Research by Bajaj and Pande (2016) further supports the positive association between dispositional mindfulness and psychological well-being, demonstrating that individuals with higher mindfulness levels experience greater life satisfaction and emotional balance. Garland et al. (2011) showed that mindfulness enhances positive reappraisal processes, creating an upward spiral of emotional well-being and reduced stress.

Mindfulness fosters self-awareness and acceptance, key components in developing a resilient mindset that supports long-term psychological sustainability (Garland et al., 2015). Moreover, it has been linked to increased psychosocial-spiritual well-being, underscoring its holistic benefits (Jaiswal et al., 2023).

By enhancing emotional regulation and cognitive flexibility, mindfulness encourages individuals to approach challenges with a more adaptive mindset. The role of mindfulness-based nudging, small behavioural interventions aimed at promoting well-being, has also been explored in influencing psychological sustainability by reinforcing positive habits and self-regulation (Yosep et al., 2023).

Resilience and Psychological Sustainability

Resilience, as a dynamic process, is shaped by cognitive, emotional and behavioural factors (Fletcher & Sarkar, 2013). While some individuals may naturally exhibit higher resilience, it can also be cultivated through targeted interventions, such as mindfulness training and cognitive-behavioural strategies (Robertson et al., 2015). The mediating role of resilience in the happiness-well-being relationship underscores the importance of fostering resilience to enhance mental health outcomes. Studies indicate that mindfulness moderates this relationship by promoting an adaptive mindset, strengthening coping strategies and reducing reactivity to negative experiences (Malinowski & Lim, 2015). Supporting this view, Hu et al. (2015) conducted a meta-analysis revealing strong associations between resilience and improved mental health outcomes across populations.

Additionally, mindfulness-based interventions contribute to psychological sustainability by facilitating long-term emotional stability. Research suggests that mindfulness enhances resilience by fostering positive emotional states, improving self-regulation and reducing stress levels (Keng et al., 2011). By incorporating mindfulness into daily life, individuals can cultivate a sustainable approach to mental health, ultimately enhancing both resilience and psychological well-being.

The interconnections between happiness, resilience and psychological well-being are well-documented in the literature. Happiness fosters resilience by broadening cognitive and emotional resources, while resilience, in turn, enhances psychological well-being by mitigating the impact of stressors. Mindfulness plays a crucial moderating role in this relationship, as it enhances emotional regulation, promotes adaptive coping mechanisms and facilitates long-term psychological sustainability. Understanding these relationships is essential for developing interventions that support mental resilience and well-being. Future research should continue exploring the interplay between these constructs, particularly in applied settings, to inform strategies for promoting sustainable psychological health.

Methodology

This study aims to explore:

1. The impact of different types of PSB on attaining happiness.
2. The moderating role of mindfulness in the relationship between happiness and resilience, and to assess the impact of happiness on resilience.

Two survey forms were circulated to gather data on resilience and happiness. The first questionnaire was derived from the research article titled 'Dutch adaptation of the Prosocial behaviour Questionnaire (PBQ-NL): A validity and reliability study in adolescents and early adults', which is designed to measure various aspects of PSB (Güroğlu et al., 2014). The second survey utilised the Oxford Happiness Questionnaire, a well-established tool for examining overall happiness (Hills & Argyle, 2002).

A sample size of 246 postgraduate students was targeted for this study to ensure a diverse and representative demographic for examining the relationship between psychological resilience and happiness. Data collection was conducted using Microsoft Forms, which provided an efficient and user-friendly platform. All responses were anonymised to maintain confidentiality and adhere to ethical standards.

Data Analysis

Proactive Social Behaviour and Happiness

H_0: There is no significant impact of Proactive Social Behaviour on Happiness.
H_1: There is a significant impact of Proactive Social Behaviour on Happiness.

The model summary (Table 1) of our regression analysis provides insights into the relationship between Proactive Social Behaviour and Happiness. The correlation coefficient (R) is 0.158, indicating a weak positive relationship between the two variables. This suggests that as Proactive Social Behaviour increases, Happiness tends to increase slightly, but the relationship is not strong. The R Square (R^2) value is 0.025, meaning that only 2.5% of the variability in Happiness is explained by Proactive Social Behaviour. This low R^2 value indicates that Proactive Social Behaviour is not a significant predictor of Happiness and that most of the variance in Happiness is due to other factors. The Adjusted R^2, which accounts for the number of predictors in the model, is 0.015. This slight reduction from the R^2 value suggests that even after adjusting for potential overfitting, Proactive Social Behaviour still explains very little of the variance in Happiness. The standard error of the estimate (SEE) is 0.6378078, indicating the average distance that the observed Happiness scores fall from the predicted scores. This value shows considerable variability in Happiness that is not accounted for by Proactive Social Behaviour. In conclusion, Proactive Social Behaviour has a minimal and weak impact on Happiness, explaining only a small

Table 1. Model Summary.

Model	R	R^2	Adjusted R^2	Std. Error in the Estimate
1	0.158[a]	0.025	0.015	0.6378078

Note: [a]Predictors: (Constant), proactive score.

Table 2. ANOVA[a]

Model 1	Sum of Squares	*df*	Mean Squares	*F*	Sig.
Regression	1.048	1	1.048	2.577	0.112[b]
Residual	40.680	100	0.407		
Total	41.728	101			

Notes: [a]Dependent variable: Happiness score.
[b]Predictors: (Constant), proactive score.

fraction of its variability. Other factors likely play a more significant role in determining Happiness.

The analysis conducted here delves into the relationship between Proactive Social Behaviour and Happiness through regression analysis, with a focus on the ANOVA table's key values (Table 2). The Sum of Squares for Regression stands at 1.048, portraying the amount of variability in Happiness scores explained by Proactive Social Behaviour. Conversely, the Sum of Squares for Residuals amounts to 40.680, indicating the unexplained variability in Happiness. The Total Sum of Squares, combining both explained and unexplained variability, tallies at 41.728.

Furthermore, Degrees of Freedom shed light on the model's complexity, with one predictor variable (Proactive Social Behaviour) contributing to Regression and 100 observations remaining for Residuals. The Mean Square values for Regression (1.048) and Residuals (0.407) are derived by dividing the respective Sum of Squares by their Degrees of Freedom. The *F*-value, standing at 2.577, is calculated by dividing Mean Square Regression by Mean Square Residual, serving as a test for the null hypothesis regarding the model's adequacy.

The obtained Significance level, or *p* value, at .112, fails to meet the conventional alpha level of 0.05, suggesting the model lacks statistical significance. Thus, there's insufficient evidence to reject the null hypothesis, indicating Proactive Social Behaviour's insignificant impact on Happiness within this sample. Despite some variance in Happiness being explained by the model (as evidenced by the Regression Sum of Squares), it is deemed minimal and statistically nonsignificant. The substantial Residual Sum of Squares further emphasises that factors beyond Proactive Social Behaviour primarily influence Happiness levels.

In essence, while Proactive Social Behaviour may exhibit a slight positive relationship with Happiness, it does not emerge as a significant predictor. This implies that other unexplored variables potentially play more pivotal roles in determining Happiness.

The correlation table (Table 3) indicates the relationship between Happiness Score and Proactive Score. The Pearson correlation coefficient between these two variables is –0.158, suggesting a weak negative correlation. This implies that as Proactive Score increases, there is a slight tendency for Happiness Score to decrease, though the correlation is weak. The significance level (Sig. 2-tailed) associated with this correlation is 0.112. Since this *p* value exceeds the conventional threshold of .05, the correlation is not statistically significant. Consequently, there's insufficient evidence to conclude that there's a significant relationship between Proactive Score and Happiness Score in this sample. Both variables have

Table 3. Correlation Between Happiness Score and Proactive Score.

		Happiness Score	Proactive Score
Happiness score	Pearson Correlation	1	–0.158
	Sig.(2-tailed)		0.112
	N	102	102
Proactive score	Pearson Correlation	–0.158	1
	Sig.(2-tailed)	0.112	
	N	102	102

Table 4. Model Summary.

Model	*R*	R^2	Adjusted R^2	Std. Error in the Estimate
1	0.100[a]	0.010	0.000	0.6427126

Note: [a]Predictors: (Constant), Reactive Score.

a sample size (*N*) of 102, indicating a balanced dataset with equal numbers of observations for each variable. In summary, the correlation analysis suggests that Proactive Score does not significantly correlate with Happiness Score in this dataset. While a weak negative correlation is observed, it is not statistically significant, indicating that factors other than Proactive Score may predominantly influence Happiness Score. Further exploration with larger sample sizes or additional variables could provide deeper insights into the factors affecting the Happiness Score.

Based on the results provided in the analysis, the correct interpretation would be that the null hypothesis (H_0) is correct. This means that there is no significant impact of Proactive Social Behaviour on Happiness in the given sample. The obtained *p* value of .112 is higher than the conventional alpha level of 0.05, indicating that there is insufficient evidence to reject the null hypothesis. Therefore, the correct interpretation is that Proactive Social Behaviour does not significantly impact Happiness in this dataset.

Reactive PSB and Happiness

H_0: There is no significant impact of Reactive Social Behaviour on Happiness.
H_2: There is a significant impact of Reactive Social Behaviour on Happiness.

The model summary (Table 4) provides insights into the relationship between the independent variable (Reactive Score) and the dependent variable (Happiness). The Pearson correlation coefficient (*R*) is 0.100, indicating a very weak positive correlation between Reactive Score and Happiness. This suggests that as Reactive Score increases, there is a slight tendency for Happiness to increase, but the relationship is very weak. The R^2 value is 0.010, indicating that only 1% of the variance in Happiness can be explained by Reactive Score. This means that Reactive Score has a very minimal explanatory power on Happiness, with most of

Table 5. ANOVA.[a]

Model 1	Sum of Squares	*df*	Mean Squares	*F*	Sig
Regression	0.420	1	0.420	1.017	0.316[b]
Residual	41.308	100	0.413		
Total	41.728	101			

Notes: [a]Dependent Variable: Happiness Score.
[b]Predictors: (Constant), Reactive Score.

Table 6. Correlation Between Reactive Score and Happiness Score.

		Reactive Score	Happiness Score
Reactive score	Pearson Correlation	1	–0.100
	Sig.(2-tailed)		0.316
	N	102	102
Happiness score	Pearson Correlation	–0.100	1
	Sig.(2-tailed)	0.316	
	N	102	102

the variability in Happiness remaining unexplained. The SEE is 0.6427126, representing the average deviation of the observed Happiness scores from the predicted scores. This value shows considerable variability in Happiness that is not accounted for by Reactive Score alone. The model summary indicates that Reactive Score has a negligible and statistically insignificant impact on Happiness. The weak correlation and extremely low R^2 values suggest that Reactive Score does not significantly predict Happiness, highlighting the need to consider other factors that may influence Happiness more substantially.

The ANOVA table (Table 5) evaluates the overall significance of the regression model in predicting Happiness Score based on the predictor variable, Reactive Score. Sum of Squares 0.420. This value indicates the variability in Happiness Score that is explained by the model's predictor, Reactive Score. Sum of Squares 41.308 represents the unexplained variability in Happiness Score that is not accounted for by the model. With an *F*-value of 1.017 and a *p* value of .316, the model is not statistically significant at the conventional alpha level of 0.05. This indicates that Reactive Score does not significantly predict Happiness Score in this model. While the model explains some variability in Happiness Score, the lack of significance suggests that other factors not included in the model may have a more substantial influence on Happiness Score. Therefore, based on this analysis, Reactive Score alone does not appear to be a significant predictor of Happiness Score.

The correlation table (Table 6) presents the relationship between Reactive Score and Happiness Score. The Pearson correlation coefficient between Reactive Score and Happiness Score is –0.100, indicating a very weak negative correlation. This implies that as Reactive Score increases, there is a slight tendency for Happiness Score to decrease, though this relationship is very weak. The significance level (Sig. 2-tailed) associated with the correlation is 0.316. This *p* value indicates the probability of observing this correlation by chance. Since

the *p* value is greater than the conventional alpha level of 0.05, the correlation is not statistically significant. The sample size (*N*) for both Reactive Score and Happiness Score is 102, suggesting a balanced dataset with no substantial difference in sample sizes. While there is a weak negative correlation observed, it is not statistically significant, implying that other factors may play a more crucial role in determining Happiness Score. Further investigation with larger samples or additional variables may provide deeper insights into the factors influencing Happiness Score. Based on the results provided in the analysis, the correct interpretation would be that the null hypothesis (H_0) is correct. This means that there is no significant impact of Reactive Social Behaviour on Happiness in the given sample. The obtained *p* value of .316 is higher than the conventional alpha level of 0.05, indicating that there is insufficient evidence to reject the null hypothesis. Therefore, the correct interpretation is that Reactive Social Behaviour does not significantly impact Happiness in this dataset.

Altruistic PSB

H_0: There is no significant impact of Altruistic Social Behaviour on Happiness.
H_3: There is a significant impact of Altruistic Social Behaviour on Happiness.

The Pearson correlation coefficient (*R*) is 0.094, indicating a very weak positive correlation between Altruistic behaviour and Happiness Score (Table 7). This suggests that as Altruistic behaviour increases, there is a slight tendency for Happiness Score to increase, although the relationship is very weak. The R^2 value is 0.009, indicating that only 0.9% of the variance in Happiness Score can be explained by Altruistic behaviour. The Adjusted R^2 is –0.001, which suggests that the model does not improve the prediction of Happiness Score compared to using the mean of the dependent variable alone. This indicates that including Altruistic behaviour as a predictor does not enhance the model's explanatory power. The SEE is 0.6431356, representing the average deviation of the observed Happiness Score from the predicted score. The weak correlation and extremely low R^2 values indicate that Altruistic behaviour does not significantly predict Happiness Score, underscoring the need to explore additional variables that may influence Happiness Score more substantially.

The ANOVA table (Table 8) presents the relationship between Happiness Score and Altruistic behaviour. The Pearson correlation coefficient between the two variables is –0.094, indicating a very weak negative correlation. This suggests that as Altruistic behaviour increases, there is a slight tendency for Happiness Score to decrease, though the relationship is very weak. The significance level (Sig. 2-tailed) associated with the correlation is 0.349, indicating the probability

Table 7. Model Summary (Altruistic Social Behaviour on Happiness).

Model	*R*	R^2	Adjusted R^2	Std. Error in the Estimate
1	0.094[a]	0.009	–0.001	0.6431356

Note: [a]Predictors: (Constant), Altruistic.

Table 8. ANOVA[a] (Happiness Score & Altruistic Behaviour).

Model 1	Sum of Squares	*df*	Mean Squares	*F*	Sig
Regression	0.366	1	0.366	0.884	0.349[b]
Residual	41.362	100	0.414		
Total	41.728	101			

Notes: [a]Dependent Variable: Happiness Score.
[b]Predictors: (Constant), Altruistic.

Table 9. Descriptive Statistics.

	Mean	Std. Deviation	*N*
Resilience_score	3.5248	0.98926	246
happiness_score	3.3049	1.67240	246

Table 10. Correlations.

		Resilience_score	happiness_score
Pearson Correlation	Resilience_score	1.000	0.732
	happiness_score	0.732	1.000
Sig. (1-tailed)	Resilience_score	.	0.000
	happiness_score	0.000	.
N	Resilience_score	246	246
	happiness_score	246	246

of observing this correlation by chance. Since the p value is greater than the conventional alpha level of 0.05, the correlation is not statistically significant. Therefore, there is insufficient evidence to conclude that there is a meaningful relationship between Altruistic behaviour and Happiness Score in this sample. The sample size (N) for both Happiness Score and Altruistic behaviour is 102, suggesting a balanced dataset with no substantial difference in sample sizes. While there is a weak negative correlation observed, it is not statistically significant, implying that other factors may play a more crucial role in determining Happiness Score. The hypothesis that would be accepted is H_0: There is no significant impact of Altruistic Social Behaviour on Happiness. Descriptive statistics for Resilience and Happiness scores are presented in Table 9.

Resilience and Happiness

H_0: There is no significant impact of happiness on resilience.
H_4: There is a significant impact of happiness on resilience.

The correlation table (Table 10) presents the relationship between Resilience Score and Happiness Score. The Pearson correlation coefficient between Resilience Score and Happiness Score is 0.732, indicating a strong positive correlation. This suggests that as Happiness Score increases, Resilience Score

Table 11. Model Summary[b] (Happiness and Resilience).

					Change Statistics				
Model	*R*	R^2	Adjusted R^2	Std. Error of the Estimate	R^2 Change	F Change	df^1	df^2	Sig. F Change
1	0.732[a]	0.536	0.534	0.67556	0.536	281.371	1	244	0.000

Notes: [a]Predictors: (Constant), happiness_score.
[b]Dependent Variable: Resilience_score.

tends to increase significantly, and vice versa. The significance level (Sig. 1-tailed) is 0.000, which is below the conventional alpha level of 0.05. This indicates that the correlation is statistically significant, meaning the relationship observed is unlikely to be due to random chance. The sample size (*N*) for both Resilience Score and Happiness Score is 246, ensuring a robust dataset for the correlation analysis. Given the strong and statistically significant correlation, the results suggest that Happiness has a meaningful impact on Resilience. This supports the hypothesis that higher levels of Happiness are associated with greater Resilience. However, while the correlation is strong, it does not imply causation, and other influencing factors may still contribute to the observed relationship.

The model summary (Table 11) provides insights into the relationship between the independent variable (Happiness) and the dependent variable (Resilience). The Pearson correlation coefficient (*R*) is 0.732, indicating a strong positive correlation between Happiness and Resilience. This suggests that as Happiness increases, Resilience tends to increase significantly. The R^2 value is 0.536, indicating that 53.6% of the variance in Resilience can be explained by Happiness. This means that Happiness has a substantial explanatory power on Resilience, though 46.4% of the variability remains unexplained and may be influenced by other factors. The Adjusted R^2 value is 0.534, which is very close to R^2, confirming that the model remains stable and generalisable to the population. The SEE is 0.67556, representing the average deviation of the observed Resilience scores from the predicted scores. A lower SEE suggests a more precise prediction model. The F-statistic (281.371) and the significance value ($p = .000$) indicate that the overall model is statistically significant, meaning the relationship between Happiness and Resilience is unlikely to be due to random chance. Overall, it suggests a strong and statistically significant relationship between Happiness and Resilience, with Happiness serving as a strong predictor of Resilience, hence proving our alternate hypothesis true.

Moderating Behaviour of Mindfulness to Moderate Resilience Through Happiness

H_5: Mindfulness moderates resilience through happiness.
H_0: Mindfulness does not moderate resilience through happiness.

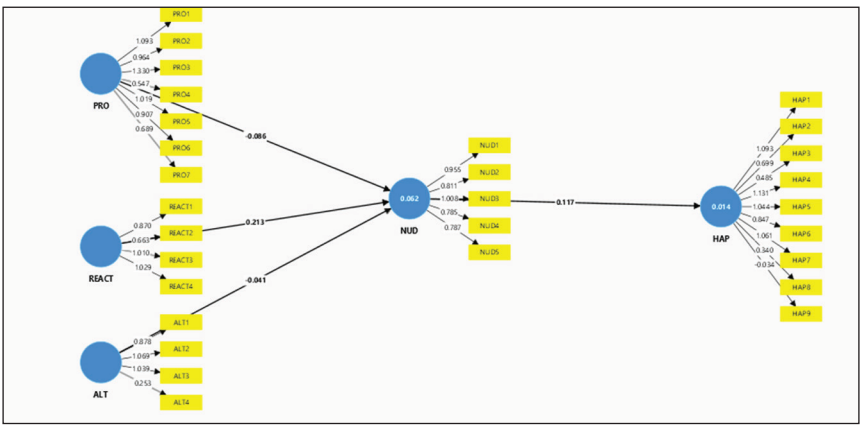
The ANOVA (Table 12) results show a significant difference in Resilience Score across different groups defined by the interaction between Mindfulness and

Table 12. ANOVA (Happiness and Resilience).

Resilience_score					
	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between groups	192.914	106	1.820	5.399	0.000
Within groups	46.854	139	0.337		
Total	239.768	245			

Happiness (F (106, 139) = 5.399, $p < .001$). The between-group sum of squares is 192.914, which indicates variability between the different groups, while the within-group sum of squares is 46.854, indicating variability within the groups. The mean square values are 1.820 (between groups) and 0.337 (within groups), with the F-statistic of 5.399, which is statistically significant at $p < .001$.

This significant result suggests that the interaction between Mindfulness and Happiness significantly impacts Resilience, supporting the hypothesis that Mindfulness moderates the relationship between Resilience and Happiness. The findings indicate that as the levels of Mindfulness and Happiness change, they influence the Resilience Score, validating the hypothesis that Mindfulness plays a moderating role in the relationship between Resilience and Happiness. Therefore, the hypothesis that 'Mindfulness moderates resilience through happiness' is supported by these results.



1. Construct Reliability and Validity—Overview

Construct	Cronbach's Alpha	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	AVE
ALT	0.956	1.001	0.917	0.764
HAP	0.926	1.002	0.942	0.694
NUD	0.942	0.950	0.941	0.764
PRO	0.995	1.023	0.989	0.933
REACT	0.948	0.969	0.946	0.819

All constructs demonstrate high internal consistency, with Cronbach's alpha and Composite Reliability values exceeding the recommended threshold of 0.70 (Hair et al., 2019). Moreover, AVE values for all constructs exceed 0.50, indicating that more than 50% of the variance is captured by the latent construct rather than measurement error. These results confirm satisfactory reliability and convergent validity.

2. Discriminant Validity—Fornell-Larcker Criterion

	ALT	HAP	NUD	PRO	REACT
ALT	0.874				
HAP	0.015	0.833			
NUD	–0.078	0.117	0.874		
PRO	0.164	–0.071	–0.120	0.966	
REACT	–0.105	–0.002	0.229	–0.129	0.905

According to the Fornell-Larcker criterion, the square root of the AVE (diagonal elements) should be greater than the correlations among constructs (off-diagonal elements). As seen in Table 2, this condition is satisfied for all constructs, indicating adequate discriminant validity.

3. Discriminant Validity—HTMT (Heterotrait-Monotrait Ratio)

	ALT	HAP	NUD	PRO	REACT
ALT		0.116	0.114	0.164	0.112
HAP			0.133	0.093	0.070
NUD				0.115	0.226
PRO					0.126

The HTMT values are all well below the conservative threshold of 0.85, further confirming discriminant validity (Henseler et al., 2015). The highest HTMT value observed is 0.226 (NUD–REACT), which is far below even the liberal threshold of 0.90.

Managerial Implications

The findings of this study have critical implications for practitioners, policy-makers, educators and organisational leaders aiming to foster happiness and well-being through pro-social initiatives.

1. **Reframing Pro-social Interventions**

   The study revealed that proactive, reactive and altruistic pro-social behaviours (PSBs) exhibited weak and statistically insignificant direct effects on happiness. From a managerial standpoint, this suggests that interventions aimed at promoting happiness should not rely solely on encouraging generic forms of PSB. Instead, organisations and institutions should:

- Customise PSB strategies to match individuals' intrinsic motivations and values.
- Recognise that contextual factors (e.g., organisational culture, social support) likely mediate the effect of PSB on well-being.
- Shift focus towards intentional, meaningful engagement, rather than transactional or obligatory forms of helping behaviour.

2. **Rethinking Nudging as a Behavioural Strategy**

Although nudging is widely endorsed as an effective behavioural tool, the SEM analysis demonstrated that nudging did not significantly moderate the relationship between PSB and happiness in this study. This indicates a need for more nuanced and targeted nudging techniques. Managers and policy designers should:

- Develop personalised nudges based on behavioural profiling (e.g., emotional preferences, goal orientation).
- Integrate emotive and social nudges (such as storytelling, peer influence, or public commitments) that appeal to individual aspirations.
- Evaluate nudge effectiveness periodically and adjust design elements such as frequency, tone and medium of delivery.

3. **Embedding Purpose-driven Engagement**

Despite the limited statistical impact of individual PSB dimensions, the broader literature supports the role of purpose and meaning in driving sustained happiness. Managers can leverage this by:

- Encouraging purposeful social initiatives, like mentorship programs, peer support systems and community engagement.
- Aligning employees' or students' pro-social actions with personal growth or career development goals.
- Promoting autonomy in social contribution, which research suggests enhances intrinsic motivation and well-being.

4. **Data-driven Personalisation of Happiness Programs**

Given the variability in how different forms of PSB relate to happiness, organisations should adopt data-informed decision-making to optimise well-being programs. This involves:

- Segmenting participants based on behavioural data and psychological profiles.
- Designing differentiated well-being interventions (e.g., some individuals may benefit more from reflective activities like journaling than from social volunteering).
- Using feedback loops to fine-tune behavioural interventions in real-time.

5. **Policy Implications for Educational and Workplace Settings**
   In educational institutions such as business schools or corporate training environments:

   - Integrate pro-social behaviour into the curriculum via experiential learning, but ensure it is tied to reflective happiness exercises.
   - Avoid assuming a linear impact of pro-sociality on happiness; instead, facilitate self-awareness and psychological resilience alongside social behaviour training.
   - Encourage dialogues around intrinsic values and social impact, creating safe spaces for individuals to explore what happiness and contribution mean to them.

Discussion & Conclusion

The analysis of the relationship between different types of social behaviour (Proactive, Reactive and Altruistic) and happiness reveals that none of these behaviours significantly predict happiness. The correlation coefficients for proactive, reactive, and altruistic behaviours (R = 0.158, 0.100 and 0.094, respectively) indicate weak relationships, and the low R^2 values (0.025, 0.010 and 0.009, respectively) suggest minimal explanatory power. The lack of significance is further supported by the ANOVA results, which show high p values (.112, .316 and .349, respectively) for all the models.

These results suggest that happiness is impacted by a wide range of intricate characteristics that go beyond these simple social behaviours. Happiness is most likely influenced by psychological, environmental, economic and other social factors more significantly. In order to better understand the factors that influence happiness, future studies should take a more comprehensive approach, recognising that social behaviours are not the main predictors of happiness, even though they may have some influence.

The findings of this study indicate that happiness plays a significant role in enhancing resilience, as evidenced by the strong positive correlation (r = 0.732, p < .001). The results support the hypothesis that higher levels of happiness are associated with greater resilience, highlighting the psychological interplay between positive emotions and adaptive coping mechanisms. The regression model further demonstrated that happiness accounts for 53.6% of the variance in resilience, underscoring its substantial predictive power. However, while these findings establish a strong association, causality cannot be inferred, and other unexamined factors may also contribute to resilience development.

Furthermore, the moderating role of mindfulness in this relationship was confirmed through ANOVA results, which indicated a significant interaction effect (F (106, 139) = 5.399, p < .001). These results align with previous research emphasising mindfulness as a key factor in emotional regulation and adaptive coping (Dhanabhakyam & Sarath, 2023). The interaction between mindfulness and happiness suggests that individuals with higher mindfulness levels may

experience a stronger link between happiness and resilience, reinforcing the importance of psychological interventions that incorporate mindfulness training to enhance well-being and resilience.

These findings contribute to the growing body of literature on psychological well-being by reinforcing the significant relationship between happiness and resilience while also highlighting the moderating effect of mindfulness. Previous studies have suggested that happiness fosters adaptive responses to stress and adversity, thereby enhancing resilience (Tugade & Fredrickson, 2004). This study further supports that notion by demonstrating that mindfulness strengthens this relationship, allowing individuals to process emotions more effectively and cultivate a resilient mindset.

From a practical perspective, these results have implications for mental health interventions and resilience-building programs. Psychological interventions that focus on increasing happiness, such as gratitude exercises and positive psychology strategies, may lead to greater resilience in individuals. Additionally, incorporating mindfulness-based practices in therapeutic and educational settings could further enhance the beneficial effects of happiness on resilience by promoting self-awareness and emotional regulation.

While this study provides valuable insights, it also has some limitations. First, the cross-sectional design restricts the ability to establish causality. Future research should employ longitudinal studies to examine the temporal dynamics of these relationships. Second, unexamined variables such as personality traits, cultural influences, and life experiences may also play a role in resilience development, warranting further investigation. Finally, expanding the study to diverse populations could provide a more comprehensive understanding of how happiness, mindfulness and resilience interact across different demographic groups.

Overall, these findings emphasise the importance of fostering happiness and mindfulness as key strategies for enhancing resilience. Future research should continue to explore additional moderating variables and intervention strategies to further refine our understanding of psychological resilience and well-being. Southwick et al. (2014) argued that understanding resilience requires an interdisciplinary approach, incorporating psychological, social, and biological frameworks.

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