

Cognitive and emotional pathways of public distrust in welfare programs

Permata Sakti^{1*}, Mahpara Naeem², Omar Javaid³

¹BPS-Statistics Jakarta, Indonesia, email: permatasakti@bps.go.id

²Department of Commerce, University of Karachi, Pakistan, email: salina_atlive@hotmail.co.uk

³Institute of Business Management Karachi, Pakistan, email: omar.javaid@iobm.edu.pk

*Corresponding author: permatasakti@bps.go.id

Abstract

Purpose – This study investigates how perceived risk shapes public distrust toward the Free Nutritious Meals Program (MBG) through the mediating roles of rational decision-making, self-control, and psychological fatigue. It aims to explain the cognitive and emotional mechanisms underlying public skepticism toward government welfare initiatives, addressing a theoretical and empirical gap in understanding distrust formation.

Design/Methodology/Approach – Using a quantitative research design, data were collected from 384 parent respondents whose children participated in the Free Nutritious Meals Program (MBG). A purposive non-probability sampling technique was employed and the data were analyzed using Structural Equation Modeling (SEM) to examine both direct and indirect relationships among perceived risk, rational decision-making, self-control, fatigue, and distrust behavior.

Findings – The results reveal that perceived risk significantly increases rational decision-making, self-control, and fatigue. Rational decision-making and fatigue positively mediate the relationship between perceived risk and distrust, while self-control shows no significant effect. These findings highlight that cognitive evaluation and emotional depletion jointly drive public distrust.

Originality/Value – This research integrates risk perception, rational choice, and self-regulation theories to propose a dual-path model of distrust, combining cognitive and affective mechanisms often overlooked in prior studies.

Research Limitations/Implications – The cross-sectional design limits causal interpretation, and self-reported data may introduce bias.

Practical Implications – The findings emphasize the need for balanced risk communication, reduced cognitive overload, and transparent governance to strengthen public trust in welfare programs.

Keywords – Risk Perception, Rational Decision-Making, Fatigue, Distrust Behavior, Public Welfare Programs

1. Introduction

In recent years, public nutrition initiatives have faced increasing skepticism and resistance, primarily fueled by citizens' perceptions of risk related to food safety and

Received: 2025-11-12 — Revised: 2025-12-01, 2025-12-10 — Accepted: 2025-12-15

e-ISSN: 3123-769X

© Sakti et al. Published in BELGI: Journal of Islamic Business and Decision Sciences by STIS Al Wafa, Indonesia. This article is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0). Anyone may reproduce, distribute, translate, and create derivative works of this article, subject to full attribution to the original publication and authors. The full terms of this licence are available at:

<https://creativecommons.org/licenses/by/4.0/>

government performance. When individuals perceive greater hazards or uncertainties, their willingness to participate in or trust public programs declines significantly ([Kunyanga et al., 2023](#)). Such risk perceptions are shaped not only by objective conditions but also by subjective evaluations of credibility, transparency, and perceived fairness within institutional systems ([Junior et al., 2025](#)). Despite extensive literature on external or institutional determinants of trust, such as communication transparency or governance quality, limited attention has been devoted to understanding the internal psychological pathways. These pathways show how perceived risks shape distrust behavior, particularly through rational decision-making processes, self-regulatory capacities, and psychological fatigue ([Zhang et al., 2024](#); [Liu et al., 2024](#)).

The existing literature tends to emphasize structural determinants such as information transparency or governance quality, but this approach overlooks the cognitive and emotional mechanisms that mediate individual responses to perceived risks. Scholars have argued that risk governance models must integrate cognitive evaluation and emotional regulation to better explain public trust dynamics ([Rimkutė, 2025](#)). While studies have linked risk perception and institutional trust in contexts such as food safety ([Pai et al., 2024](#)), environmental management ([Colombo et al., 2023](#)), and public health ([Shen et al., 2024](#)), the explanatory chain connecting perceived risk, rational decision-making, self-control, and fatigue remains theoretically fragmented and empirically underexplored. Critically, rational decision-making does not operate in isolation; rather, it is dynamically shaped by the interaction between risk perception as a cognitive trigger and behavioral control capacity as a regulatory resource. When individuals perceive elevated risk, they initially mobilize deliberative reasoning. However, sustained risk appraisal gradually depletes self-regulatory resources, thereby limiting their capacity to maintain rational analysis and increasing susceptibility to heuristic or affect-driven judgments of distrust. Consequently, rational decision-making functions not as a stable trait but as a state-dependent process shaped by the tension between perceived threat and the endurance of regulatory resource. This is particularly true in developing nations, where program implementation faces administrative and communication challenges that intensify cognitive strain and emotional exhaustion among citizens ([Mollah, 2025](#)).

While a broader array of psychological and contextual antecedents such as institutional trust, affective heuristics, religiosity, and past program experience has been documented in the literature on risk and public skepticism (e.g., [Lee and Li, 2021](#); [Pai et al., 2024](#)), this study adopts a theory-driven boundary condition to ensure model parsimony and conceptual coherence. We ground our selection of mediators in three established theoretical frameworks: risk perception theory, rational choice theory, and self-regulation theory. Together, these frameworks highlight the internal regulatory mechanisms through which perceived risk is converted into behavioral distrust.

Within this conceptual structure, rational decision making represents deliberate cognitive appraisal. Self-control reflects the effortful inhibition of impulsive responses. Fatigue captures the depletion of regulatory resources that occurs under sustained uncertainty. By focusing on this set of three mechanisms, we aim to clarify the cognitive and affective pathways that drive distrust formation. This approach also prevents theoretical diffusion and strengthens the overall explanatory precision of the model.

This study seeks to address these gaps by integrating three complementary theoretical perspectives: risk perception theory, rational choice theory, and self-regulation theory. Risk perception theory explains how individuals interpret uncertain hazards based on cognitive heuristics rather than objective probabilities ([Kathpal et al., 2025](#)). Rational choice theory posits that people assess risks and benefits through deliberative reasoning when deciding whether to trust or reject an initiative. Crucially, more rational analysis may uncover inconsistencies in institutional messaging, thereby increasing skepticism. ([Voci & Karmasin,](#)

2024). Self-regulation theory suggests that limited self-control and decision fatigue can impair the ability to evaluate risks objectively. This leads individuals to adopt avoidance or distrust behaviors, especially when ambiguous or threatening information is continuously processed (Liu et al., 2024). By combining these frameworks, this study proposes a conceptual model in which perceived risk indirectly influences distrust through rational decision-making, self-control, and psychological fatigue. This dual-path model balances cognitive vigilance and affective depletion (Zhang et al., 2024).

Empirically, this research examines the Free Nutritious Meals Program (MBG) in Indonesia as a case study of how citizens respond to large-scale public food initiatives (Sianturi, 2025). Using a structural equation modeling (SEM) approach, the study evaluates direct and mediated effects of perceived risk on distrust, offering insight into the psychological mechanisms underlying public attitudes toward government programs. Moreover, because the MBG program operates within a highly specific sociocultural environment marked by heterogeneous risk beliefs, varying levels of institutional trust, and a long history of fragmented food governance communication, this study strengthens its theoretical grounding by explicitly situating the integrated framework within these contextual realities. By doing so, the model does not simply apply existing theories. Instead, it adapts and extends them to account for sociocultural dynamics that uniquely shape how Indonesian citizens interpret and respond to public risk signals.

This approach enables a more nuanced understanding of how rational cognition and emotional regulation interact to form distrust in social policy contexts (Almansour et al., 2023). Ultimately, this study aims to contribute to a deeper and more contextually grounded understanding of how perceived risk and psychological mechanisms shape trust and participation in public welfare programs. This gap is meaningful because existing frameworks explain distrust primarily through institutional failures while overlooking the psychological burdens citizens face when navigating ambiguous or risk laden public programs. By addressing this omission, the present study contributes new insight into how cognitive strain and emotional depletion jointly shape distrust. These mechanisms remain theoretically fragmented and empirically untested in welfare policy contexts.

More specifically, this research clarifies how perceived risk is translated into distrust by identifying the distinct cognitive process of rational evaluation and the affective process of fatigue. Recognizing these pathways provides a more actionable foundation for developing governance strategies that strengthen public trust.

2. Literature review

The selection of rational decision making, self-control, and fatigue as focal mediators is guided not only by their grounding in foundational behavioral theories but also by their demonstrated centrality in recent empirical studies on public risk responses in resource constrained contexts. This pattern is particularly evident in Southeast Asia and Sub-Saharan Africa, where cognitive overload and institutional opacity frequently co-occur (e.g., Mollah, 2025; Moravec et al., 2025). Alternative constructs such as generalized trust or religiosity, although theoretically relevant, were intentionally excluded to preserve construct specificity. Including them would risk conflating dispositional traits with state dependent regulatory processes, which would dilute the explanatory focus of the model.

2.1. Risk perception and rational decision-making

Risk perception refers to an individual's subjective evaluation of the likelihood and severity of potential harm associated with a situation or object. It is shaped by cognitive judgments, affective responses, and contextual cues such as media coverage and institutional credibility (Fisher & Mandel, 2021). In public food programs, perceived risk emerges from

uncertainties surrounding food safety, hygiene, and government reliability. When citizens perceive higher risk, they are more likely to exhibit distrust and avoidance behaviors toward the program, particularly when they feel they lack control over food quality. This pattern is consistent with findings in behavioral finance, where heightened risk perception significantly reduces investment willingness and increases cautious decision-making ([Almansour et al., 2023](#)).

Empirical studies have shown that negative perceptions of safety in government-provided food significantly reduce public acceptance and trust ([Herati et al., 2023](#)). In similar contexts, heightened risk perception leads to skepticism toward policy initiatives, especially when transparency and communication are weak ([Lee & Li, 2021](#)). Within the Free Nutritious Meals Program context, misinformation or prior incidents of contamination could amplify perceived risk, reinforcing public reluctance ([Moravec et al., 2025](#)). Therefore, risk perception is posited to directly influence distrust behavior toward the MBG ([Mathiyarasan & Krishnamoorthi, 2024](#)). Based on these discussions, this study proposes the following hypothesis:

H1: Risk perception positively affects distrust behavior.

2.2. Risk perception and self-control

Self-control represents the capacity to regulate thoughts, emotions, and impulses to pursue long-term goals ([Nilsen et al., 2020](#)). Within self-regulation theory, risk perception may elicit psychological tension that requires individuals to exert control over emotional reactions to uncertainty ([Colombo et al., 2023](#)). Empirical studies show that individuals with higher perceived risks often attempt to exercise more restraint and cognitive control to maintain decision balance ([Gerber et al., 2025](#)).

However, sustained exposure to uncertain or ambiguous information can weaken self-control over time, especially when emotional anxiety becomes dominant ([Zhang et al., 2024](#)). Therefore, risk perception is expected to have a positive association with self-control engagement in decision contexts ([Açık & Ülger, 2025](#); [Escobar-Farfán et al., 2025](#)). Based on these discussions, this study proposes the following hypothesis:

H2: Risk perception positively affects self-control.

2.3. Risk perception and fatigue

Fatigue is a psychological and physiological state of reduced cognitive and emotional resources caused by prolonged stress or decision overload ([Cai et al., 2025](#)). Decision-making under uncertainty often depletes attention and working memory, leading to what is known as decision fatigue ([Maier et al., 2025](#)). When individuals constantly evaluate risks, their cognitive effort increases, which can culminate in exhaustion and reduced motivation to process new information ([Milyavskaya et al., 2021](#)).

In public food programs, high perceived risks are therefore expected to increase psychological fatigue as citizens continuously question the program's safety and credibility ([Chen et al., 2021](#); [Ferreira et al., 2022](#)). Based on these discussions, this study proposes the following hypothesis:

H3: Risk perception positively affects fatigue

2.4. Rational decision-making and distrust behavior

Rational decision-making involves systematic evaluation of alternatives based on logic and evidence rather than affect or intuition ([Fisher & Mandel, 2021](#)). Individuals who engage in higher levels of rational analysis are more likely to detect inconsistencies or risks in institutional claims, which can lead to greater skepticism and distrust ([Ferreira et al., 2022](#)).

In food policy contexts, consumers who assess information critically tend to become less trusting when they identify possible hazards ([Wu et al., 2021](#)). Thus, rational decision-making

can act as a cognitive route that transforms perceived risk into distrust behavior. Based on these discussions, this study proposes the following hypothesis:

H4: Rational decision-making positively affects distrust behavior.

2.5. Self-control and distrust behavior

Self-control functions as a moderating and mediating mechanism that shapes emotional responses toward risk ([Zhang et al., 2024](#)). Individuals with strong self-control can regulate fear or anxiety and make more balanced judgments ([Lindner et al., 2022](#)), whereas low self-control may amplify impulsive distrust or rejection (Rada et al., 2025). Empirical studies indicate that diminished self-control correlates with reactive decision-making and lower trust in uncertain environments ([Buyukcan-Tetik & Pronk, 2023](#)). Therefore, higher self-control may reduce but still influence distrust by moderating emotional impulses toward perceived risks. Based on these discussions, this study proposes the following hypothesis:

H5: Self-control affects distrust behavior.

2.6. Fatigue and distrust behavior

Psychological fatigue reduces individuals' cognitive capacity to process complex information, making them rely on heuristics and emotional shortcuts ([Jia et al., 2022](#)). Fatigued individuals tend to avoid potential risks and prefer protective actions, which often translate into avoidance or distrust ([Ford et al., 2023](#)). Studies in health communication and risk management confirm that decision fatigue undermines confidence and fosters negative evaluations of safety messages ([Lin et al., 2025](#)). Consequently, fatigue is expected to increase distrust toward the MBG program. Based on these discussions, this study proposes the following hypothesis:

H6: Fatigue positively affects distrust behavior.

2.7. Mediating role of rational decision-making

Rational decision-making mediates the relationship between perceived risk and distrust by serving as the cognitive mechanism through which individuals evaluate risk information ([Davut, 2024](#)). When perceived risk rises, individuals engage in deeper analytic processing that may expose inconsistencies or safety concerns, ultimately fostering distrust ([Bearth & Siegrist, 2022](#)). Empirical evidence supports such mediation effects in contexts of environmental and health-risk communication ([Cardona-Isaza et al., 2023](#)). Hence, rational decision-making is expected to mediate the link between risk perception and distrust. Based on these discussions, this study proposes the following hypothesis:

H7: Risk perception positively affects distrust behavior through rational decision-making.

2.8. Mediating role of self-control

Self-control moderates and mediates how risk perception translates into behavioral responses ([Li et al., 2025](#)). High perceived risk requires greater self-regulation to maintain rational judgment ([Ballinger et al., 2024](#)). When self-control fails, individuals rely on emotional responses that heighten distrust ([Filip et al., 2025](#)). Studies indicate that depleted self-control amplifies the effect of perceived risk on distrust across various domains, including food safety and public compliance ([Gurinskaya et al., 2024](#); [Zhai et al., 2022](#)). Therefore, self-control is expected to mediate the effect of risk perception on distrust toward the MBG program. Based on these discussions, this study proposes the following hypothesis:

H8: Risk perception positively affects distrust behavior through self-control.

2.9. Mediating role of fatigue

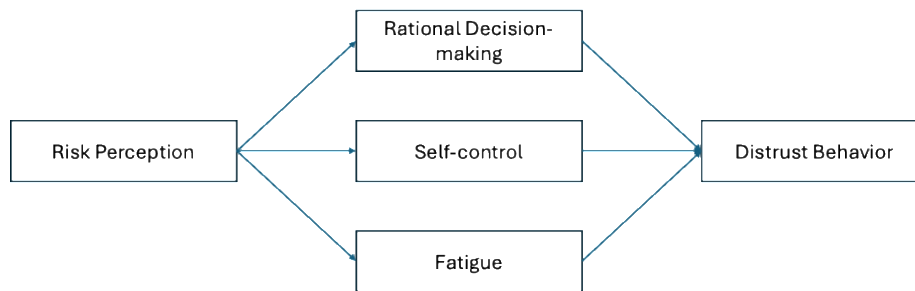
Fatigue acts as a psychological bridge linking prolonged risk perception and the formation of distrust ([Nieli et al., 2025](#)). Continuous exposure to ambiguous information depletes mental

energy, fostering avoidance tendencies and erosion of confidence ([Liu et al., 2024](#)). Prior studies in behavioral decision science show that cognitive fatigue mediates the influence of perceived uncertainty on withdrawal or rejection behaviors ([Wang et al., 2024](#)).

Thus, in the MBG context, fatigue is expected to mediate the relationship between perceived risk and distrust behavior. Based on these discussions, this study proposes the following hypothesis:

H₉: Risk perception positively affects distrust behavior through fatigue.

All hypotheses of this study can be illustrated within the research framework presented in [Figure 1](#).



Source: own by authors

Figure 1. Research framework

3. Methodology

This study investigates the influence of public risk perception on distrust toward Free Nutritious Meals programs, with rational decision-making, self-control, and psychological fatigue as mediating variables. A quantitative design employing the Structural Equation Modeling (SEM) approach using SmartPLS software was adopted, as SEM effectively captures complex interrelationships among latent constructs while controlling for measurement error. Data were collected through a structured questionnaire comprising 23 items adapted from validated scales in prior studies. Following data screening to remove missing values and outliers, 20 valid items were retained for analysis. Each item was measured on a six-point Likert scale ranging from strongly disagree to strongly agree, ensuring sufficient response sensitivity. The study operationalized rational decision-making using the 4-item scale from Fisher and Mandel ([2021](#)), which captures deliberative evaluation of alternatives based on logic and evidence, not post hoc justification. Self-control was measured via the 4-item Escobar-Farfán et al. ([2025](#)). Fatigue was assessed using the 5-item Decision Fatigue Scale ([Maier et al., 2025](#)), which captures subjective depletion of cognitive resources and minimizes conflation with transient emotional states. To ensure reproducibility, all measurement items were adapted from established scales: perceived risk items were adapted from Chen et al. ([2021](#)) and Kunyanga et al. ([2023](#)), while distrust behavior items were adapted from Wu et al. ([2021](#)) and Herati et al. ([2023](#)). All constructs and indicators were used without modification except minor wording adjustments for contextual clarity.

During data collection, respondents were screened based on program exposure to ensure that only individuals with verifiable experience in the MBG initiative were included. In the data processing stage, a multi-step cleaning protocol was applied. This protocol included checks for straight lining, the identification of multivariate outliers using Mahalanobis distance, and response time analysis to detect inattentive or low-quality responses. Furthermore, Harman's single factor test and full collinearity VIF procedures were conducted to assess potential common method bias. The results confirmed that no single latent factor dominated the variance.

Purposive non-probability sampling was applied to recruit respondents with prior experience or knowledge of Free Nutritious Meals programs, yielding a final sample of 384

participants, which satisfies minimum SEM power requirements. The final sample comprised parents of school-aged children participating in the MBG program, with 68.2% female and 31.8% male respondents; 74.5% were between 30–45 years old, 62.3% held at least a senior high school diploma, and 55.1% resided in urban districts of Greater Jakarta. This demographic composition aligns with the primary caregiver profile in Indonesia's public school nutrition support programs (Ministry of Education, 2024). The study followed a two-stage analytical procedure. First, the measurement model was assessed through convergent validity (Average Variance Extracted, $AVE > 0.5$) and internal consistency reliability (Composite Reliability, $CR > 0.7$). Second, the structural model was evaluated to test hypothesized direct and indirect relationships using bootstrapping with 5,000 resamples to estimate path coefficients and significance levels (Risher & Hair, 2017). This rigorous methodological design ensured robustness, reliability, and empirical precision in examining the cognitive and psychological mechanisms underlying public distrust of nutrition-based welfare programs.

4. Results

4.1. Measurement Reliability and Validity

The results of the measurement model evaluation (Table 1) demonstrate that all constructs in this study meet the recommended thresholds for reliability and validity, confirming the adequacy of the measurement instruments used. As shown in Table 1, all outer loading values exceed the minimum standard of 0.70, indicating that each indicator contributes significantly to its corresponding latent construct (Wong, 2013). This reflects a strong relationship between the observed variables and their theoretical dimensions.

Cronbach's alpha (α) values for all constructs range from 0.830 to 0.880, surpassing the threshold of 0.70, which signifies internal consistency reliability. Similarly, the composite reliability (CR) values fall between 0.880 and 0.917, further confirming that the items within each construct consistently measure the same underlying concept. These findings suggest that the measurement model exhibits stable and coherent internal structures across the variables of distrust behavior (DB), rational decision-making (DEC-R), fatigue (FAT), perceived risk (RISK), and self-control (SC).

The Average Variance Extracted (AVE) values for all constructs also exceed the recommended minimum of 0.50, ranging from 0.595 to 0.746. This indicates satisfactory convergent validity, meaning that more than 50% of the variance of the indicators is explained by their respective latent variables. Among them, distrust behavior ($AVE = 0.746$) demonstrates the highest degree of convergence, suggesting that its measurement items capture the construct with particularly strong precision.

Table 1. Measurement model evaluation

No	Items	Outer Loadings
DB. $\alpha = 0,830$; CR = 0,898; AVE = 0,746		
1	DB1	0.832
2	DB2	0.877
3	DB3	0.881
DEC-R. $\alpha = 0,845$; CR = 0,896; AVE = 0,683		
4	DEC-R1	0.812
5	DEC-R2	0.782
6	DEC-R3	0.869
7	DEC-R4	0.840
FAT. $\alpha = 0,834$; CR = 0,880; AVE = 0,595		

No	Items	Outer Loadings
8	FAT1	0.761
9	FAT2	0.818
10	FAT3	0.757
11	FAT4	0.802
12	FAT5	0.713
RISK. $\alpha = 0,853$; CR = 0,901; AVE = 0,695		
13	RISK1	0.820
14	RISK2	0.871
15	RISK3	0.840
16	RISK4	0.802
SC. $\alpha = 0.880$; CR = 0.917; AVE = 0,735		
17	SC1	0.838
18	SC2	0.875
19	SC3	0.834
20	SC4	0.880

Source: SmartPLS 3 (2025)

The results of the discriminant validity analysis, as presented in [Table 2](#), indicate that all constructs in the model are empirically distinct from one another. Discriminant validity was assessed using the Fornell-Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) of each construct with its correlations to other constructs ([Fornell & Larcker, 1981](#)). To further corroborate discriminant validity, the Heterotrait-Monotrait (HTMT) ratio of correlations was computed. As recommended by Hair et al. ([2017](#)), an HTMT value below the conservative threshold of 0.85 indicates adequate discriminant validity for conceptually distinct constructs. The results show that all HTMT values range from 0.128 to 0.794, well beneath the 0.85 cutoff, providing robust support for the empirical distinctiveness of the latent variables in the model. This finding confirms that each latent variable captures unique aspects of the conceptual framework and does not overlap excessively with other constructs.

Specifically, the square root of AVE values for each construct, including distrust behavior (0.864), rational decision-making (0.771), fatigue (0.826), risk perception (0.834), and self-control (0.857), all exceed their respective correlation coefficients with other variables. For instance, the correlation between risk perception and rational decision-making (0.572) is lower than the square roots of both constructs (0.834 and 0.771, respectively), indicating clear discriminant separation. Likewise, the relationship between fatigue and self-control (0.724) remains below their individual AVE square roots (0.826 and 0.857), demonstrating that although the constructs are conceptually related, they measure distinct psychological dimensions.

Table 2. Discriminant validity

	DB	DEC-R	FAT	RISK	SC
DB	0.864				
DEC-R	0.233	0.771			
FAT	0.286	0.439	0.826		
RISK	0.100	0.572	0.642	0.834	
SC	0.130	0.525	0.724	0.812	0.857

Source: SmartPLS 3 (2025)

4.2 Hypothesis Testing

The results of the hypothesis testing presented in [Table 3](#) demonstrate that most of the proposed relationships in the structural model are statistically significant. The path coefficient values, along with their respective t-statistics and p-values, indicate that the relationships between perceived risk, rational decision-making, fatigue, and distrust behavior are empirically supported.

The path from perceived risk to rational decision-making shows a strong and significant positive relationship ($\beta = 0.644$, $t = 13.942$, $p < 0.001$), indicating that higher perceived risk increases the tendency of individuals to engage in rational analysis when evaluating the Free Nutritious Meals Program (MBG). Similarly, perceived risk has a significant positive effect on self-control ($\beta = 0.819$, $t = 34.798$, $p < 0.001$), suggesting that when individuals perceive higher levels of uncertainty or potential hazard, they tend to exert greater cognitive and emotional regulation to manage their responses. Perceived risk also significantly influences fatigue ($\beta = 0.568$, $t = 14.712$, $p < 0.001$), implying that continuous exposure to risk-related information can lead to psychological exhaustion and decision fatigue.

Furthermore, rational decision-making significantly affects distrust behavior ($\beta = 0.395$, $t = 6.113$, $p < 0.001$), indicating that individuals who engage in more analytical evaluation are more likely to detect inconsistencies or potential flaws in the program, thereby increasing their level of distrust. In contrast, the relationship between self-control and distrust behavior is not statistically significant ($\beta = -0.130$, $t = 1.535$, $p = 0.125$), suggesting that the ability to regulate emotions and impulses does not have a direct effect on distrust within this context. Finally, fatigue has a significant positive influence on distrust behavior ($\beta = 0.234$, $t = 3.637$, $p < 0.001$), meaning that psychological exhaustion contributes to heightened skepticism and avoidance tendencies toward the MBG program.

Table 3. Path coefficients

	Original (O)	T Statistics	P Values
RISK → DEC-R	0.644	13.942	0.000
RISK → SC	0.819	34.798	0.000
RISK → FAT	0.568	14.712	0.000
DEC-R → DB	0.395	6.113	0.000
SC → DB	-0.130	1.535	0.125
FAT → DB	0.234	3.637	0.000

Source: SmartPLS 3 (2025)

The analysis of specific indirect effects, as shown in [Table 4](#), reveals how perceived risk influences distrust behavior indirectly through the mediating roles of self-control, rational decision-making, and fatigue. The results demonstrate that two of the three mediating pathways are statistically significant, confirming the presence of both cognitive and emotional mechanisms through which perceived risk shapes public distrust toward the Free Nutritious Meals Program (MBG).

The indirect effect of perceived risk on distrust behavior through self-control is not significant ($\beta = -0.106$, $t = 1.537$, $p = 0.125$), indicating that self-control does not serve as a meaningful mediating variable in this model. This suggests that while individuals may attempt to regulate their emotions when perceiving risk, such regulatory efforts do not substantially alter their final level of distrust toward the program.

In contrast, the mediating effect of rational decision-making is positive and significant ($\beta = 0.254$, $t = 5.042$, $p < 0.001$). This finding implies that perceived risk triggers more analytical and deliberate thinking processes, which, in turn, increase individuals' tendency to question the credibility and safety of the program. Hence, rational decision-making functions as a critical cognitive mechanism linking perceived risk to distrust.

Similarly, the indirect effect of perceived risk on distrust behavior through fatigue is also significant and positive ($\beta = 0.133$, $t = 3.559$, $p < 0.001$). This demonstrates that

continuous exposure to risk-related information or uncertainty can lead to psychological exhaustion, which subsequently heightens distrust. Fatigue therefore operates as an emotional pathway that transforms cognitive overload into skeptical or avoidant behavior.

Table 4. Specific Indirect Effects

	Original (O)	T Statistics	P Values
RISK → SC → DB	-0.106	1.537	0.125
RISK → DEC-R → DB	0.254	5.042	0.000
RISK → FAT → DB	0.133	3.559	0.000

Source: SmartPLS 3 (2025)

The hypothesis testing results confirm that perceived risk plays a pivotal role in shaping both cognitive and emotional responses that lead to distrust toward the Free Nutritious Meals Program (MBG). Rational decision-making and fatigue significantly mediate this relationship, highlighting that analytical evaluation and psychological exhaustion are the primary mechanisms through which perceived risk increases public skepticism. In contrast, self-control shows no significant effect, suggesting that emotional regulation alone is insufficient to mitigate distrust when individuals face high levels of perceived uncertainty.

5. Discussion

The findings of this study provide strong empirical support for the central proposition that perceived risk serves as the primary psychological driver of public distrust toward the Free Nutritious Meals Program (MBG). The structural model reveals that perceived risk significantly influences both cognitive and emotional processes, particularly rational decision-making and fatigue, which in turn shape distrust behavior. These outcomes substantiate the integrated framework developed from risk perception theory, rational choice theory, and self-regulation theory, showing that distrust emerges not merely from institutional weaknesses but also from the cognitive and affective strains citizens experience when confronting uncertainty (Colombo et al., 2023; Zhang et al., 2024).

One of the most prominent findings is the robust relationship between perceived risk and rational decision-making. When individuals perceive greater uncertainty about program safety or credibility, they tend to engage in deeper analytical evaluation before forming judgments. This pattern aligns with the cognitive reasoning process described by prospect-theoretic and dual-process accounts, where risk-laden contexts activate effortful, systematic processing rather than intuitive response (Fisher & Mandel, 2021; Almansour et al., 2023). Crucially, Fisher and Mandel (2021) show that such analytical evaluation, when triggered by framing or valence cues, can reveal perceived inconsistencies in institutional claims. This process increases skepticism rather than compliance. Similarly, Almansour et al. (2023) confirm that risk perception mediates behavioral responses. Heightened risk awareness intensifies scrutiny of information quality, further amplifying rational skepticism, particularly when bias-prone heuristics such as herding and the disposition effect are present.

However, as rational evaluation intensifies, citizens become more likely to identify inconsistencies or deficiencies in the government's communication and performance, ultimately reinforcing distrust. In this way, rational decision-making acts as a double-edged sword. While it reflects deliberative reasoning, it can simultaneously magnify skepticism when risk cues dominate public perception (Fisher & Mandel, 2021; Herati et al., 2023). Herati et al. (2023) empirically demonstrate that in crisis contexts, individuals who engage in higher levels of rational analysis, particularly those who are attentive to explicated outcome valence and communicative inconsistencies, report greater skepticism toward institutional narratives. This occurs even when the messages are delivered by generally trusted sources such as scientists. This mirrors MBG participants' heightened scrutiny of safety claims,

especially in the wake of past contamination incidents or ambiguous policy communication ([Moravec et al., 2025](#)).

The role of fatigue provides another crucial insight into the emotional mechanisms underlying distrust. The significant relationship between perceived risk and fatigue indicates that continuous exposure to ambiguous or alarming information drains cognitive and emotional resources ([Colombo et al., 2023](#); [Zhang et al., 2024](#)). Zhang et al. (2024) provide network-level evidence that sustained anxiety depletes inhibitory control, leading to overexertion in self-regulation, especially under conditions of high perceived risk. This aligns with Colombo et al. (2023), who argue that eco-anxiety and helplessness induce decision fatigue, causing individuals to disengage from complex pro-environmental (or here, pro-program) reasoning.

Within the MBG context, fatigue functions as an affective mediator that transforms sustained cognitive effort into emotional exhaustion, which then heightens avoidance and distrust. From a theoretical standpoint, this outcome extends self-regulation theory by illustrating how mental depletion acts as a conduit between cognitive appraisal and behavioral withdrawal ([Colombo et al., 2023](#); [Zhang et al., 2024](#)). Critically, Liu et al. (2024) and Ferreira et al. (2022) both note that continuous exposure to ambiguous information depletes mental energy, fostering avoidance tendencies and eroding confidence. This finding is directly mirrored in MBG participants' psychological fatigue.

Interestingly, while perceived risk strongly predicts self-control, this variable neither directly affects distrust nor mediates the risk-distrust relationship. This divergence from expectation suggests that individuals may indeed attempt to regulate their emotions in the face of uncertainty, yet such regulation does not necessarily alter their evaluative outcomes. Prior research supports this. Zhang et al. (2024) find that higher self-control correlates with higher anxiety in risk-laden contexts, suggesting that regulation may amplify rather than buffer strain. Similarly, Colombo et al. (2023) observe that self-regulation attempts fail when systemic uncertainty, such as institutional opacity or weak enforcement, undermines perceived control. This scenario mirrors MBG skepticism, which is driven by distrust in regulatory capacity ([Moravec et al., 2025](#)).

The pathways through rational decision-making and fatigue emerge as the dominant mediating mechanisms connecting perceived risk to distrust. Rational decision-making represents the cognitive route, wherein analytical evaluation amplifies skepticism by revealing inconsistencies between institutional claims and perceived realities ([Fisher & Mandel, 2021](#); [Herati et al., 2023](#)). Fatigue, conversely, represents the affective route, where prolonged cognitive engagement leads to psychological exhaustion that erodes confidence and motivation to trust ([Colombo et al., 2023](#); [Zhang et al., 2024](#)). This dual-path dynamic aligns with Liu et al. (2023) and Fisher et al. (2021), who argue that distrust in public initiatives is not purely a rational judgment but also a product of cognitive overload and emotional depletion. This occurs even when the intentions, such as program goals, are perceived as benevolent.

From an empirical perspective, these results advance understanding of the psychological architecture of distrust. They confirm that distrust toward welfare programs is not simply an irrational emotional reaction but a reasoned outcome shaped by analytical vigilance and mental fatigue ([Herati et al., 2023](#); [Lee & Li, 2021](#)). Lee and Li (2021) explicitly link weak transparency and communication to rising perceived risk and eroded trust, not through emotional panic but through rational reassessment of institutional credibility. Herati et al. (2023) reinforce this, noting that even when citizens accept countermeasures, they do so despite distrust, not because of trust. This highlights the critical role of epistemic vigilance over blind compliance.

Theoretically, this study advances existing scholarship by clarifying how cognitive and affective mechanisms jointly translate perceived risk into distrust, thereby extending rational choice and self-regulation theories into the domain of welfare policy evaluation. By demonstrating that rational decision-making can amplify rather than mitigate skepticism when institutional cues are ambiguous, the findings challenge the conventional assumption that analytical processing consistently leads to more accurate or favorable judgments. Furthermore, the identification of fatigue as a central emotional mediator contributes to emerging work on cognitive depletion, offering a nuanced explanation for why citizens disengage from public programs even when risk information is incomplete or inconclusive. These contributions collectively deepen academic understanding of distrust formation by integrating cognitive appraisal and regulatory depletion within a unified explanatory framework.

From a policy standpoint, these findings hold significant implications. The positive influence of rational decision-making and fatigue on distrust suggests that excessive informational complexity or uncertainty can backfire by overwhelming citizens' cognitive capacity ([Colombo et al., 2023](#); [Zhang et al., 2024](#)). Therefore, effective risk communication strategies should balance transparency with emotional scaffolding, providing sufficient detail for informed evaluation while minimizing cognitive overload and affective threat ([Herati et al., 2023](#); [Zhang et al., 2024](#)). Notably, Herati et al. (2023) caution that certain messaging can lead to increased doubt in research, a warning that is directly applicable to MBG communications. Strengthening public self-regulation capacities ([Colombo et al., 2023](#)), promoting consistent, jargon-free narratives, and ensuring credible transparency ([Lee & Li, 2021](#); [Moravec et al., 2025](#)) may collectively mitigate the cognitive fatigue that drives distrust.

Practically, the results offer actionable guidance for policymakers and program administrators. Because rational decision-making can heighten scrutiny under conditions of uncertainty, risk communication strategies should prioritize clarity, consistency, and the proactive correction of misinformation. Simplifying program information and presenting it in accessible formats can reduce cognitive overload, while timely updates can minimize the uncertainty that triggers heightened skepticism. Additionally, interventions that address psychological fatigue, such as reducing the frequency of conflicting messages, providing clear safety assurances, and enabling two-way communication channels, can help sustain public engagement. These findings suggest that effective policy design requires not only technical improvements in program delivery but also deliberate attention to the psychological processes that shape citizen trust and participation.

In conclusion, the study reveals that public distrust toward the Free Nutritious Meals Program is primarily driven by perceived risk, which activates both cognitive and emotional pathways leading to skepticism. Rational decision-making heightens distrust through analytical scrutiny ([Fisher & Mandel, 2021](#); [Herati et al., 2023](#)), while fatigue intensifies it through emotional exhaustion ([Colombo et al., 2023](#)). Although individuals attempt to exercise self-control, such efforts are insufficient to counteract distrust when perceived uncertainty and institutional opacity remain high ([Moravec et al., 2025](#)). Overall, these findings contribute to a richer theoretical and empirical understanding of how cognitive reasoning and emotional depletion jointly shape public trust in government welfare initiatives, offering actionable insights for policy design grounded in behavioral science.

6. Conclusions and future research

This study concludes that perceived risk is the most decisive psychological factor shaping public distrust toward the Free Nutritious Meals Program (MBG). The empirical evidence demonstrates that perceived risk exerts both direct and indirect influences on distrust through two dominant pathways: rational decision-making and psychological fatigue. Rational

decision-making serves as a cognitive route that transforms analytical evaluation into skepticism, while fatigue functions as an emotional route that converts mental exhaustion into avoidance and distrust. Although self-control is positively influenced by perceived risk, it does not significantly mitigate distrust, suggesting that emotional regulation alone is insufficient when uncertainty and institutional ambiguity remain high. These findings substantiate the theoretical integration of risk perception theory, rational choice theory, and self-regulation theory, offering a comprehensive understanding of how cognitive reasoning and emotional depletion jointly contribute to public distrust in welfare initiatives.

From a theoretical standpoint, this research advances the literature by demonstrating that distrust is not merely an affective reaction but a complex product of intertwined rational and emotional mechanisms. It enriches existing models of public trust by revealing that rational cognition, typically associated with sound judgment, can paradoxically intensify distrust when risk signals are strong and institutional credibility is fragile. Moreover, the study highlights the pivotal role of psychological fatigue as a neglected emotional determinant of distrust, extending self-regulation theory into the domain of public policy perception. These insights bridge a conceptual gap in the existing literature by linking cognitive strain, emotional depletion, and policy-level skepticism within a unified explanatory framework.

Practically, the findings underscore the importance of effective risk communication and public engagement strategies in policy design. Policymakers should strive for a balance between transparency and cognitive manageability by presenting information clearly, consistently, and with emotional sensitivity. Simplifying complex messages and addressing public concerns empathetically can reduce mental fatigue and prevent excessive analytical scrutiny that leads to distrust. Furthermore, building institutional credibility through participatory feedback channels and consistent delivery performance may strengthen citizens' confidence in government initiatives. Programs similar to the MBG should also incorporate educational interventions to enhance self-regulation capacities, helping individuals manage perceived risks without succumbing to decision fatigue.

Despite its strong empirical contribution, this study is not without limitations. The cross-sectional design limits causal inference, and the reliance on self-reported data may introduce common method bias. Future research could adopt longitudinal or experimental approaches to explore the dynamic evolution of trust and risk perception over time. Expanding the scope to include demographic or cultural moderators would also enrich understanding of how contextual factors shape cognitive and emotional responses. Nevertheless, this study provides a solid foundation for future inquiry and practical innovation, emphasizing that restoring public trust requires not only institutional reform but also attention to the psychological realities that influence how citizens perceive and respond to risk in public welfare programs.

References

- Açık, M., & Ülger, T. G. (2025). Understanding food addiction through the lens of psychological well-being, self-control, and eating behavior: a cross-sectional study. *Journal of Eating Disorders*, 13(1), 253. <https://doi.org/10.1186/s40337-025-01428-2>
- Almansour, B. Y., Elkrghli, S., & Almansour, A. Y. (2023). Behavioral finance factors and investment decisions: A mediating role of risk perception. In *Cogent Economics and Finance* (Vol. 11, Issue 2). Cogent OA. <https://doi.org/10.1080/23322039.2023.2239032>
- Ballinger, G. A., Schoorman, F. D., & Sharma, K. (2024). What we do while waiting: The experience of vulnerability in trusting relationships. *Academy of Management Review*, ja, amr-2022. <https://doi.org/10.5465/amr.2022.0080>

- Bearth, A., & Siegrist, M. (2022). The Social Amplification of Risk Framework: A Normative Perspective on Trust? *Risk Analysis*, 42(7), 1381–1392. <https://doi.org/10.1111/risa.13757>
- Buyukcan-Tetik, A., & Pronk, T. M. (2023). Partner self-control and intrusive behaviors: A gender-specific examination of the mediating role of trust. *Current Psychology*, 42(14), 11782–11792. <https://doi.org/10.1007/s12144-021-02462-4>
- Cai, S., Zhang, M., Song, Z., He, Y., Huang, M., & Shuai, Q. (2025). Decision fatigue of surrogate decision-makers: a scoping review. *BMC Medical Informatics and Decision Making*, 25(1), 343. <https://doi.org/10.1186/s12911-025-03198-y>
- Cardona-Isaza, A. de J., González Barrón, R., & Montoya-Castilla, I. (2023). Empathy and Prosocial Behavior in Adolescent Offenders: The Mediating Role of Rational Decisions. *SAGE Open*, 13(4). <https://doi.org/10.1177/21582440231202844>
- Chen, X., Qin, K., & Wu, L. (2021). Citizen Characteristics and Their Participation in Food Safety Social Co-governance: Public Health Implications. *Frontiers in Public Health*, 9. <https://doi.org/10.3389/fpubh.2021.772117>
- Colombo, S. L., Chiarella, S. G., Lefrançois, C., Fradin, J., Raffone, A., & Simione, L. (2023). Why Knowing about Climate Change Is Not Enough to Change: A Perspective Paper on the Factors Explaining the Environmental Knowledge-Action Gap. In *Sustainability (Switzerland)* (Vol. 15, Issue 20). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su152014859>
- Davit, L. (2024). The impact of consumer skepticism and dispositional trust on attitudes toward display advertising and purchase intention. (*Doctoral dissertation, Vilniaus universitetas*). <https://epublications.vu.lt/object/elaba:191574215/>
- Escobar-Farfán, M., García-Salirrosas, E. E., Guerra-Velásquez, M., Veas-González, I., Gómez-Bayona, L., & Gallardo-Canales, R. (2025). Psychological Determinants of Healthy Food Purchase Intention: An Integrative Model Based on Health Consciousness. *Nutrients*, 17(7). <https://doi.org/10.3390/nu17071140>
- Ferreira, J. dos S., Araújo, M. da P. N., Botelho, R. B. A., Zandonadi, R. P., Nakano, E. Y., Raposo, A., Han, H., Muñoz, M. A., Ariza-Montes, A., & Akutsu, R. de C. C. de A. (2022). A Study on Perception and Exposure to Occupational Risks at Public School Food Services in Bahia, Brazil. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.891591>
- Filip, D., Van der Hallen, R., Smeets, G., Franken, I., & Prinzie, P. (2025). Pathological Personality Domains and Social Media Use in Emerging Adults: Mediation by Social Media Self-Control Failure. *Emerging Adulthood*, 13(2), 291–307. <https://doi.org/10.1177/21676968241264323>
- Fisher, S. A., & Mandel, D. R. (2021). Risky-choice framing and rational decision-making. *Philosophy Compass*, 16(8). <https://doi.org/10.1111/phc3.12763>
- Ford, J. L., Douglas, M., & Barrett, A. K. (2023). The role of pandemic fatigue in seeking and avoiding information on COVID-19 among young adults. *Health Communication*, 38(11), 2336–2349. <https://doi.org/10.1080/10410236.2022.2069211>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50. <https://doi.org/10.1177/002224378101800104>
- Gerber, M., Cheval, B., Cody, R., Colledge, F., Hohberg, V., Klimentidis, Y. C., Lang, C., Looser, V. N., Ludyga, S., Stults-Kolehmainen, M., & Faude, O. (2025). Psychophysiological foundations of human physical activity behavior and motivation: Theories, systems, mechanisms, evolution, and genetics. *Physiological Reviews*, 105(3), 1213–1290. <https://doi.org/10.1152/physrev.00021.2024>

- Gurinskaya, A., Nalla, M. K., & Jaynes, C. M. (2024). Fear, learning, or self-control? Predictors of Russian citizens' compliance with mandatory and voluntary Covid-19 prevention measures. *Criminology & Criminal Justice*, 24(3), 608–628. <https://doi.org/10.1177/17488958221147505>
- Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Herati, H., Burns, K. E., Nascimento, M., Brown, P., Calnan, M., Dubé, È., Ward, P. R., Filice, E., Rotolo, B., Ike, N., & Meyer, S. B. (2023). Canadians' trust in government in a time of crisis: Does it matter? *PLoS ONE*, 18(9 September). <https://doi.org/10.1371/journal.pone.0290664>
- Jia, H., Lin, C. J., & Wang, E. M. yang. (2022). Effects of mental fatigue on risk preference and feedback processing in risk decision-making. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-14682-0>
- Junior Ladeira, W., Hasan Jafar, S., & de Oliveira Santini, F. (2025). A meta-analysis of technological adoption of financial services: investigating risk and trust perception effects. *International Journal of Bank Marketing*, 1–29. <https://doi.org/10.1108/IJBM-02-2025-0156>
- Kathpal, S., Akhtar, A., Chishty, S. K., & Rafiq, F. (2025). Risk perception as a predictor of heuristic biases: the role of sex and age. *Asia-Pacific Financial Markets*, 32(3), 1077–1098. <https://doi.org/10.1007/s10690-024-09481-8>
- Kunyang, C. N., Byskov, M. F., Hyams, K., Mburu, S., Werikhe, G., & Onyango, C. M. (2023). Perceptions of the governance of the technological risks of food innovations for addressing food security. *Sustainability*, 15(15), 11503. <https://doi.org/10.3390/su151511503>
- Lee, Y., & Li, J. Y. Q. (2021). The role of communication transparency and organizational trust in publics' perceptions, attitudes and social distancing behaviour: A case study of the COVID-19 outbreak. *Journal of Contingencies and Crisis Management*, 29(4), 368–384. <https://doi.org/10.1111/1468-5973.12354>
- Li, X., Wang, M., Feng, X., He, L., & Du, J. (2025). The influence of stress perception on mobile phone addiction tendency in nursing undergraduates: the mediating role of self-control and the moderating role of psychological capital. *BMC Nursing*, 24(1). <https://doi.org/10.1186/s12912-025-03753-y>
- Lin, C.-H., Chang, Y.-J., & Lu, H.-Y. (2025). Tailoring dengue health communication: Survey-based strategies to reduce message fatigue across risk areas. *PLOS Neglected Tropical Diseases*, 19(5), e0012723. <https://doi.org/10.1371/journal.pntd.0012723>
- Lindner, C., Kotta, I., Marschalko, E. E., Szabo, K., Kalcza-Janosi, K., & Retelsdorf, J. (2022). Increased risk perception, distress intolerance and health anxiety in stricter lockdowns: Self-control as a key protective factor in early response to the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 19(9), 5098. <https://doi.org/10.3390/ijerph19095098>
- Liu, Q., Su, F., Mu, A., & Wu, X. (2024). Understanding social media information sharing in individuals with depression: Insights from the elaboration likelihood model and schema activation theory. *Psychology Research and Behavior Management*, 1587–1609. <https://doi.org/10.2147/PRBM.S450934>
- Maier, M., Powell, D., Murchie, P., & Allan, J. L. (2025). Systematic review of the effects of decision fatigue in healthcare professionals on medical decision-making. *Health Psychology Review*, 1–46. <https://doi.org/10.1080/17437199.2025.2513916>
- Mathiyarasan, M., & Krishnamoorthi, M. (2024). The role on heuristic biases over investor decision making—A risk perception as mediator. In *Artificial Intelligence (AI) and*

- Customer Social Responsibility (CSR)* (pp. 637–646). Springer. https://doi.org/10.1007/978-3-031-50939-1_49
- Milyavskaya, M., Galla, B. M., Inzlicht, M., & Duckworth, A. L. (2021). More effort, less fatigue: The role of interest in increasing effort and reducing mental fatigue. *Frontiers in Psychology*, 12, 755858. <https://doi.org/10.3389/fpsyg.2021.755858>
- Mollah, M. A. H. (2025). *Service delivery and the pulse of citizen satisfaction in urban governance of Bangladesh*. Springer. <https://doi.org/10.1007/978-981-96-7564-7>
- Moravec, V., Hynek, N., Gavurova, B., & Kubak, M. (2025). Perceptions of food safety in a post-communist context: the role of disinformation and regulatory trust. *British Food Journal*, 127(4), 1305–1322. <https://doi.org/10.1108/BFJ-09-2024-0899>
- Nieli, M., D’Urso, G., Aquino, A., Filomena, M. G., De Acetis, M., & Alparone, F. R. (2025). How Government Communication Influences the Protective Behaviors During Pandemic Fatigue: A Study on Long Covid-19. *World Futures*, 1–14. <https://doi.org/10.1080/02604027.2025.2501918>
- Nilsen, F. A., Bang, H., Boe, O., Martinsen, Ø. L., Lang-Ree, O. C., & Røysamb, E. (2020). The Multidimensional Self-Control Scale (MSCS): Development and validation. *Psychological Assessment*, 32(11), 1057. <https://doi.org/10.1037/pas0000950>
- Pai, A. S., Jaiswal, S., & Jaiswal, A. K. (2024). A comprehensive review of food safety culture in the food industry: Leadership, organizational commitment, and multicultural dynamics. *Foods*, 13(24), 4078. <https://doi.org/10.3390/foods13244078>
- Rada, C., Dina, M.-M., & Lungu, R.-A. (2025). The impact of personality traits and the mediating role of self-efficacy and self-control on criminogenic behavior among Romanian inmates: a psychological perspective. *Scientific Reports*, 15(1), 18885. <https://doi.org/10.1038/s41598-025-03043-2>
- Rimkutė, D. (2025). Affective regulatory governance: towards an emotion-based understanding of citizen-regulator interactions in regulatory politics. *Journal of European Public Policy*, 1–26. <https://doi.org/10.1080/13501763.2025.2526550>
- Risher, J., & Hair, J. (2017). *The Robustness of PLS Across Disciplines*. <https://www.researchgate.net/publication/332354144>
- Shen, T., Rasdi, I. B., Ezani, N. E. B., & San, O. T. (2024). The mediating role of pro-environmental attitude and intention on the translation from climate change health risk perception to pro-environmental behavior. *Scientific Reports*, 14(1), 9831. <https://doi.org/10.1038/s41598-024-60418-7>
- Sianturi, H. R. P. (2025). Politics on a Plate: Equivocal Communication in Indonesian Presidential Nutrition Policy. *Frontiers in Communication*, 10, 1612652. <https://doi.org/10.3389/fcomm.2025.1612652>
- Voci, D., & Karmasin, M. (2024). Sustainability communication: how to communicate an inconvenient truth in the era of scientific mistrust. *Journal of Communication Management*, 28(1), 15–40. <https://doi.org/10.1108/JCOM-05-2022-0060>
- Wang, S., Zhang, Y., Zhang, Y., & Sun, Y. (2024). The effect of intolerance of uncertainty on smartphone addiction: a moderated mediation model of self-regulatory fatigue and feeling of the passage of time. *Current Psychology*, 43(19), 17118–17130. <https://doi.org/10.1007/s12144-024-05655-9>
- Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, 24(1), 1–32. https://marketing-bulletin.massey.ac.nz/V24/MB_V24_T1_Wong.pdf
- Wu, W., Zhang, A., van Klinken, R. D., Schrobback, P., & Muller, J. M. (2021). Consumer trust in food and the food system: a critical review. *Foods*, 10(10), 2490. <https://doi.org/10.3390/foods10102490>

- Zhai, Q., Sher, A., Li, Q., & Chen, C. (2022). Consumers' food control risk attitude for blockchain traceable information seeking: Evidence from fresh fruit buyers in China. *Frontiers in Sustainable Food Systems*, 6, 984493. <https://doi.org/10.3389/fsufs.2022.984493>
- Zhang, M., Pan, J., Shi, W., Qin, Y., & Guo, B. (2024). The more self-control, the more anxious? - A network analysis study of the relationship between self-control and psychological anxiety among Chinese university students. *BMC Psychology*, 12(1). <https://doi.org/10.1186/s40359-024-02099-5>

About the authors

Dr. Permata Sakti, S.Mn, M.M received his Ph.D. in Management Science from the State University of Jakarta in 2025. He is currently as a HR Analyst in HR Bureau at the BPS-Statistics Indonesia in Jakarta, Indonesia. Dr. Permata's research focuses on human resources management. He has also published articles in the *Australasian Accounting, Business and Finance Journal*. He can be contacted via email at permatasakti@bps.go.id

Dr. Mahpara Ahmed is an Assistant Professor at Karachi School of Business and Leadership (KASBIT), Karachi, Pakistan, where she also serves as Head of the Research Facilitation Unit (RFU). She holds a PhD in Finance from the University of Karachi, awarded under the HEC Indigenous Scholarship Program. Her academic and research expertise lies in finance, financial markets, and applied business research. Dr. Mahpara Ahmed has published research articles in peer-reviewed journals and has reviewed research manuscripts for Q1 and Q2 category journals, demonstrating her engagement with high-impact academic research.

Dr. Omar Javaid is Associate Professor of Entrepreneurship at the Institute of Business Management (IoBM), Karachi, Pakistan. With a PhD in community-based entrepreneurship from IoBM, his research expertise lies at the intersection of community-based entrepreneurship, heterodox economics, and institutional analysis. His extensive experience spans academia, industry, and the non-profit sector, with a strong focus on promoting inclusive microenterprise development and student entrepreneurship.

Declaration of competing interest

The authors declare that there are no conflicts of interest related to this research.

Acknowledgement

The authors sincerely thank the Editor and the reviewers for their thoughtful comments, constructive feedback.

Ethical statement

The study followed established ethical guidelines to safeguard the rights, dignity, and welfare of participants.

Data availability

Full psychometric details, are available from the corresponding author upon request.

AI assistance statement

AI tools were used solely to enhance language clarity and grammatical accuracy. All ideas, analyses, and interpretations were fully developed and verified by the authors.