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Examining Emotion Controllability Beliefs: Impact on Mind-Wandering through Self-Regulation and Body-Mind Connection

Vimala Venugopal Muthuswamy

King Faisal University. Saudi Arabia.

D. Kesavan

SRM Institute of Science and Technology, Chennai.

This research examined the interaction between beliefs about emotion controllability, self-regulation, and mind-wandering, focusing specifically on the mediating role of self-regulation and the moderating role of the body-mind connection. The study was carried out in the Kingdom of Saudi Arabia to provide theoretical and practical insights into the processes that are at the intersection of psychological belief and physiological awareness influencing cognitive and emotional regulation. The study follows a quantitative cross-sectional research design, using the data collected from 256 educators in Saudi Arabia. Validated scales were used for measuring the constructs, while the Partial Least Squares Structural Equation Modeling (PLS-SEM) was applied for analyzing the data. Measurement and structural models were applied to address both individual hypotheses on relationships and the mediation and moderation effects within the framework. Results indicate that controllability beliefs about emotions significantly enhance self-regulation and diminish mind-wandering. The role of self-regulation mediated between controllability beliefs and mind-wandering, but the body-mind connection moderated the link between self-regulation and mind-wandering. The findings point out the essential roles psychological beliefs and physiological awareness play in developing emotional resilience and cognitive focus. This research extends theoretical models by integrating emotion controllability beliefs and body-mind connection into frameworks of self-regulation and mind-wandering. The findings offer actionable insights for

Correspondence concerning this article should be addressed to Dr Vimala Venugopal Muthuswamy, Associate professor, School of Business, Department of Management, King Faisal University. Saudi Arabia.
E-mail: fmuthuswamy@kfu.edu.sa

educators, clinicians, and organizational leaders to enhance emotional and cognitive performance through targeted interventions.

Keywords: Beliefs about emotion controllability, Body-mind connection, Mind-wandering, Self-regulation.

Introduction

In recent years, psychology and neuroscience have showed renewed interest in the interplay between beliefs about emotion controllability, self-regulation, and cognitive processes such as mind-wandering. Emotion beliefs about controllability refer to how individuals rate their potential influence over the management of their emotional experience (Sester, 2024). The beliefs have significant effects on numerous psychological and behavioral outcomes as well as influence the movement of individuals through emotional challenges (Leikert, 2024). In this connection, one crucial process for maintaining concentration, dealing with stress, and ensuring overall mental well-being is self-regulation, or the suppression of impulses, emotions, and behaviours for the sake of achieving long-term goals (Neves et al., 2024). Recent research about self-regulatory processes and cognitive states suggests that this default process underlying mind-wandering, or the tendency of unkept toil in activities that are blocked by task-unrelated thought, is pivotal in determining the level of cognitive control (Cozzolino et al., 2024). Mind-wandering has been related to lower levels of productivity and emotional discomfort, making this a special area for understanding cognitive performance (Narvaez, 2024). Even recently, body-mind relationship - the modality that underpins physiological state associated with cognitive and emotional processes- has been paid attention to as a possible source of moderating influence on self-regulation and attention (Väänänen, 2024). Even so, in spite of such progressions, the interaction between emotion controllability beliefs, self-regulation, mind-wandering, and the body-mind connection remain understudied and leave great areas to be explored further on (Burgess, 2024).

Empirical work shows the significance of emotion control beliefs in psychological and behavioral outcomes (Dueck & Sundararajan, 2024). For instance, Kašparová et al. (2023) found out that people who would show highly positive beliefs on emotion control showed much more emotional resilience and seem to implement adaptive strategies such as cognitive reappraisal. The affective capacity in emotion management positively relates with the results in

better self-regulation, which is the ability to keep emotions and behavior regulated according to long-term goals (Biassoni et al., 2023). Other than that, Maddock (2023) demonstrated that emotion control beliefs lower the odds of using maladaptive regulation methods, including suppression, which could lead to emotional exhaustion and impairments in cognition. Self-regulation also relates to cognitive phenomena, such as mind-wandering (Strand & Craw, 2023). Self-regulation provides the attentional control needed to reduce mind-wandering by aligning focus with demands of a task (Miyahara & Mirfin-Veitch, 2023). Studies have shown that people with stronger self-regulatory skills receive fewer distractions and report improved performance in academic and occupational settings (McDowell, 2023). High-demand settings such as this are specially known to have a direct relationship between self-regulation and mind-wandering, wherein maintaining focus is a determinant of success, as noted by Qu et al. (2023). The body-mind connection sheds another perspective in this respect, showing the interaction between physiological states and cognitive processes. Madore (2022) reported that bodily awareness develops as a result of practices like mindfulness, which improves self-regulation and reduces task-unrelated thoughts. Neuroimaging studies support these findings, showing that interoceptive awareness activates brain regions involved in self-regulation and attention, such as the insular cortex and anterior cingulate cortex (Cagiada et al., 2022). Together, these studies support a complex network of relationships between beliefs, regulation, and cognitive processes, forming the framework for this research.

Although existing literature establishes robust links between emotion controllability beliefs, self-regulation, and mind-wandering, notable gaps remain (Zhang, 2022). First, most studies examine these constructs in isolation rather than as interconnected phenomena, limiting understanding of their interactive dynamics (Raudasoja et al., 2022). For example, it is known from the literature that mind-wandering has been associated with self-regulation, but it has not well been researched which regulation it mediates between emotion controllability beliefs and cognitive outcomes (Ford et al., 2021). The gap might clarify how far emotion beliefs have a direct influence on attentional processes through regulatory mechanisms. The moderating role of the body-mind connection in the examined relations is underexplored (Ellemers et al., 2023). While studies indicate that somatic awareness is related to better self-regulation and attention, there are few studies that observe the extent to which this relationship moderates the relation between self-regulation and mind-

wandering (Biassoni et al., 2023). Uncovering this moderation might provide new avenues for cultivating attentional stability, particularly within high-stress contexts. Finally, the role of cultural, demographic, and contextual differences on these processes are largely underrepresented in contemporary studies (Miyamoto, 2024). For example, beliefs about emotion controllability may be culture-specific and, therefore, their direct implication on self-regulation as well as on the cognitive consequences differs between cultures (Sullivan, 2024). The paper attempts to fill this gap by framing these constructs under a single integral framework and then investigating them rigorously to identify interconnections.

The theoretical framework developed the relationships between controllability beliefs of emotion, self-regulation, mind-wandering, and body-mind connections. Based on self-determination theory, emotion controllability beliefs such as beliefs about autonomy and control raise intrinsic motivation and self-regulatory capacity (Lee et al., 2023). In this context, the emotions experienced by an individual as being controllable would make them oriented toward goals and less likely to experience mind-wandering. Similarly, the ACT stresses self-regulation as a part of maintaining mental flow, hence suggesting that self-regulatory processes mediate psychological beliefs' effect on attention (Seidel, 2023). Additionally, the components of the embodied cognition framework postulate that relationships between these constructs are also mediated by the body-mind connection. Based on this theory, the cognitive and emotional processes are elaborately linked with physiological states, which gives rise to the argument that intensified bodily awareness is intertwined with superior self-regulatory capacity and reduced cognitive intrusions (Motevalli et al., 2023). Empirical studies conducted in relation to mindfulness-based interventions do support the latter argument because they demonstrate that developing bodily awareness can reduce mind-wandering by stimulating attentional stability (Gargari et al., 2024). It has three aims, namely, to explore how beliefs about the controllability of emotions impact both self-regulation and mind-wandering; to identify if the key role of self-regulation resides between the beliefs and the cognitive outcomes as a mediator; and finally, to examine the case of the moderating effect of the body-mind connection in these dynamics. By covering these objectives, this research aims to fill holes in literature that are important and provide a holistic understanding of mechanisms linking psychological beliefs, self-regulation, and cognitive processes.

Literature Review

Such interplay in psychological beliefs and self-regulation points to the critical role that emotion controllability beliefs play in shaping individuals' capacity for adaptive behavior and emotional resilience, mainly because those beliefs reflect how able one feels with regard to managing and influencing one's emotional states, thereby powerfully influencing self-regulation strategies (Xu & Wang, 2024). Studies have demonstrated that those holding a greater perception of control over emotions take on more adaptive regulation strategies, namely cognitive reappraisal and mindfulness, resulting in better emotional-related outcomes (Rahimi et al., 2023). Such a belief system promotes an activated defensive style in dealing with challenges; this supports a better state of psychological well-being and decreases the tendency toward maladaptive coping strategies, such as rumination or suppression (Sullins et al., 2024). Emotion management conviction also encourages emotional flexibility, thereby strengthening goal-directed behaviors because the people can adapt better their emotional responses to desired outcomes (Habibi et al., 2024). Therefore, this interaction points out that developing a mindset that stresses emotional agency is important in the service of psychological resilience and effectiveness in personal and social contexts (Parsa et al., 2023). The complex relationship between mental and physical states also enriches the understanding of self-regulation and emotion controllability beliefs, as physiological states often mirror and influence emotional experiences (Sester, 2024). Research in the area generally concludes that various types of awareness and regulation of the physical body's sensations such as heart rate, breathing patterns, or muscle tension enhance self-regulatory capacity through a feedback loop between physical and emotional states (Leikert, 2024). Practices that incorporate this knowledge, such as mindfulness and somatic therapy, have proven to enhance the individual's capacity to emotion-modulate by linking them closer to their bodily signals (Cozzolino et al., 2024). And so, the body-mind connection is important in showing how emotion controlability beliefs operationalize, with individuals attuned to this dynamic relationship showing greater control over the emotional landscape (Väänänen, 2024). By bridging cognitive beliefs with somatic awareness, this holistic approach pinpoints the transformational potential of merging psychological and physiological insights in support of sustainable emotional and behavioral regulation (Dueck & Sundararajan, 2024).

Such research illuminates how beliefs about emotion controllability have

deep effects on the processes of self-regulation (Biassoni et al., 2023). Emotion controllability beliefs are comprised of people's beliefs regarding the degree of influence they may exert or have over their emotional responses. Empirical evidence shows that in such beliefs, adaptive self-regulation is particularly marked when a person highly believes in emotion controllability (Strand & Craw, 2023). For example, McDowell (2023) indicated that those who believe that their emotions could be controlled are more likely to apply the constructive control strategies such as cognitive reappraisal rather than suppression, which results in better emotional outcomes. Likewise, Madore (2022) stress that these beliefs make it feasible for individuals to employ proactive coping mechanisms that reduce their emotional distress during difficult times. Also, neuropsychological evidence establishes the connection between controllability beliefs and self-regulation, stating that these beliefs prompt activity in those brain areas involved in the process of self-regulation, the prefrontal cortex included (Zhang, 2022).

Clearly, the hypothesis about a core role for beliefs about emotion controllability in shaping self-regulation draws on solid empirical foundations, acknowledging the transformative impact of such beliefs on capacity (Ford et al., 2021). Strong belief in the controllability of emotions allows for an attuned cognitive framework that stresses adaptive regulation techniques, including mindfulness and reflection and goal setting-more general and important components of effective self-regulatory outcomes (Biassoni et al., 2023). As an example, research by Sullivan (2024) finds that individuals who feel a sense of emotion control will be more likely to engage in pursuing emotion-congruent goals, keeping on track and persistent. Another set of evidence for the hypothesis stems from theories of self-determination and agency, which propose that a sense of control over one's emotions leads to intrinsic motivation and persistence in self-regulatory efforts (Seidel, 2023). To this end, meta-analyses on emotion regulation strategies point out that people with high beliefs in emotion controllability have lower levels of emotional exhaustion, which is crucial for enduring self-regulation (Gargari et al., 2024). Thus, this hypothesis extends these insights by suggesting that emotion control beliefs constitute the psychological resource needed for proper self-regulation.

H1. Beliefs about emotion controllability significantly influences the self-regulation.

Mind-wandering, characterized by a shift of attention from the dominant activity to internal thoughts, has received much attention in cognitive

psychology, and considerable evidence establishes an association between mind-wandering and emotion regulation processes (Rahimi et al., 2023). Beliefs about controlling the emotions seem to mediate both the frequency and impact of mind-wandering (Parsa et al., 2023). Individuals with a strong belief in their control over managing emotions are less likely to adopt maladaptive mind-wandering patterns, such as rumination or worry, which can be detrimental to productivity and emotional well-being (Habibi et al., 2024). According to Sullins et al. (2024), studies emphasize the fact that individuals with less confidence in the control of their emotions always exhibit task-unrelated thoughts that worsen emotional distress and cognitive overload. Third, mindfulness and attention-control research evidence indicates that beliefs about emotion regulation predict the degree to which people engage in focused deliberate versus spontaneous mind-wandering (Xu & Wang, 2024). For instance, people taught to induce controllability in emotions show reduced tendencies to mind-wander in laboratory and real life, suggesting the possibility of these beliefs being effectively aligned with current tasks to enhance cognitive focus (Motevalli et al., 2023). An association of emotion controllability beliefs with lower activity in the default mode network-the neural basis for mind-wandering has been also found by neuroimaging studies, suggesting that these beliefs prevent or minimize mind-wandering and thus contribute to maintaining task-related focus (Lee et al., 2023).

Building on previous works, the belief in emotion controllability significantly predicts mind-wandering, according to the hypothesis developed herein: beliefs about emotion controllability influence attentional stability (Miyamoto, 2024). Empirical evidence suggests that high controllability believers are best at refocusing their attention and thus least likely to engage in mind-wandering (Ellemers et al., 2023). This would align with the attentional control theory, which concludes that emotion regulation influences directly cognitive control processes underlying task engagement (Raudasoja et al., 2022). Furthermore, the relationship between beliefs in emotion controllability and mind-wandering can also be brought in the larger perspective of self-regulation theories. For example, Cagiada et al. (2022) self-regulated learning framework suggests that metacognitive beliefs, including those involving emotion controllability, affect attentional strategies and reduce cognitive lapses. Intervention studies provide further empirical support to this hypothesis. Intervention studies focusing on cultivating controllability beliefs have shown enhanced attentional performance and reduced task

disengagement (Qu et al., 2023). Therefore, this hypothesis proposes a direct pathway between emotional agency beliefs and susceptibility to mind-wandering, which forms a basis for targeted interventions that improve both cognitive and emotional outcomes.

H2. Beliefs about emotion controllability significantly influences the mind-wandering.

Extensive research emphasizing self-regulation as a central mechanism for aligning emotional and cognitive processes supports the mediating role of self-regulation in the relationship between emotion controllability beliefs and mind-wandering (Miyahara & Mirfin-Veitch, 2023). The empirical findings suggest that self-regulation stands as a mediator between psychological beliefs and attentional outcomes, such that stronger emotion controllability beliefs strengthen self-regulatory mechanisms that protect against mind-wandering (Maddock, 2023). In fact, research by Kašparová et al. (2023) concludes that self-regulation functions as a resource-depleting process mediated by beliefs, and belief in the ability to regulate emotion fosters better attentional control and reduced cognitive intrusions. Attentional engagement studies further underscore this relationship, as self-regulation skills mediate controlling attention even with emotional distraction-a key determinant in minimizing mind-wandering (Burgess, 2024). Furthermore, longitudinal research in educational and occupational settings shows that belief systems influence cognitive performance indirectly via self-regulation but with an interactive dynamic between controllability beliefs, self-regulation, and attention (Narvaez, 2024).

The self-regulation hypothesis bases the relationship between emotion controllability beliefs and mind-wandering on evidence indicating the sequential interplay of the variables (Neves et al., 2024). Emotional control beliefs promote development of self-regulatory skills that reduce mind-wandering through improvement in attentional control and emotional stability. Such a mediational role is espoused by process models of self-regulation, where belief-driven self-regulation produces a buffer against disruptions both emotionally and cognitively (Volz-Boers, 2025). Empirical studies regarding the role of self-regulation in controlling cognitive lapses further imply that this is a robust mediation mechanism that works across settings (Neves et al., 2024). For example, in mindfulness-based interventions, significant reductions in mind-wandering episodes are associated with improved self-regulatory capacity in persons as a result of controllability beliefs

(Väänänen, 2024). The hypothesis therefore positions self-regulation as a critical intermediary that translates psychological beliefs into practical cognitive benefits, further reinforcing its role as a linchpin in the controllability-belief-to-mind-wandering pathway.

H3. Self-regulation significantly mediates the relationship of beliefs about emotion controllability and the mind-wandering.

The body-mind relationship, emphasizing the interdependence of states of physiological activity and cognitive processes, has been increasingly viewed with relevance in the understanding of its moderating role in psychological phenomena (Kašparová et al., 2023). Studies have suggested that being aware of the body's state in the regulation of heart rate and breathing, as well as muscle tension, enhances self-regulatory processes and diminishes mind-wandering tendencies (Strand & Craw, 2023). For instance, body awareness coupled with cognitive focus that forms part of mindfulness-based practices improves attentional stability and reduces task-unrelated thoughts. Research by Qu et al. (2023)reveals that subjects with a vivid body-mind relationship are better at controlling their physiology and, therefore, their emotional and cognitive mechanisms of self-regulation. Finally, the neurobiological underpinnings of the body-mind relationship are of particular use, as they validate this moderating factor (Zhang, 2022). This perception, termed interoceptive awareness or internal bodily state awareness, has indeed been linked to areas of the brain that are implicated in self-regulation, including the anterior cingulate cortex and the insular cortex (Ellemers et al., 2023). These regions are also implicated in reducing the activity of the default mode network (DMN), the neural correlate of mind-wandering. More empirical evidence comes from the somatic and cognitive behavioral interventions showing that incorporating bodily feedback into regulatory strategies both improves attention and emotional resilience, highlighting the moderating role of the body-mind connection in linking processes of self-regulation and attention (Sullivan, 2024).

This dual influence on physiological as well as cognitive domains supports the hypothesis that the body-mind connection significantly moderates the relationship between self-regulation and mind-wandering (Motevalli et al., 2023). Empirical studies are in accordance with the fact that the body-mind connection increases the efficacy of self-regulation by enhancing alignments between physical states and cognitive goals (Rahimi et al., 2023). For example, people who engage in breath awareness or progressive relaxation show better

performance at self-regulation, which, in turn, reduces mind-wandering episodes directly (Parsa et al., 2023). In stressful or high-demand settings, the moderating role of bodily awareness is distinctly observed, characterizing the stabilization preventing lapses in attention. Further, the hypothesis within theoretical frameworks, like the paradigm of embodied cognition is supported, suggesting that the body and mind are integrated into one system that governs behavior and cognition (Habibi et al., 2024). In this framework, the body-mind connection consolidates the pathways which augment self-regulation to control inattention against distractions; it establishes a buffer against these stresses (Xu & Wang, 2024). Experimental results from training programs based on interoception, moreover, show that increased awareness of internal bodily states strengthens the transition from self-regulation to sustained attention, therefore weakening mind-wandering (Seidel, 2023). According to this hypothesis, a crucial moderating role is attributed to the connection between body and mind in enhancing the interactive process of self-regulation and cognitive focus in different contexts.

H4. Body-mind connection significantly moderates the relationship of self-regulation and the mind-wandering.

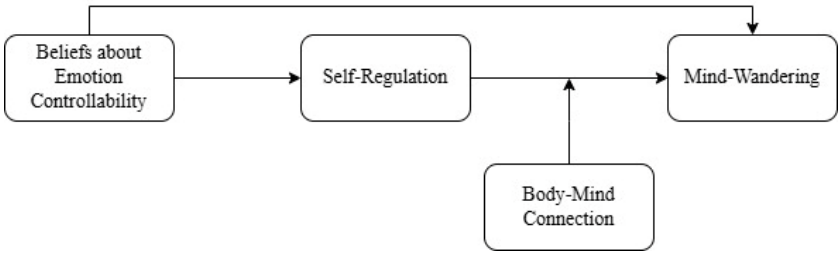

Figure 1: Theoretical Model

Methodology

Research Design

It adopted a quantitative research design to investigate the associations among beliefs regarding the controllability of emotion, self-regulation, mind-wandering, and the moderating role of the body-mind connection. This research study was carried out in the Kingdom of Saudi Arabia and employed a cross-sectional survey to collect data from diverse participants. This design was used for a rich statistical analysis of the suggested relationships while

capturing a snapshot within the Saudi Arabian cultural and demographic context.

Sample and Participants

There were 256 educators working in schools and universities across Saudi Arabia. Educators were selected as the target population since this profession calls for very high demands on emotional regulation and cognitive focus. Their daily responsibilities often require effective self-regulation to manage interactions with students and colleagues, minimize distractions, and maintain productivity. Participants were recruited through a combination of convenience and purposive sampling to ensure accessibility while targeting individuals with relevant experiences aligned with the study's objectives. The sample size of 256 was considered adequate for the application of Partial Least Squares Structural Equation Modeling (PLS-SEM) because this methodology is potent for analyzing complex models with relatively smaller sample sizes in comparison to covariance-based SEM.

Measures

The study employed validated scales that have been adopted from previous literature to measure the constructs. The constructs as defined earlier were measured by using a 10-item scale adapted from other existing literature on emotional agency, for example, (Gross & John, 2003). Self-regulation was measured with a 5-item scale developed to assess the capacity of the individual to control impulses and behaviors, for example, (Baumeister et al., 1998). Mind-wandering was evaluated using a 5-item scale designed to capture the frequency of task-unrelated thoughts, as (Smallwood & Schooler, 2015) described. The Body-Mind Connection was assessed with the 9-item scale that focuses on participants' awareness of their physiological states and their integration into cognitive and emotional processes e.g., (Mehling et al. 2011). All scales used a 5-point Likert scale, from 1 as "strongly disagree" to 5 as "strongly agree."

Table 1

Profile of Questionniares

Variables	Comprised of	Source
Beliefs about emotion controllability	Twelve items	(Rimes & Chalder, 2010)
Self-regulation	Five items	(Hidayati & Idris, 2020)
Body-mind connection	Thirteen items	(Van Bael et al., 2023)
Mind-wandering	Five items	(Mrazek et al., 2013)

Data Collection Procedure

Data were gathered using an online questionnaire that was circulated through professionals' networks, institutional emails, and social media apps that most educators use in Saudi Arabia. The questionnaire included a clear introduction stating the study's purpose and guidelines for responding to the questionnaire. Sufficient time was allowed to elapse before sending reminders on the survey in order to maximize responses. The data gathering process took four weeks, during which time 256 responses were gained after accounting for the invalid questionnaires with missing answers.

Data Analysis

PLS-SEM was applied in doing data analysis with the help of SmartPLS 4. This was chosen because it supports complex models with multiple relationships while providing robust estimates in studies when data is not normally distributed. The analysis was two-phase: the measurement model assessment and the structural model assessment. Within the structural model assessment, the reliability and validity for the measurement model were calculated using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted. The discriminant validity was examined by applying the Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT). In the structural model assessment, hypothesized relationships were tested while being mediated by self-regulation and moderated by a body-mind connection. Bootstrapped with 5,000 resamples, path coefficients, T-statistics, and p-values were computed to judge the significance of the relationships. Model fit was additionally evaluated using R^2 values, Q^2predict statistics, and further goodness-of-fit measures such as RMSE and MAE for robustness.

The methodological approach of this study, based on valid measures and powerful statistical techniques, ensured reliable and meaningful insights into the dynamics of emotion controllability beliefs, self-regulation, mind-wandering, and the body-mind connection. Since it focused on educators in Saudi Arabia, its findings were contextualized in a unique professional and cultural environment for better understanding of these constructs in real-world application.

Results

Table 2 presents the reliability and validity statistics for the constructs in the study. The Cronbach's Alpha coefficient for all the constructs - Beliefs

about Emotion Controllability (0.858), Body-Mind Connection (0.893), Mind-Wandering (0.749), and Self-Regulation (0.767) - are well above the threshold of 0.70, representing internal consistency among the items of each construct. rho_A and Composite Reliability also support the high reliability of these constructs. Specifically, CR values for all constructs exceed 0.80, with Body-Mind Connection achieving the highest at 0.914, suggesting strong reliability.

Table 2

Variables reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Beliefs about emotion controllability	0.858	0.861	0.887	0.541
Body-mind connection	0.893	0.905	0.914	0.545
Mind-wandering	0.749	0.751	0.834	0.502
Self-regulation	0.767	0.784	0.839	0.512

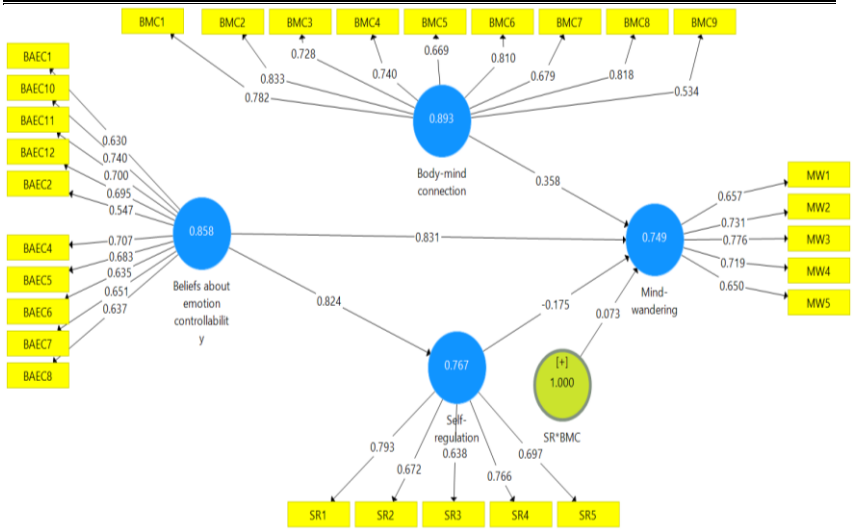

Figure 2: Estimated Model

Validity is measured by Average Variance Extracted (AVE), while values at and above 0.50 are considered appropriate for convergent validity. All constructs in the study achieve this standard with AVE ranges from 0.502 for Mind-Wandering to 0.545 for Body-Mind Connection. Thus, all the constructs are of acceptable reliability and validity to continue the analysis such that measurement items appropriately reflect the theoretical dimensions of their respective constructs.

Table 3 shows the individual item loadings for each construct, which help

further assess the fit of items to their respective constructs. In the case of Beliefs about Emotion Controllability, item loadings range from 0.547 (BAEC5) to 0.740 (BAEC2), showing that items have moderate to strong associations with the respective construct. The same can also be said for Body-Mind Connection since the item loadings were very robust: from 0.534 (BMC9) to 0.833 (BMC2). Mind-Wandering shows strong loadings ranging from 0.650 (MW5) to 0.776 (MW3).

Table 3

Measurement Items Fitness Statistics

	Beliefs about emotion controllability	Body-mind connection	Mind-wandering	Self-regulation
BAEC1	0.630			
BAEC2	0.740			
BAEC3	0.700			
BAEC4	0.695			
BAEC5	0.547			
BAEC6	0.707			
BAEC7	0.683			
BAEC8	0.635			
BAEC9	0.651			
BAEC10	0.637			
BMC1		0.782		
BMC2		0.833		
BMC3		0.728		
BMC4		0.740		
BMC5		0.669		
BMC6		0.810		
BMC7		0.679		
BMC8		0.818		
BMC9		0.534		
MW1			0.657	
MW2			0.731	
MW3			0.776	
MW4			0.719	
MW5			0.650	
SR1				0.793
SR2				0.672
SR3				0.638
SR4				0.766
SR5				0.697

Hence, these items are reliable in terms of capturing the construct. Finally, items for Self-Regulation appear to have satisfactory loadings ranging from 0.638 (SR3) to 0.793 (SR1), which underlines them to be very close to the construct. These statistics of fitness clearly establish the fact that items are quite reflective of their construct and contribute to the validity of the model in measurements.

Table 4 Heterotrait-Monotrait Ratio (HTMT) This table presents the HTMT, which is used for checking discriminant validity. Generally, a value less than 0.90 indicates good discriminant validity. As shown in this table, the

values are within the range that is accepted-good. The highest HTMT ratio was between Beliefs about Emotion Controllability and Body-Mind Connection at 0.888. Additional discriminant validity is supported by HTMT values between other constructs such as Beliefs about Emotion Controllability and Mind-Wandering (0.467) and Self-Regulation and Body-Mind Connection (0.832). Such results mean the constructs are conceptually distinct, validating their inclusion as separate dimensions of the structural model.

Table 4

HTMT

	1	2	3	5
Beliefs about emotion controllability	0.000	0.000	0.000	0.000
Body-mind connection	0.888	0.000	0.000	0.000
Mind-wandering	0.467	0.336	0.000	0.000
Self-regulation	0.751	0.832	0.778	0.000

Table 5 applies Fornell-Larcker Criterion to assess discriminant validity. The diagonal values are the square root of the AVE for the constructs, which must be greater than the correlations between the construct and all other constructs. Results The results displayed discriminant validity as the all the off-diagonal values are less than their diagonal values. For instance, the square root of the AVE for Beliefs about Emotion Controllability is greater than its correlation with Body-Mind Connection as 0.664 and Mind-Wandering as 0.642 while its correlation with Body-Mind Connection is 0.777. Similarly, Self-Regulation displays a square root AVE value of 0.716, which is higher than its correlations with all other constructs. These results show more than adequate evidence for the discriminant validity of the constructs of the model.

Table 5

Fornell-Larcker Criterion

	1	2	3	4
Beliefs about emotion controllability	0.664	0.000	0.000	0.000
Body-mind connection	0.777	0.738	0.000	0.000
Mind-wandering	0.642	0.673	0.708	0.000
Self-regulation	0.824	0.699	0.632	0.716

Table 6 displays R-Square values and other measures of fit for the model. Mind-Wandering has an R-Square value of 0.773, meaning that 77.3% of the variance was accounted for by the predictors-thus implying good model fits. Similarly, Self-Regulation's R-Square value of 0.679 indicates that its predictors explain 67.9% of the variance, which in turn confirms the robustness of the prediction model. The predictive relevance to the model is 0.424, indicating adequate predictive power. It also meets adequacy of fit criteria as the values of

both RMSE and MAE yield 0.056 and 0.067, respectively, thus further validating the accuracy of the model. These goodness-of-fit statistics justify that the model performs well in describing the relationships between the variables.

Table 6

R-square statistics Model Goodness of Fit Statistics

	R Square	R Square Adjusted	Q^2predict	RMSE	MAE
			0.424	0.056	0.067
Mind-wandering	0.773	0.769			
Self-regulation	0.679	0.678			

Table 7 reports the path analysis results with the description of the pathways and relationships between constructs. The path coefficient for the relationship between Beliefs about Emotion Controllability and Self-Regulation is 0.824 with high T-statistic 23.454 and also a p-value of 0.000 that confirm an explicit positive influence. Similarly, Beliefs about Emotion Controllability significantly affect Mind-Wandering (0.831, T = 6.486, p = 0.000), further consolidating the proposed hypotheses.

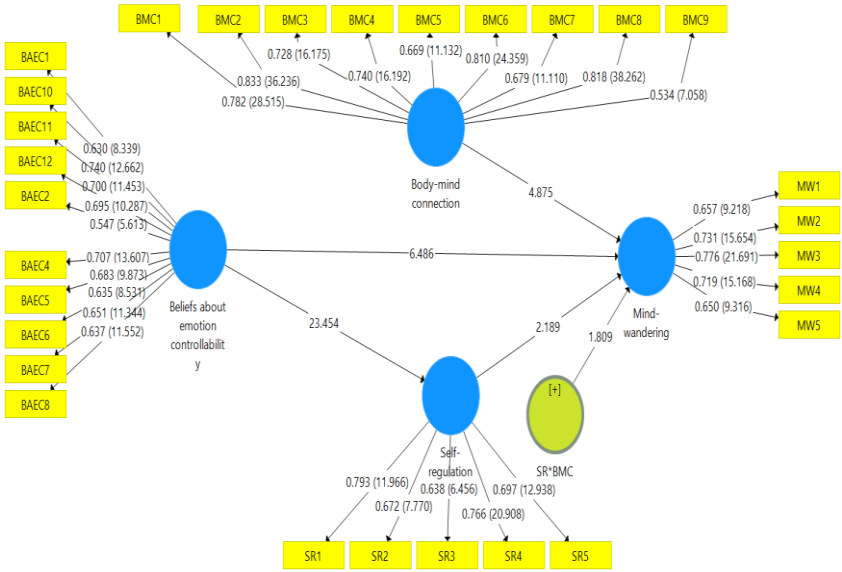

Figure 3: Structural Model for Path Analysis

In mediation analysis, Self-Regulation mediates the relationship between Beliefs about Emotion Controllability and Mind-Wandering (0.144, T = 2.151,

p = 0.016). There is partial mediation in that the indirect pathway significantly explained the relationship. Lastly, the moderating role of Body-Mind Connection is confirmed with a path coefficient at 0.073 (T = 1.981, p = 0.036), confirming its importance in enhancing the relationship between Self-Regulation and Mind-Wandering. The results confirm the theoretical framework and provide empirical support for the hypothesized relationships.

Table 7

Path Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Beliefs about emotion controllability significantly influences the self-regulation.	0.824	0.825	0.035	23.454	0.000
Beliefs about emotion controllability significantly influences the mind-wandering.	0.831	0.796	0.128	6.486	0.000
Self-regulation significantly mediates the relationship of beliefs about emotion controllability and the mind-wandering.	0.144	0.140	0.067	2.151	0.016
Body-mind connection significantly moderates the relationship of self-regulation and the mind-wandering.	0.073	0.061	0.040	1.981	0.036

Discussion

The findings of this study will add depth to the understanding of the interplay among beliefs about emotion control, self-regulation, and cognitive phenomena like mind-wandering. With theoretical and empirical contributions, the study not only validate several hypotheses but also throws light on the importance of body-mind interaction as a variable that could moderate this relationship. These findings add to the existing literature, as a whole framework sheds light on the role that psychological beliefs play in enhancing emotional resilience, cognitive control, and decreasing attentional lapses. Implications of these findings place them within a more general context of psychological theory and practice, indicating further directions of exploration.

Confirmation of the first hypothesis that that beliefs about emotion controllability strongly influence self-regulation highlights the importance of such beliefs in shaping one's ability to manage their emotions and behavior. This result is in line with earlier research indicating that a perception of emotions as being controllable is associated with more adaptive self-regulation strategies, such as cognitive reappraisal and mindfulness (Miyamoto, 2024). The observed effect of controllability beliefs on self-regulation highlights the contribution of psychological agency to emotional stability and goal-directed

behavior. Building on this theoretical background, the present work reflects the ideas of self-determination theory proposing that perceived control enhances intrinsic motivation and persistence in self-regulatory efforts (Ford et al., 2021). These findings further suggest interventions that target controllability beliefs as potentially useful to improve self-regulation, especially under stress, when managing emotions becomes crucial.

The second hypothesis postulates that beliefs about emotion controllability have a substantial effect on mind-wandering; it also holds, meaning that such beliefs are crucial in diminishing task-unrelated thought. This would be in line with attentional control theory, which emphasizes that processes involving self-regulation are significant in reducing cognitive intrusions (Cagiada et al., 2022). The decrease in mind-wandering among people that possess strong controllability beliefs indicates a direct pathway wherein emotional agency is translated directly into a focus of the cognition. Such a relationship may be mediated by enhanced attentional control, whereby the confidence that one has in his/her ability to manage emotions better enables him to redirect focus in the event of distractions. These findings add depth to the literature on beliefs regarding the controllability of emotions, identifying this as a cognitive resource that may not only promote emotional regulation but also improve task engagement and performance.

Together, these findings confirm the interrelated functions of emotion controlability beliefs in the dynamics of self-regulation and cognitive processes such as mind-wandering. The dual impact made by these beliefs on both emotional and cognitive domains reveals their transformative potential, showing how individuals can build resilience and productivity. The findings also have practical implications, particularly in educational and occupational settings, where the beliefs about controlling one's emotionality could increase both emotional well-being and cognitive efficiency. Future research might explore longitudinal effects of such beliefs as a way of understanding better the role these beliefs have in sustaining improvements in self-regulation and cognition over time.

The third hypothesis was, therefore, confirmed. Self-regulation bridges the relationship between beliefs about emotion controllability and mind-wandering. It therefore now stands in relation to other previously conducted studies, which hold the view that self-regulatory capacity enables psychological beliefs to be translated into practical outcomes, for example, reduced cognitive intrusions (McDowell, 2023). To the best of my knowledge, the mediating role

of self-regulation suggests a sequential process: beliefs about emotion controllability first enhance self-regulatory skills, which then mitigate mind-wandering by fostering sustained focus and attentional control. These results not only validate theoretical models like Zimmerman's self-regulated learning framework but also provide empirical evidence for the dynamic interplay between beliefs, regulation, and cognition (Maddock, 2023). The findings have major implications for intervention strategies, suggesting that enhancing self-regulatory capacity may enhance the cognitive benefits of controllability beliefs.

The fourth hypothesis, which suggested that the body-mind connection moderated significantly the relationship between self-regulation and mind-wandering, was also supported in a way that underlined the integrative role of physiological awareness in cognitive and emotional processes. This finding aligns well with the hypothesis of embodied cognition, which states that bodily awareness enhances cognitive control by causing physiological states to coincide with attentional goals (Dueck & Sundararajan, 2024). The moderation effect suggests that the body-mind connection acts as a stabilizing force, making self-regulation much more effective for the outcomes of attention, allowing only stronger attention among these individuals, whose practices, such as mindfulness or interoceptive training, enhance bodily awareness. These findings contribute to the increasing literature of incorporating somatic interventions into cognitive self-regulation for improving performance.

Collectively, the results of these hypotheses highlight that psychological and cognitive factors simultaneously depend on physiological influences in the manifestation of attentional and emotional outcomes. The mediating effect of self-regulation between controllability belief regarding mind-wandering together with the conditioning influence of body-mind connection provided a more encompassing framework for observing cognitive resilience. These insights have practical applications across domains, including education, therapy, and workplace productivity, where fostering self-regulation and bodily awareness could mitigate the adverse effects of mind-wandering. Future research might investigate the neurobiological underpinnings of these interactions to further elucidate the mechanisms driving these relationships.

This research advances the understanding of how beliefs about emotion controllability, self-regulation, and the body-mind connection collectively shape cognitive processes like mind-wandering. The confirmation of all four hypotheses underscores the need to integrate psychological, cognitive, and

physiological dimensions to foster emotional resilience and attentional stability. The theoretical and practical implications are highly relevant, as interventions aimed at amplifying emotion controllability beliefs, self-regulation, and bodily awareness may lead to important benefits in different contexts. To bridge this gap, the study proposes a comprehensive framework for further research and highlights the importance of a holistic consideration of human behavior and its optimization.

Conclusion

This study offers useful insights into the interdependent functioning of emotion control belief, self-regulation, mind-wandering, and the body-mind connection. Overall, findings highlight that emotion control beliefs significantly improve self-regulation and diminish mind-wandering; self-regulation acted as a mediator in these, while the body-mind connection was a critical moderator. Such findings validate and extend previous theories while providing practical avenues for enhancing emotional and cognitive outcomes in diverse settings. This research contributes toward academic and practical domains by filling theoretical gaps in the literature, providing empirical support for a comprehensive framework. However, given these limitations, future research will be necessary to further refine these findings, as well as explore additional dimensions of this interplay. Overall, this research serves as a gateway to the transformative possibilities that come with the integration of psychological, cognitive, and physiological insights in advancing well-being and performance across life domains.

Implications of the study

Such results make significant contributions toward theoretical understanding of relationships among emotion controllability belief, self-regulation, mind-wandering, and the moderating role of the body-mind connection. Now, as self-determination theory as well as attentional control theory have been extended through validation of the hypothesis stating that emotion controllability beliefs influence self-regulation and mind-wandering, such beliefs about emotional agency thus form a basis for self-regulatory capacity, thus furthering cognitive control. These results extend theoretical models with emotion controllability beliefs as a key psychological construct that supports attentional processes and emotional resilience. In addition, the study expands on embodied cognition theory by establishing that the body-

mind link indeed can moderate the impact of self-regulation on cognitive outcomes, thereby introducing a new relationship between physiological consciousness and cognitive functioning. This study also contributes to mediation and moderation frameworks by highlighting the fact that self-regulation plays a dual role: sometimes as a mediator and sometimes as a moderator, and the body-mind connection as a source of moderation. Herein lies the establishment of a nuanced understanding on how beliefs translate into cognitive outcomes through regulatory mechanisms enhanced by somatic awareness. It thus bridges the gaps of existing literature and offers an all-encompassing framework that connects psychological beliefs with self-regulatory behaviors and physiological insights. These theoretical implications open more avenues to refine psychological theories and integrate interdisciplinary perspectives into models of emotion, cognition, and behavior.

The findings of this study have much more extensive practical implications for education and workplace management and for clinical interventions. Educators can work with students to foster beliefs of controllability of emotions, which might in turn enhance their self-regulation skills and decrease mind-wandering in favor of increased focus and performance at school and university. Schools and universities can introduce workshops or curricula centered around adaptive emotion regulation strategies such as cognitive reappraisal and mindfulness, fostering a sense of emotional agency. Similarly, findings from such research may suggest that organizations should train their employees in the regulation of emotions and thus make bodily awareness practices more salient for the reduction of cognitive distractions at work. Then, clinical practitioners may use these results to devise specific interventions for those with disorders or conditions that manifest as emotional instability or difficulty attending to tasks. For instance, whereas treatment interventions might have a combination of elements involving enhancements in controllability beliefs combined with somatic techniques such as mindfulness-based stress reduction, this will maximise both emotional and cognitive benefits. The moderating effect of the body-mind interaction further implies that treatments that enhance bodily awareness and interoception might also have the beneficial effect of enhancing therapeutic self-regulation programs. The application of findings should lead practitioners and organizations to develop holistic approaches responding to the emotional, cognitive, and physiological aspects in optimizing well-being and performance.

Limitations and Future Research Directions

Despite the valuable input of this research, it is not without limitations. For one, its cross-sectional design restricts causal inferences regarding the relationships between constructs. The evidence produced by this study provides substantial robustness for the postulated pathways but future studies should use longitudinal and experimental research designs to establish causality and examine the temporal dynamics involved with these types of relationships. To start with, the reliance on self-reported measures might introduce bias since participants' responses could be influenced by social desirability or self-perception inaccuracies. Future studies may incorporate objective measures, such as physiological markers or behavioral tasks, to triangulate data and enhance validity.

In addition, the study sample's demographic and cultural contexts might limit its generalizability. The viewpoint regarding emotion controllability and related self-regulation and mind-wandering may vary across cultures; thus, cross-cultural studies are necessary. Future research needs to establish additional relationships between demographics, such as age, gender, and socioeconomic status, and these variables. Further investigation of other moderating variables, such as personality traits or environmental factors, may further reveal how psychological beliefs interact with regulatory processes to affect cognitive outcomes.

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Appendix 1

Beliefs about emotion controllability

1. It is a sign of weakness if I have miserable thoughts.
2. If I have difficulties I should not admit them to others.
3. If I lose control of my emotions in front of others, they will think less of me.
4. I should be able to control my emotions.
5. If I am having difficulties it is important to put on a brave face.
6. If I show signs of weakness then others will reject me.
7. I should not let myself give in to negative feelings.
8. I should be able to cope with difficulties on my own without turning to others for support.
9. To be acceptable to others, I must keep any difficulties or negative feelings to myself.
10. It is stupid to have miserable thoughts.
11. It would be a sign of weakness to show my emotions in public.
12. Others expect me to always be in control of my emotions.

Self-regulation

1. Recognizing self-thinking.
2. Making effective plans.
3. Understanding and using the needed information.
4. Becoming sensitive toward feedbacks.
5. Evaluating the effectiveness of acts.

Body-mind connection

1. Feeling physically well is something that I prioritise in life.
2. I value being well-balanced in my body and my mind.
3. Feeling mentally well is something that I prioritise in life.
4. I am usually proactive in addressing the needs of my body.
5. Where possible, I always attend to what my body is telling me.
6. I feel disconnected from my body. (R)
7. If I were asked to, I'd find it hard to describe changes in my body associated with positive and negative emotions. (R)
8. I find it hard to identify changes in my body associated with positive and negative emotions. (R)

9. I tend to focus on things happening in my physical environment rather than what is happening inside of me. (R)
10. I can direct my focus toward how specific parts of my body feel.
11. It is easy for me to focus on specific sensations if they are suddenly experienced.
12. It is easy for me to focus on specific sensations if I purposefully think about them.
13. I consider myself in touch with my body and mind.

Mind-wandering

1. I have difficulty maintaining focus on simple or repetitive work.
2. While reading, I find I haven't been thinking about the text and must therefore read it again.
3. I do things without paying full attention.
4. I find myself listening with one ear, thinking about something else at the same time.
5. I mind-wander during lectures of presentations.