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Integrating the Theory of Planned Behavior and the Norm Activation Model to Explain Prosocial Rumor Refutation

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Abstract: During emergency crises, the rapid spread of social media rumours can threaten public safety and social stability. Although users can play an important role in countering misinformation, user-led rumour refutation remains underexplored as a prosocial digital behaviour. This study develops an integrated psychosocial framework that combines the Theory of Planned Behaviour (TPB) and the Norm Activation Model (NAM) to explain the rational and moral drivers of the intention to refute rumours. Data from 565 active social media users were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS 4.0. The findings show that attitude, social norm, perceived behavioural control, and, most strongly, personal norm significantly influence intention to refute rumours. Awareness of consequences, ascribed responsibility and online respect also significantly influence attitudes towards rumour refutation. Theoretically, the study demonstrates the value of integrating behavioural and moral perspectives to explain proactive responses to misinformation. In practice, the findings suggest that platform managers and crisis communicators should strengthen users' sense of responsibility, behavioural confidence, and respectful communication when designing misinformation interventions. Future research should examine the model across different populations, crisis contexts and digital platforms, and use longitudinal or experimental designs to assess whether these psychosocial factors translate into sustained rumour-refutation behaviour.

Keywords: *Social media rumors, Theory of Planned Behavior (TPB), Norm Activation Model (NAM), digital citizenship; prosocial behavior*

1. Introduction

When a rumor goes viral during a crisis, the question is not only why people believe or share it, but also who decides to stop it. Social media has fundamentally altered the way information circulates, allowing ordinary users to produce, reproduce, and challenge information with unprecedented speed. This decentralized structure can strengthen public communication, but it also enables unverified claims to travel faster than institutional verification can respond (Ali et al., 2023; Miró-Llinares & Aguerri, 2023). During crises, when uncertainty and public anxiety are already elevated, such rumors can distort risk perceptions, undermine institutional trust, and complicate crisis management (Abbas et al., 2022; Tasnim et al., 2020). Yet the same networked environment that enables rumors to spread also gives users opportunities to intervene.

This aspect has received significantly less theoretical attention. Existing research on misinformation has primarily focused on why individuals believe, consume, or disseminate false information, while comparatively little is known about the motivations behind voluntary user-led challenges to misinformation. Rumor refutation differs fundamentally from ignoring or avoiding questionable content. It requires individuals to recognize potential harm, determine that intervention is warranted, and act despite possible social disagreement or reputational risk. User-led rumor refutation thus constitutes a form of prosocial digital behavior that enhances the quality and resilience of the broader information environment. Because institutional fact-checking often cannot match the speed of viral information diffusion, users may serve as a critical layer of community-based defense against misinformation (Mirbabaie et al., 2020).

The question is what factors motivate individuals to actively correct a rumor when remaining silent would be less demanding? One explanation involves deliberative judgment. The Theory of Planned Behavior (TPB) posits that behavioral intention arises from attitudes toward the behavior, perceived social expectations, and perceived behavioral control (Zhao et al., 2016). In the context of rumor refutation, users may intervene because they value correcting misinformation, perceive social expectations to do so, and feel capable of taking action. Alternatively, moral obligation may play a role. The Norm Activation Model (NAM) suggests that

prosocial action occurs when individuals recognize the consequences of harmful behavior, perceive personal responsibility, and develop a personal norm that motivates intervention (Tang et al., 2022). Therefore, a user may refute a rumor not only because it is perceived as useful or socially endorsed, but also due to a sense of moral duty when others may be harmed.

These perspectives suggest that rational decision-making or moral motivation alone cannot fully explain rumor refutation. Notably, prior research has demonstrated the value of integrating TPB and NAM to capture complementary behavioral mechanisms, especially in contexts where prosocial and deliberative motivations coexist (Savari & Bagher, 2023). However, this theoretical integration has received limited attention in social media rumor refutation, where intervention decisions involve both assessments of the utility and feasibility of corrective action and perceptions of responsibility toward others.

Accordingly, this study develops a theory-integrated TPB–NAM framework to explain users' intentions to refute rumors on social media during crises. Rather than merely combining variables from two established models, the framework links two complementary explanations of intervention. TPB addresses the rational determinants of behavior, including attitude, subjective norm, and perceived behavioral control. In contrast, NAM emphasizes moral motivation, focusing on awareness of consequences, ascribed responsibility, and personal norm. Within this framework, subjective norm denotes perceived social expectations, while personal norm signifies an individual's internal moral obligation. Integrating these theoretical perspectives supports a more thorough understanding of rumor refutation by considering both behavioral and moral dimensions. Therefore, this study examines the factors influencing users' intention to refute rumors on social media during crises by integrating the TPB and NAM perspectives. Specifically, it examines how behavioral and moral factors explain users' intention to refute rumors

2. Literature Review

This section reviews past research on social media rumors, including research areas, factors that influence positive behavior in refuting and combating them, and indicators for combating rumors

Studies on Combating Social Media Rumors

Research on social media rumours has expanded across multiple disciplines, with significant emphasis on computational methods for detecting and tracing false information. Zhang, Gong, and Sinnott (2021) developed a rumour-detection tool that uses data-mining algorithms and user network analysis. Zishan & Yijun (2023) introduced a multimodal heterogeneous graph model to enhance detection accuracy. Xia et al. (2019) investigated rumour propagation by integrating self-purification mechanisms. Collectively, these studies underscore the effectiveness of computational techniques in identifying and modelling rumour diffusion. Nevertheless, their focus on detection and propagation offers limited insight into the factors that influence individuals' decisions to challenge or refute rumours.

Scholars have also investigated the characteristics and thematic content of rumours circulating online. Al-Zaman et al. (2020) analysed social media content and identified politics, health, education, crime, religion, and entertainment as common rumour themes. He et al. (2019) similarly reported that political and societal rumours were predominant on WeChat. Although these studies provide valuable insights into the types of rumours that circulate, they contribute less to understanding the psychological and social factors shaping users' responses. Thus, identifying rumour characteristics alone does not explain variation in individuals' active or passive responses.

Recent research has increasingly addressed strategies for responding to rumours. For example, Yu and Mustafa (2023), drawing on Situational Crisis Communication Theory (SCCT), examined government response strategies during health crises to mitigate rumours' impact on public perceptions. Dougrez-Lewis et al. (2022) assessed query formulation methods to enhance the effectiveness of rumour refutation, and Li et al. (2023) applied fuzzy-set qualitative comparative analysis (fsQCA) to identify configurational pathways linked to effective rumour refutation. While these studies advance the literature from detection to response, they predominantly emphasise response strategies, communication methods, and condition configurations, rather than exploring individual-level psychosocial determinants of rumour-refutation behavior.

Norm Activation Characteristics and Attitude Towards Combating Social Media Rumours

Awareness of adverse consequences refers to individuals' recognition of the potential harm caused by the spread of rumours on social media platforms (Zhao et al., 2016). Research by Pundir et al. (2021) concluded that a high level of awareness of the negative impacts of misinformation, fake news, and unverified content, such as emotional manipulation and increased grudges, was positively related to an individual's positive attitude towards taking action against rumours. Similarly, Tang et al. (2022) found that individuals more aware of the adverse consequences of false information were more supportive of interventions to counter rumours and exhibited more positive attitudes towards refuting them. These findings suggest that awareness of adverse consequences plays a crucial role in shaping individuals' attitudes towards combating social media rumours; thus, the following hypothesis is offered:

H1: Awareness of adverse consequences positively influences social media users' attitudes toward rumour-combating during social crises.

Ascribed responsibility pertains to individuals' sense of obligation or duty to address rumours circulating on social media platforms (Zhao et al., 2016). Nekmat and Kong (2019) investigated the role of perceived responsibility in rumour management and found that individuals who felt a greater sense of responsibility toward their community were more likely to engage in rumour-debunking activities. Furthermore, Tang et al. (2019) concluded that prosocial behaviours, such as altruism and moral obligations, which are related to responsibility, are important characteristics that explain support for efforts to combat misinformation. These findings suggest that ascribed responsibility positively influences individuals' attitudes.

H2: Ascribed responsibility positively influences social media users' attitude toward rumour combating in times of social crisis.

Online respect refers to the extent to which individuals value and prioritise respectful communication and interactions in online environments (Zhao et al., 2016). Debunking rumours is considered an act of respecting others in the online community. Pal et al. (2019) examined rumour debunking and the use of denials. They concluded that salient beliefs in denials are important in explaining attitudes. Additionally, individuals who placed greater emphasis on maintaining respectful online discourse were more supportive of efforts to combat rumours and promote accurate information sharing. Zubiaga et al. (2016) also analysed the role of different user types in segmenting users' reactions to false information. They found that highly reputable users who respect others are more careful about sharing information and ensure the content is accurate and supported by evidence. Therefore, based on the discussion, the following hypothesis is offered:

H3: Online respect positively influences social media users' attitude toward rumour combating in times of social crisis.

Theory of Planned Behavior and Social Media Rumors

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), provides a comprehensive framework for understanding human behaviour by considering attitudes, subjective norms, and perceived behavioural control. Attitudes toward rumour-combating behaviour refer to individuals' evaluations of engaging in activities to counter misinformation on social media platforms (Zhao et al., 2016). Pundir et al. (2021) found that individuals with more positive attitudes toward rumour correction and information verification are more likely to actively engage in rumour-combating behaviours. Moreover, Shahzalal and Adnan (2022) concluded that one's attitude predicted responsible social media use. These studies suggest the importance of how individuals perceive the truthfulness and accuracy of online information. Thus, based on the discussion, the following hypothesis is offered:

H4: Attitudes toward the rumour-combating behaviour positively influence social media users' intention to combat rumours in times of social crisis.

Subjective norms reflect individuals' perceptions of the social pressure to engage in a particular behaviour (Ajzen, 1991). Several studies have examined how subjective norms influence individuals' intentions to combat social media rumours. For instance, Zhao et al. (2016) found that individuals who perceive a strong social expectation to participate in rumour-correction activities are more likely to express intentions to engage in such behaviours. Similarly, Pundir et al. (2021) found that perceived social support for rumour correction positively predicts individuals' intentions to combat rumours. These findings provide support for H5 by

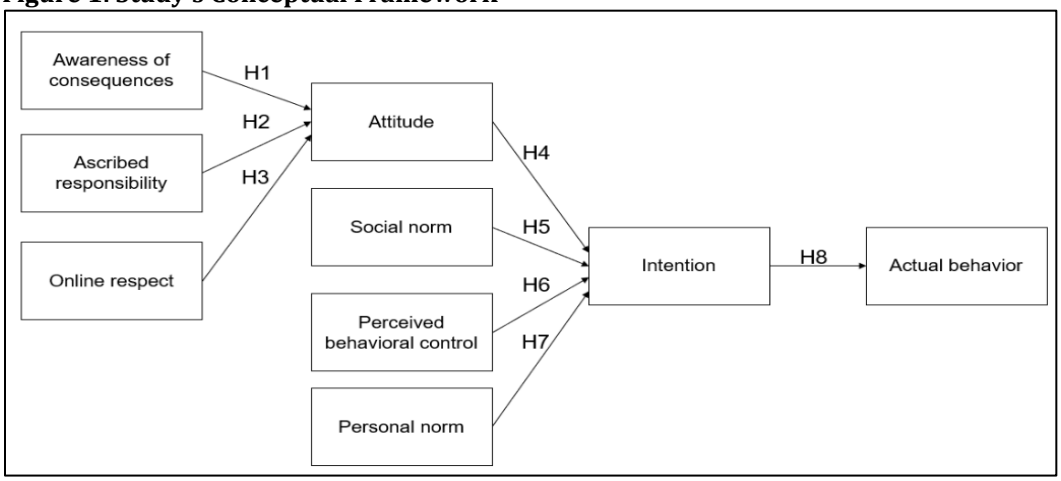
suggesting that subjective norms play a significant role in shaping individuals' intentions to combat rumours during social crises. Thus, the following hypothesis is offered:
H5: Subjective norm positively influences social media users' intention to combat rumours in times of social crisis.

Perceived behavioural control refers to individuals' beliefs about their ability to engage in a specific behaviour (Ajzen, 1991). Studies by Zhao et al. (2016) and Pundir et al. (2021) show that individuals who perceive greater control over their actions, such as having access to reliable information sources and effective rumour-refuting tools, are more likely to intend to combat rumours on social media platforms. Additionally, research by Shahzalal and Adnan (2022) found that perceived self-efficacy in identifying and correcting misinformation positively predicts individuals' intentions to engage in rumour-combating behaviours. These findings suggest perceived behavioural control positively influences individuals' intentions to combat rumours during social crises. Therefore, the following hypothesis is offered:
H6: Perceived behavioural control positively influences social media users' intention to combat rumours in times of social crisis.

Personal norm, rooted in the norm activation model (De Groot & Steg, 2009), reflects an individual's internalised sense of moral obligations. Studies in social psychology have shown that personal norms influence prosocial behaviours and altruistic actions; for example, research by Schwartz (1977). It is posited that individuals who prioritise refuting crisis-related rumours on social media during social crises will feel more obligated to take action to counter misinformation. Hence, the following hypothesis is offered:
H7: Personal norms positively influence social media users' intention to combat rumours during social crises.

Behavioural intention reflects individuals' readiness to perform a specific behaviour, while actual behaviour refers to the observed engagement in that behaviour (Ajzen, 1991). Zhao et al. (2016) concluded that individuals' intentions to combat rumours positively predict their actual engagement in rumour-correction behaviours on social media platforms. These findings provide support for H8 by indicating that individuals' intentions to combat rumours during social crises translate into actual behaviours. Thus, the following hypothesis is offered:
H8: Behavioural intention positively influences social media users' actual behaviour of combating rumours during social crises.

Figure 1: Study's Conceptual Framework



3. Methodology

Research Design

A quantitative, cross-sectional survey design was used to examine factors influencing social media users' intention to refute crisis-related rumours. This approach was selected to test theoretically derived relationships among multiple latent constructs within the integrated Theory of Planned Behaviour (TPB) and

Norm Activation Model (NAM). Partial Least Squares Structural Equation Modelling (PLS-SEM) was conducted using SmartPLS 4.0, as the study was prediction-oriented and involved a complex model with multiple latent constructs and hypothesised relationships (Hair et al., 2019, 2022). The analysis consisted of two stages: assessing the measurement model and evaluating the structural model.

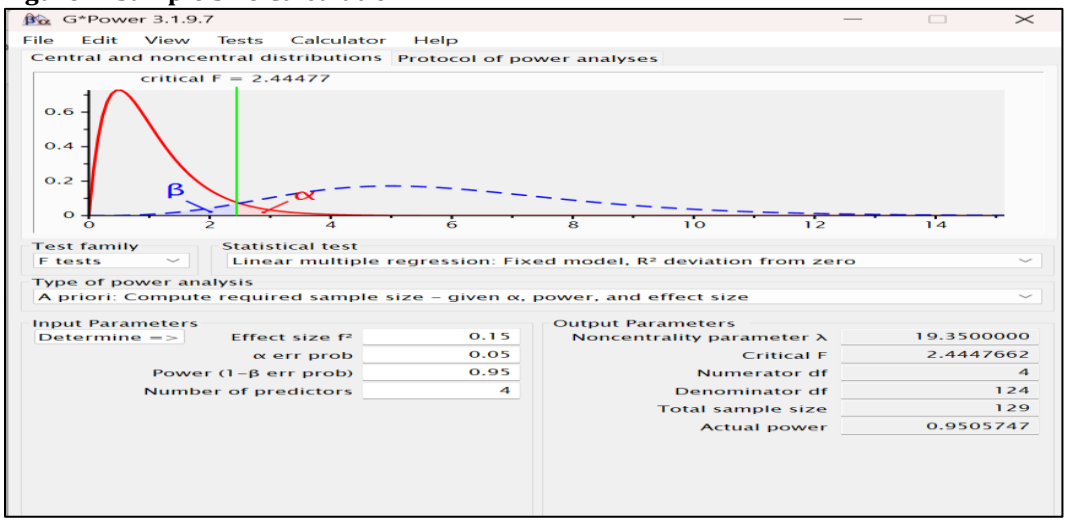
Instrument Development

The questionnaire comprised nine constructs: awareness of consequences, ascribed responsibility, online respect, personal norm, attitude, subjective norm, perceived behavioural control, intention, and actual behaviour. We adapted awareness of consequences, ascribed responsibility, online respect, and personal norm from De Groot and Steg (2009, 2010), while adapting attitude, subjective norm, perceived behavioural control, intention, and actual behaviour from Ajzen (1991). We contextualised the items to crisis-related rumour refutation while retaining the original measures' conceptual meaning. Specifically, intention to refute rumours was operationalised as the respondent's willingness or intention to actively challenge, correct, or clarify crisis-related rumours encountered on social media. We measured awareness of consequences with four items addressing the potential harm caused by crisis-related rumours. Ascribed responsibility included two items regarding users' responsibility to mitigate such harm. The two-item construct demonstrated acceptable reliability and validity in SmartPLS, supporting its adequacy for the present study. We assessed online respect with five items reflecting responsible and respectful online communication. Personal norm was measured with three items concerning moral and personal obligations to refute rumours. To help respondents understand the crisis context, the questionnaire provided examples of crisis-related situations, including flood-related misinformation and public-health concerns. All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Before the main survey, experts reviewed the instrument to assess content relevance, clarity, and contextual appropriateness. The researchers then conducted a pilot test to evaluate item comprehension, wording, instructions, and response burden. The researchers revised items requiring clarification before the main data collection. The pilot results indicated satisfactory internal consistency, with reliability coefficients exceeding 0.70.

Participants and Data Collection

The target population consisted of social media users likely to encounter crisis-related information and rumours online. Purposive sampling was utilized to ensure that respondents possessed relevant social media experience appropriate to the study context. The minimum sample size was calculated using G*Power, based on the largest number of predictors for an endogenous construct. Figure 2 presents the sample size calculation. The analysis identified a minimum requirement of 129 respondents. Data collection spanned approximately three months, resulting in 565 responses, which substantially exceeded the required sample size. Data collection was conducted using an online questionnaire administered via Google Forms and distributed through email and WhatsApp. Participation was voluntary, and respondents were informed about the study's purpose and the confidentiality of their responses

Figure 2: Sample Size Calculation



Reliability, Validity and Common Method Bias

The measurement model was evaluated using indicator loadings, Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and the heterotrait–monotrait (HTMT) ratio. Reliability was deemed satisfactory when Cronbach's alpha and CR exceeded 0.70, and convergent validity was established when AVE exceeded 0.50 (Hair et al., 2019, 2022). Discriminant validity was assessed using HTMT, as recommended by Henseler et al. (2015), with values below 0.90 considered preferable and values below 0.95 acceptable for theoretically related constructs. Potential common method bias (CMB) was addressed procedurally by ensuring respondent anonymity, voluntary participation and clear item wording. Statistically, collinearity was assessed using the variance inflation factor (VIF), following Kock (2015). VIF values below the recommended threshold suggest that common method bias is unlikely to substantially affect the results. The measurement model demonstrated satisfactory reliability and convergent validity. As shown in Table 1, all indicator loadings exceeded 0.60. Cronbach's alpha values ranged from 0.709 to 0.881, and composite reliability values ranged from 0.819 to 0.926, all surpassing the recommended threshold of 0.70. AVE values ranged from 0.531 to 0.810, exceeding the minimum criterion of 0.50. These results indicate satisfactory internal consistency and convergent validity across all constructs (Hair et al., 2019, 2022).

Table 1: Reliability and Convergent Validity

Measure	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Ascribed Responsibility	0.766	0.895	0.810
Attitude	0.856	0.903	0.701
Awareness	0.709	0.819	0.531
Actual Behavior	0.869	0.919	0.790
Intention	0.780	0.872	0.694
Online Respect	0.881	0.913	0.678
Perceived Behavioral Control	0.780	0.872	0.694
Personal Norm	0.751	0.858	0.668
Social Norm	0.879	0.926	0.806

Discriminant validity was assessed using HTMT, with results presented in Table 2. Most HTMT values were below 0.90. The highest value, 0.923, occurred between Online Respect and Intention, exceeding the conservative 0.90 criterion but remaining below the 0.95 threshold recommended by Henseler et al. (2015). In addition, the bootstrapped 95% confidence interval upper bound does not include 1.00, thereby establishing statistical discriminant validity (Henseler et al., 2015). Given the theoretical distinction between these constructs, this result does not indicate a critical discriminant validity issue. Overall, the HTMT results provide acceptable evidence that the constructs are empirically distinguishable. In general, the measurement model was assessed using the recommended criteria for reliability, convergent validity, and discriminant validity (HTMT), which are sufficient to establish measurement quality in PLS-SEM (Hair et al., 2019).

Table 2: HTMT Results

Measure	1	2	3	4	5	6	7	8
1. Ascribed Responsibility								
2. Attitude	0.620							
3. Awareness	0.639	0.451						
4. Actual Behavior	0.336	0.296	0.287					
5. Intention	0.582	0.558	0.521	0.529				
6. Online Respect	0.498	0.401	0.475	0.481	0.923			
7. Perceived Behavioral Control	0.424	0.449	0.442	0.478	0.687	0.587		
8. Personal Norm	0.650	0.531	0.574	0.551	0.88	0.866	0.791	
9. Social Norm	0.459	0.638	0.433	0.345	0.537	0.384	0.550	0.554

4. Findings and Discussion

Hypothesis testing utilized bootstrapping with 5,000 resamples to estimate standard errors, t-values, p-values, path coefficients (β), coefficients of determination (R^2), and effect sizes (f^2). One-tailed testing at a significance level of 0.05 was applied, as the hypothesized relationships were directional and supported by established theoretical propositions and prior empirical findings specifying the expected direction. The analysis assessed the effects of attitude, social norm, perceived behavioral control, and personal norm on the intention to refute social media rumors. Additionally, it evaluated the effects of awareness of consequences, ascribed responsibility, and online respect on attitudes toward rumor refutation. Confidence intervals were calculated to determine the precision and direction of the estimated relationships. Table 3 summarizes the results. The structural model assessment examined the in-sample explanatory power and statistical significance of the hypothesized relationships, aligning with the study's objectives of theory testing and driver identification.

Table 3: Hypothesis Testing

Hypothesis	Path Coefficient	Standard Error	t-value	p-value	LLCI	ULCI	Effect Size (f2)
H1: Awareness → Attitude	0.128	0.045	2.823	0.002	0.046	0.196	0.017
H2: Ascribed Responsibility → Attitude	0.388	0.065	5.983	0.000	0.282	0.493	0.153
H3: Online Respect → Attitude	0.147	0.045	3.276	0.001	0.072	0.219	0.024
H4: Attitude → Intention	0.159	0.046	3.430	0.000	0.088	0.240	0.034
H5: Social Norm → Intention	0.078	0.038	2.035	0.021	0.016	0.142	0.008
H6: Perceived Behavioral Control → Intention	0.160	0.044	3.631	0.000	0.089	0.233	0.031
H7: Personal Norm → Intention	0.479	0.054	8.785	0.000	0.385	0.564	0.275
H8: Intention → Behavior	0.448	0.040	11.216	0.000	0.380	0.511	0.251

R^2 attitude = 0.297 R^2 intention = 0.521 R^2 actual behavior = 0.201

The model accounted for 29.7% of the variance in attitude toward rumor refutation (R^2 = 0.297), 52.1% of the variance in intention (R^2 = 0.521), and 20.1% of the variance in actual behavior (R^2 = 0.201). These results indicate substantial explanatory power, particularly for intention, the central endogenous construct in the proposed TPB–NAM framework. All hypothesized relationships were statistically significant and thus supported. Personal norm was identified as the strongest predictor of intention to refute social media rumors (β = 0.479, $p < 0.01$), followed by perceived behavioral control (β = 0.160, $p < 0.001$), attitude (β = 0.159, $p < 0.001$), and social norm (β = 0.078, $p < 0.05$). Among the antecedents of attitude, ascribed responsibility exerted the greatest influence (β = 0.388, $p < 0.001$), followed by online respect (β = 0.147, $p < 0.05$) and awareness of consequences (β = 0.128, $p < 0.05$). These findings suggest that both deliberative considerations and moral obligation contribute to users' willingness to intervene against social media rumors, with personal norm constituting the primary motivational pathway. All hypothesized relationships were statistically significant, although their effect sizes varied considerably. Specifically, the effect sizes for awareness and attitude (f^2 = 0.017) and social norm and intention (f^2 = 0.008) were very small, indicating limited substantive contributions.

Discussion

The findings support a psychosocial model of social media rumor refutation that incorporates attitudes, social norms, perceived behavioral control, personal norms, ascribed responsibility, awareness of consequences, and online respect. These factors demonstrate significant associations with attitudes, intentions, and self-reported rumor-refutation behavior, although the magnitude of these relationships differs. Among the predictors of intention, personal norm exhibited the strongest association (β = 0.479, f^2 = 0.275), compared with attitude (β = 0.159, f^2 = 0.034), social norm (β = 0.078, f^2 = 0.008), and perceived behavioral control (β = 0.160, f^2 = 0.031). This stronger relationship suggests that an internalized sense of moral obligation is more closely linked to rumor-refutation intention than general evaluations, perceived social expectations, or perceived capability. Individuals who perceive refuting rumors as a personal responsibility are therefore more likely to report stronger intentions to act. This interpretation aligns with research highlighting the importance of responsibility and moral considerations in responses to misinformation (Zhao et al., 2016; Li et al., 2023).

Attitude and perceived behavioral control were also positively associated with intention, although their effect sizes were small. This finding indicates that favorable evaluations of rumor refutation and perceived capability are relevant, but their substantive contributions remain limited. These results are consistent with previous research linking positive attitudes, self-efficacy, and information-verification skills to responses to misinformation (Pal et al., 2019; Ding et al., 2022). Social norm demonstrated the smallest effect on intention ($\beta = 0.078$, $f^2 = 0.008$), despite reaching statistical significance. This result indicates a statistically significant but substantively limited association. A possible explanation is that users' own moral standards are more closely linked to rumor-refutation intentions than perceived expectations from others, particularly within diverse social media environments.

Regarding attitude, ascribed responsibility demonstrated the strongest association ($\beta = 0.388$, $f^2 = 0.153$), indicating that recognizing a personal responsibility to address misinformation is particularly relevant to developing favorable attitudes toward rumor refutation (Zhao et al., 2016; Li et al., 2023). Awareness of consequences ($\beta = 0.128$, $f^2 = 0.017$) and online respect ($\beta = 0.147$, $f^2 = 0.024$) also exhibited positive but relatively small effects. Awareness of misinformation-related harm may contribute to favorable attitudes, while respectful online interaction may facilitate a more constructive approach to challenging rumors (Zhao et al., 2016; Khraim, 2018).

Intention was positively associated with self-reported behavior ($\beta = 0.448$, $f^2 = 0.251$). However, because of the cross-sectional design and reliance on self-reported data, this relationship should not be interpreted as evidence that intention causes, or necessarily translates into, actual behavior. Instead, stronger reported intentions were associated with higher levels of reported rumor-refutation behavior within the study sample.

Implications and Contributions

This study extends the Theory of Planned Behavior (TPB) by incorporating moral and psychosocial factors, offering a more comprehensive understanding of intentions to refute social media rumors. Although TPB accounts for behavior through attitude, social norms, and perceived behavioral control, the findings underscore the importance of personal norms and ascribed responsibility in rumor-refutation responses. These results support integrating TPB with the Norm Activation Model (NAM), since rumor refutation may involve both deliberate decision-making and internalized moral considerations. This integrated approach enhances the conceptualization of rumor refutation as an aspect of responsible digital citizenship.

Practical implications should prioritize strengthening factors directly associated with rumor-refutation responses, rather than relying solely on broad awareness-based interventions. Educational and digital literacy programs may therefore emphasize developing users' sense of personal responsibility and moral obligation when encountering potentially harmful or inaccurate information. Such activities can encourage users to consider the consequences of sharing unverified information and to recognize their responsibility to respond appropriately.

Information-verification skills and behavioral confidence can support these efforts by enabling users to assess information critically and respond constructively. However, these initiatives should complement, not replace, efforts to cultivate personal responsibility and moral awareness. Likewise, social norms and online respect may be promoted through responsible communication and digital citizenship activities, acknowledging that their influence is likely supportive rather than central.

For social media platforms, practical measures may include prompts that encourage users to consider the consequences of sharing unverified information, accessible verification features, and mechanisms that promote respectful responses. These interventions can provide users with opportunities to exercise responsible decision-making when confronted with rumors. In summary, the findings indicate that practical efforts should extend beyond merely increasing awareness of misinformation and instead foster a combination of personal responsibility, moral awareness, verification skills, and constructive online communication.

5. Conclusion and Recommendations

This study investigated the factors influencing social media users' intention to refute rumors during crises by integrating the Theory of Planned Behavior (TPB) and the Norm Activation Model (NAM). The results indicate

that individuals do not refute rumors solely because they recognize false information. Their intention is also influenced by attitude, perceived social expectations, self-efficacy, and personal sense of responsibility. Among these variables, personal norm emerged as the strongest predictor of intention, while awareness of consequences, ascribed responsibility, and online respect shaped users' attitudes toward rumor refutation. The study underscores rumor refutation as a key aspect of responsible digital citizenship. In practical terms, interventions to reduce harmful rumors should focus on enhancing users' knowledge, confidence, sense of responsibility, and communication skills. Future research should investigate whether intention translates into actual, sustained rumor-refutation behavior across various platforms, user groups, and crisis contexts, using longitudinal or experimental methods.

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