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## **Analyzing outdoor event attendees' pro-social attitudes and intentions to adopt social distancing practices**

### **Abstract**

This study developed a theoretical framework to understand outdoor event attendees' psychological mechanisms associated with the adoption of pro-social behavior. The theory of planned behavior, the norm activation model, personal values, perceived knowledge and threats were all merged to formulate the framework, using Chinese outdoor event attendees after the outbreak of COVID-19 as survey participants. The results showed that attitude toward social distancing behavior, subjective norms, awareness of consequences, ascribed responsibility, personal norms, self-transcendent value, knowledge of the pandemic, and perceived threat had effects on activating pro-social intentions for social distancing practices. This study also provided implications for the theoretical expansion of predicting pro-social behavior and for the practical management of social distancing practices at outdoor events in the COVID-19 era. The limitations of the current study and suggestions for future research are also presented.

**Keywords:** outdoor event; awareness of consequences; pro-social intention; personal values; pandemic

## **Introduction**

The sudden outbreak of the COVID-19 pandemic, with the associated global deployment of pandemic-preventive measures, regulations, and policies, posed significant challenges. Previous studies have analyzed the possible constraints and transformational opportunities of the pandemic era within the event tourism industry (Casado-Aranda et al., 2021; Seraphin, 2021). Travel restrictions severely hindered individuals' social mobility in the first few months of the pandemic, and many countries cancelled or postponed public events to avoid social gatherings (Chi et al., 2022). Attending outdoor events allows people to have social interaction while enjoying the event atmosphere in open settings, and became increasingly popular after the outbreak of the pandemic since it was regarded as a safer choice compared to events held indoors (Zeng & Yang, 2011).

Previous research has identified that the more frequently people attend outdoor events, the more they value perceived health aspects, including the psychological experiences they can obtain and the physical health conditions they can improve (Doğan et al., 2023). In the COVID-19 era, infection with coronavirus has been a critical threat to health at public events (Olczak et al., 2020; Suñer et al., 2022). Promoting preventive measures, such as social distancing, to help avoid the spread of COVID-19 (Courtemanche et al., 2020; Weill et al., 2020), not only protected outdoor event attendees themselves but also vulnerable others such as elders and children. Outdoor event attendees have been encouraged to cooperate with this public health intervention to minimize the wide range of harm from COVID-19 (Luther et al., 2018; Marroquín et al., 2020). To better manage event attendees' disease-prevention practices and ensure the continuation of events threatened by the pandemic in the post-COVID-19 world, it is essential to

clarify the process of activating event attendees' pro-social behavioral intentions to maintain social distancing when attending outdoor events.

Following a thorough review of previous studies, research gaps were identified. First, previous studies claimed that event health management should emphasize the importance of identifying attendees' festival involvement and risk-taking behaviors (Luther et al., 2018; Rossetti, 2021). However, in the context of outdoor event tourism, there has been limited research from the perspective of attendees to identify their engagement behaviors and their perceptions of the associated risks. Second, the theory of planned behavior (TPB) and the norm activation model (NAM)—both prevailing social psychology theories—have been actively and effectively used to explain individuals' behavioral intentions by interpreting the impact of voluntary, non-voluntary, and normative factors on tourists' behavioral intentions (Gao et al., 2017; Kim & Hwang, 2020; Shin et al., 2018). Only a few studies have employed both the TPB and the NAM in the context of event tourism to identify how individuals' pro-social intentions about pandemic preventative behaviors are formed (Chi et al., 2021, 2022). Relationships within the integrated framework of the TPB (attitude, subjective norms, perceived behavioral control) and the NAM (awareness of consequences, ascribed responsibility, personal norms) were found in some studies but demonstrated to be non-absolute and it was suggested they should be investigated in specific settings (Fornara et al., 2016). Third, in such contexts, knowing individuals' attitudes to the well-being of both self and others is critical in understanding the tendency to engage in pro-social actions, requiring the adoption of theories of personal values (Meng et al., 2020a). Fourth, while perceived knowledge and threats associated with pandemic-related issues have been found to have moderating effects on the formation of tourists' behavioral intentions (Chi et al., 2022; Han et al., 2020), no research has been conducted to investigate their

role in activating pro-social behavioral intentions, particularly in the outdoor event tourism setting. To respond to the aforementioned research gaps and practical demand, this study aimed to (1) construct a conceptual model using the integrated conceptualization of TPB and NAM with the variables of personal values, pandemic knowledge, and perceived threat; (2) determine the relative impact of the constructs on forming pro-social behavioral intentions; and (3) clarify the intricate correlations among the predicting factors.

## **Literature review and hypotheses**

### ***Theory of planned behavior (TPB)***

TPB, a frequently used theoretical framework for anticipating behavior, was founded on Fishbein's (1967) theory of reasoned action (TRA) to explain rational people's views and knowledge formed by their prior experiences (Fishbein & Ajzen, 1975, 2011). Attitude toward behavior and subjective norms are two volitional components for initiating behavioral intention in the TRA. A positive/negative attitude toward behavior relates to one's favorable or unfavorable evaluation of engaging in a certain action, whereas a subjective norm refers to one's normative view about performing or not performing an action, which is developed under social pressure (Fishbein & Ajzen, 2011; Ulker-Demirel & Ciftci, 2020). As a nation promoting collectivism, in China, the views of individuals' social networks, such as relatives, friends, and colleagues, regarding certain behaviors tend to make a difference in behavioral decisions (Shi et al., 2017; Si et al., 2021). A non-volitional element, perceived behavioral control, was added to the TRA: this emphasized individuals' belief in their ability to control their participation in a particular activity, and the framework of the TPB was ultimately formed (Ajzen, 1991; Fishbein & Ajzen, 2011). Importantly, with their high stability and validity, subjective norms have proven

to be the most pertinent and significant component in determining behavioral intention (Manosuthi et al., 2020; Sussman & Gifford, 2019). In contrast, attitude toward behavioral intention and perceived behavioral control were examined in some studies (e.g., Lee & Kim, 2018; Sussman & Gifford, 2019) and were found to have less validity and high instability.

Some studies stressed the role of the TPB in understanding the motivation process associated with human pandemic-related behavior. Arkorful et al. (2021) examined the force of common social obligations under local conditions of communalism and collectivism and used the TPB to identify how individuals' mask waste separation behavior was inspired. TPB components were also effectively employed when determining international tourists' intentions to have a safe trip post-COVID-19 (Han et al., 2020; Jeon et al., 2022). Few studies, however, took the TPB into account when determining individuals' decision processes for pandemic-related behavior. A small number of studies (Chi et al., 2022; Horng et al., 2013; Kaplanidou, 2007) applied the TPB in the context of event tourism to determine attendees' behavioral intentions. The following hypotheses were therefore developed to understand event attendees' pro-social intentions to practice social distancing measures.

*H1: Attitude toward social distancing behavior has a positive effect on pro-social intentions for social distancing practices.*

*H2: Subjective norms have a positive effect on pro-social intentions for social distancing practices.*

*H3: Perceived behavioral control has a positive effect on pro-social intentions for social distancing practices.*

***Norm activation model (NAM)***

A person with a strong feeling of moral obligation is more willing to perform pro-social

behaviors (Schwartz,1977). Based on the concept of altruism, the NAM defines the formulation of individuals' helping behavior, also known as pro-social behavior (Schwartz, 1977; De Groot & Steg, 2009). When forecasting pro-social intentions and actions, the NAM emphasizes normative effects (De Groot & Steg, 2009). Awareness of consequences, or problem awareness, refers to the awareness of potential negative outcomes as a result of failing to conduct a particular behavior (Steg & De Groot, 2010, Stern, 2000). Recent studies have shown that individuals' social distancing behavior can be stimulated by their perceived understanding that social distancing practices help control the further spread of COVID-19 (Teslya et al., 2020; Xie et al., 2020). Ascribed responsibility, or ascription of responsibility, describes individuals' sense of duty, meaning they believe that they need to perform specific acts to avoid negative consequences (Schwartz, 1977; Steg & De Groot, 2010). For the safe and healthy development of festival tourism in the post-COVID era, joint responsibility and engagement in pro-social practices are encouraged in all attendees (Chi et al., 2021; Rowen, 2020). Personal norms, or moral norms, relate to the ethical obligation to be committed to specific pro-social conduct and express one's behavioral expectations in any given circumstance (Han, 2014; Schwartz & Howard, 1981). Personal norms are regarded as a critical component in the NAM, shaping individuals' intentions to engage in pro-social behavior (Shin et al., 2018). The sequential framework examined in previous studies indicated that individuals can develop a sense of responsibility for pro-social behavior only after becoming conscious of negative consequences; their sense of responsibility will then contribute to the development of their moral obligations, ultimately stimulating their willingness to participate in pro-social behavior (Arkorful et al., 2021; Chi et al., 2022; De Groot & Steg, 2009; Han et al., 2019; Steg & De Groot, 2010)

The NAM has been widely used as a sequential framework, in that individuals can

develop a sense of responsibility for pro-social behavior only after becoming conscious of negative consequences; their sense of responsibility will then contribute to the development of their moral obligations, ultimately stimulating their willingness to participate in pro-social behavior (Arkorful et al., 2021; Chi et al., 2022; De Groot & Steg, 2009; Han et al., 2019; Steg & De Groot, 2010). The framework effectively reflected tourists'/consumers' activation processes for pro-social intentions for conducting behaviors associated with consumption or traveling, such as purchasing green products and services (Kim & Hwang, 2020; Yan & Chai, 2021), joining environmentally-friendly activities (Han et al., 2019; Kim et al., 2019; Manosuthi et al., 2020; Meng et al., 2020a), and performing pro-social behaviors related to the threats resulting from the pandemic (Chi et al., 2022; Confente & Scarpi, 2021; O'Connor & Assaker, 2021). The sequential NAM framework was particularly used to investigate festival travelers' pro-social intentions for adhering to pandemic preventive regulations in Chi et al.'s (2021, 2022) studies. Therefore, this study adopted the sequential NAM framework to uncover how event attendees' awareness of the negative impact of COVID-19, which could be avoided by practicing social distancing, a sense of responsibility to practice social distancing, and moral obligations about social distancing practices, could activate their pro-social intentions for social distancing practices. Thus, hypotheses were framed as follows.

*H4: Awareness of consequences has a positive effect on ascribed responsibility.*

*H5: Ascribed responsibility has a positive effect on personal norms.*

*H6: Personal norms have a positive effect on pro-social intentions for social distancing practices.*

#### ***Incorporated conceptualization of TPB and NAM***

The two models have been commonly applied as one model that can explain the formation of

behavioral intention with volitional, non-volitional, and normative components (Kim & Hwang, 2020). Featuring normative component personal norms, NAM can merge with diverse motives, such as volitional (i.e., attitude, subjective norms) and non-volitional drivers (i.e., perceived behavioral control) in the TPB, and such integration is believed to bring a deeper insight to the comprehension of behavioral intention (Chi et al., 2022; Han, 2014). An integrated framework that combines the TPB and the NAM has also been shown to be helpful in identifying personal and social triggers for consumers/tourists to engage in pro-social behaviors (Gan, 2020; Meng et al., 2020b).

Reviewing previous integrations of the two models, the correlations between the TPB and the NAM appeared to be mostly between awareness of consequences and attitudes, and between subjective norms and personal norms. Individuals' positive or negative evaluations of a certain behavior could be elicited by their knowledge of the negative outcomes that might occur if they did not engage in certain behaviors (Fishbein & Ajzen, 2011; Han & Hyun, 2017). Individuals' moral obligations were found to be positively stimulated by the subjective norms perceived in people whose opinions they valued (Chi et al., 2022; Kim & Hwang, 2020). The relationship between moral obligation and subjective norms was verified in predicting festival attendees' pro-social intentions for following pandemic preventive measures (Chi et al., 2022). Hypotheses 7 and 8 were developed to describe the effect of these correlations between the TPB and the NAM when investigating outdoor event attendees' pro-social intentions.

*H7: Awareness of consequences has a positive effect on attitude toward social distancing behavior.*

*H8: Subjective norms have a positive effect on personal norms.*

### ***Personal values***

Personal values, highlighting the centrality of the self, refer to the guiding principles in one's daily life that motivate beneficial or harmful behaviors (Sagiv & Schwartz, 2022). This concept has been used to understand pro-social behavioral intentions (Han & Hyun, 2017; Stern, 2000). Self-enhancement values and self-transcendent values are the two types of personal values highlighted in explaining pro-social behavior (Schwartz, 1992). The personal benefits acquired, such as improved social position, prestige, or wealth, are referred to as self-enhancement values. Self-transcendent values involve personal principles of caring for others, comprising the values of humility, universalism, and compassion (Sagiv & Schwartz, 2022; Stern, 2000).

Prior studies on travelers' intentions associated with their visit, experience, or consumption have focused on self-enhancement values and self-transcendent values when predicting outcomes (Kim, 2020). The two constituents are usually antecedents in forming travelers' awareness of the potential negative consequences of not performing certain behaviors, including pro-environmental, pro-sustainable, and participatory behaviors. Individuals who care less about self-interest and more about others' wellbeing tend to be more aware of the issues that can arise as a result of not engaging in particular behaviors (Kim et al., 2024; Meng et al., 2020a). Importantly, Nghiêm-Phú (2021) noted that tourists' personal values can stimulate their positive evaluation of festival event experiences, and thus contribute to future intentions and behaviors. When analyzing attendees' behavioral intentions, Hede et al. (2005) addressed the general idea of personal values, but no previous research has used the two above-mentioned specific personal values to describe how behavioral intentions are strengthened. Furthermore, the predicting role of personal values in developing individuals' awareness of consequences has not

been investigated in empirical studies of the event industry. Thus, the following hypotheses were postulated.

*H9: Self-enhancement values negatively affect awareness of consequences.*

*H10: Self-transcendent values positively affect awareness of consequences.*

### ***Knowledge of the pandemic and perceived threat***

Perceived knowledge and perceived threat are critical cognitive factors to consider during decision-making (Bamberg & Möser, 2007; Rather, 2021). Tourists' perceptions of potential risks and threats have always been emphasized to determine their perceptions of risk level, difficulty of control, and possible protective methods (Chi et al., 2022; Jang et al., 2021; Kim et al., 2021). Tourists' perceived knowledge refers to their existing knowledge, obtained from previous education and experience, which can help them to assess tourism-related issues and problems, and take further protective actions (Boo & Park, 2013; Han & Hyun, 2017). Insufficient relevant knowledge makes tourists less confident in dealing with potential problems or engaging in certain behaviors (Chi et al., 2022; Kim & Hwang, 2020; Li et al., 2020). For example, Li et al.'s (2020) study found that consumers' positive social engagement and normative attitudes in the COVID-19 era were connected with their comprehension and understanding of the pandemic, eventually triggering them to take preventive actions.

Perceived threat is defined as psychological concerns about potential risks that can arise during travel, which could cause tourists fear, tension, anxiety, or discomfort (Han et al., 2020; Kim et al. 2024; Reisinger & Mavondo, 2005). The influence of tourists' psychological concerns on their decision-making process regarding travel-related behaviors has also been examined (Law, 2006; Olya & Han, 2020; Simpson & Sigauw, 2008). An appropriate understanding of the effects of the pandemic might lead to the recognition of its negative consequences for human

health (O'Connor & Assaker, 2021; Škare et al., 2021). Tourists' ability to acquire pandemic-related knowledge could provide them with deeper insights into relevant issues, problems, risks, and threats, ultimately guiding disease-prevention behaviors (Chan et al., 2023; Han et al., 2020). This study assumed a direct influence of pandemic-related knowledge and concerns about potential threats on event attendees' awareness of negative consequences. The relevant hypotheses are presented below, and the proposed model is displayed in Figure 1.

*H11: Knowledge about the pandemic positively affected awareness of consequences.*

*H12: Perceived threat positively affected awareness of consequences.*

### **[Figure 1]**

## **Methods**

### ***Measurement***

The measurement items for all the constructs in the proposed model were adapted from past research that identified the effects of the TPB, the NAM, personal values, perceived knowledge, and perceived threats. A 7-point Likert scale was used to evaluate all items (1= "strongly disagree," 4 = "neutral," and 7 = "strongly agree"). The measurement items included 3 items for 'knowledge of the pandemic' (Arkorful et al., 2021; Chi et al., 2022), 11 items for 'perceived threats' (Kim et al., 2021), 5 items for 'self-enhancement values' and 'self-transcendent values' (Meng et al., 2022a), 3 items for 'awareness of consequences' (Arkorful et al., 2021), 3 items for 'ascribed responsibility' (Chi et al., 2022; Han, 2014; Kim & Hwang, 2020), 6 items for 'attitude toward social distancing behavior' (Chi et al., 2022; Han, 2014), 3 items for 'perceived behavior control,' 'personal norms', and 'subjective norms' (Arkorful et al., 2021; Chi et al., 2022; Han, 2014), and 2 items for 'pro-social intention to use social distancing practices' (Chi et al., 2020; Han, 2014). All items were reviewed by professional researchers, and some were refined or

adjusted according to their suggestions. Ten items were removed during data analysis since their standardized factor loading values were not below 0.5 (Hair et al., 2019): 1 from ‘knowledge of the pandemic,’ 8 from ‘perceived threats,’ and 1 from ‘perceived behavioral control.’

The questionnaire was translated from in English into Chinese. Five bilingual Chinese and English speakers were invited to proofread the translation and ensure that the text was accurate, clear, and comprehensible. For easier reading and understanding, several sentences and words were polished in response to their comments. A pilot study was then implemented to confirm the validity of the items in each construct or domain, using 32 respondents who had attended outdoor events after the outbreak of the pandemic. The number and format of questions shown on each page of the questionnaire were slightly adjusted based on their feedback.

#### ***Data collection and analytical method***

The target sample of this study was limited to Chinese event attendees after the outbreak of the pandemic. Importantly, social distancing, to cope with the dynamic zero-COVID strategy, has been demanded as one of the regular measures against pandemic-related risks in China (China Daily, 2022a, 2022b; Xinhua, 2022b). Considering the travel restrictions caused by pandemic-preventive measures in China, the questionnaires were distributed via the biggest online survey company in China, Wenjuanxing. Random sampling was used to approach our target sample from Wenjuanxing's sample database of 2.6 million. The data were processed between mid-May and early August 2022. To ensure the respondents' eligibility, a screening process was conducted. A question at the beginning of the survey asked if respondents had attended any outdoor event during the pandemic. Negative responses were recorded as invalid and eliminated from the data analysis. Extremes of time taken to complete the survey, such as finishing in 2 minutes or taking more than 20 minutes, both of which lay outside the normal range, were regarded as invalid.

After screening, 457 responses were used for further data analyses.

Descriptive analysis was initially used to interpret respondents' demographic profiles, the characteristics of outdoor event engagement, and their perceptions of the risk of the pandemic. Exploratory factor analysis (EFA), along with a reliability test, was then applied to determine the factor solution of items in the context of outdoor events during the COVID-19 pandemic, which were developed from a thorough literature review and pilot study. After running the EFA, confirmatory factor analysis (CFA) was conducted to confirm the factor structure formulated through EFA and confirm the validity of the measurement model. The proposed model and hypotheses were assessed via structural equation modeling (SEM).

## **Results**

### ***Descriptive statistics***

Of the 457 survey respondents, 58% were female. Respondents aged 26-30 (41.4%) and 31-40 (34.6%) accounted for the highest proportions. With regard to educational level, the majority of respondents were either college/university students (40.9%) or had already earned their bachelor's degree (51.9%). In terms of residence, the five provinces most respondents came from were Guangdong (14.4%), Hebei (6.8%), Fujian (6.8%), Jiangsu (5.9%), and Hunan (5.1%).

With regard to respondents' attendance at outdoor events during the pandemic, the number of times they attended, in descending percentage order, were three (26.9%), two (25.8%), 10 or more (12.9%), five (11.2%), four (7.4%), and one (6.8%). For the types of outdoor events respondents most often attended, social gatherings (82.9%) were the most popular, followed by sales events (64.1%), sports events (49.9%), food events (45.5%), local festivals (43.8%), and other unspecified events (2.2%).

In terms of respondents' perceptions of the COVID-19 pandemic itself, their infection

history was first determined: 98.7% of respondents said neither they nor anyone in their family had been infected. Regarding the perceived risk associated with the pandemic, most of the respondents (52.7%) indicated that they felt somewhat afraid, and some respondents (10.8%) claimed that they felt extremely afraid of the risks caused by the pandemic. Many respondents (24.9%) expressed a neutral attitude toward the potential risks. Only a minority of respondents stated they were somewhat unafraid (10.5%) or extremely unafraid (1.5%) of the risks of the pandemic.

### ***Exploratory factor analysis (EFA) and reliability test***

The results of the EFA and reliability of the 38 items are reported in Table 1. The KMO value (0.925) confirmed that the factor structure was very suitable, following the EFA. Bartlett's test of sphericity of 9052.706 ( $df = 703$ ,  $p = 0.000$ ) indicated that the data reduction technique was suitable for further use. The communalities of all items showed that they accounted for 58.79% to 84.06% of the variance. The eigenvalues of 11 constructs were all higher than 1.0 based on Kaiser's rule, indicating that the items in each domain were appropriate for further analysis. The factor loadings of the 38 items ranged from 0.713 to 0.917, indicating that the items contributed significantly to constructing the factor (Blunch, 2008). In addition, Cronbach's alpha values for all 11 constructs exceeded 0.7, indicating satisfactory internal consistency of the items in each domain (Hair et al., 2010).

### **[Table 1]**

### ***Confirmatory factor analysis (CFA)***

Table 2 provides the results of the CFA. Since the threshold of standardized factor loading for each item should be greater than 0.5 (Hair et al., 2019), 10 items were eliminated and those of the remaining 38 items ranged from 0.65 to 0.93. The average variance extracted (AVE) values

for 11 constructs ranged from 0.50 to 0.70 and the construct reliability (CR) values ranged from 0.72 to 0.90. The convergent validity of the 11 constructs was examined since acceptable values of AVE and CR should exceed 0.5 and 0.7 respectively (Hair et al., 2019). The model fit indices ( $\chi^2 = 1067.099$ ,  $df = 610$ ,  $p < 0.001$ ;  $\chi^2/df = 1.749$ ; RMSEA = 0.041; CFI = 0.947; NFI = 0.886; TLI = 0.939) were also found to be acceptable. As presented in Table 3, the squared AVE values of each construct were greater than their correlation coefficients with the other constructs. As a result, the discriminant validity for the current constructs, together with their items, was satisfactory.

### [Tables 2 and 3]

#### *Structural equation modeling (SEM)*

The proposed model was tested using structural equation modeling, and the results are presented in Table 4 and Figure 2. The goodness-of-fit indices ( $\chi^2 (638) = 1231.969$ ,  $p < 0.001$ ;  $\chi^2/df = 1.931$ ; Comparative Fit Index (CFI) = 0.931; Normed Fit Index (NFI) = 0.868; Toker Lewis Index (TLI) = 0.924) indicated an acceptable model fit at a sample size of 457. The value of NFI was slightly lower than the recommended threshold of 0.9, while alternative indices, including the Root Mean Square Error of approximation (RMSEA), CFI, and TLI had satisfactory results, supporting the proposed model (Schumacker & Lomax, 2004).

Of the 12 proposed hypotheses, all but two (i.e., *H3*, *H9*) were supported. Specifically, attitude toward social distancing behavior negatively influenced pro-social intentions for social distancing practices ( $\beta = -2.287$ ,  $p < 0.05$ ). Pro-social intention to engage in social distancing practices was positively affected by subjective norms ( $\beta = 4.344$ ,  $p < 0.001$ ). Hence, *H1* and *H2* were supported. However, perceived behavioral control had no significant impact on pro-social intention for social distancing practices ( $\beta = 1.078$ ,  $p = 0.281$ ), meaning that *H3* was rejected.

*H4*, *H5*, and *H6*—developed based on the sequential framework of the original NAM— were all supported at a significance level of 0.001 (Awareness of consequences → Ascribed responsibility:  $\beta = 13.403$ ; Ascribed responsibility → Personal norm:  $\beta = 5.467$ ; Personal norm → Pro-social intention for social distancing practices:  $\beta = 6.422$ ). Furthermore, awareness of consequences positively influenced attitude toward social distancing behavior ( $\beta = 9.182, p < 0.001$ ), and subjective norms positively influenced personal norms ( $\beta = 3.27, p < 0.01$ ), supporting *H7* and *H8*, which determined the formation of the correlations between the TPB and the NAM. For the two constructs for personal values, self-enhancement value did not explain awareness of consequences ( $\beta = 0.012, p = 0.99$ ), meaning that *H9* was not supported, while self-transcendent value positively affected awareness of consequences ( $\beta = 4.499, p < 0.001$ ), supporting *H10* and extending the original NAM. In addition, awareness of consequences was positively predicted by knowledge of the pandemic ( $\beta = 10.8, p < 0.001$ ) and was negatively influenced by perceived threat ( $\beta = -2.576, p < 0.05$ ). Thus, *H11* and *H12* were supported, extending the original NAM with two antecedents.

#### [Table 4 and Figure 2]

### Discussion

This study examined a proposed framework for predicting individuals' pro-social intentions using an integrated model incorporating the TPB, the NAM and the psychological drivers of personal values, perceived knowledge, and perceived threat. Individuals' pro-social intentions for social distancing practices (SDP) can be formulated by activating their self-transcendent values (ST), knowledge of the pandemic (KN), perceived threat (TH), awareness of consequences (AC), personal norms (PN), ascribed responsibility (AR), attitude toward social distancing behavior (SDB), and subjective norms (SN). Individuals' self-enhancement values (SE) and perceived

behavioral control (BC) were found to be irrelevant to the development of pro-social intention. The results demonstrated the effects of the concepts that can be harnessed to clarify the decision-making mechanism for outdoor event attendees' social distancing behaviors, and provided implications for the event industry and policymakers.

The specific impact of and the correlation between constructs in the effective framework were investigated. Considering the use of the TPB and the NAM, apart from BC, the other two constituents of the TPB (SDB and SN) could directly influence pro-social intentions to engage in social distancing practices, supporting the findings of previous studies of event attendees' behaviors (Chi et al., 2022; Horng et al., 2013; Kaplanidou, 2007). The sequential relationships between variables in the NAM (i.e.,  $AC \rightarrow AR \rightarrow PN \rightarrow SDP$ ) were examined in the developed model, which was the same as the existing studies (Arkorful et al., 2021; Fornara et al., 2016). With regard to the integrated framework of TPB and NAM, positive and significant relationships were identified between AC and SDB, and between SN and PN, consistent with previous research (Han & Hyun, 2017; Manosuthi et al., 2020; Meng et al., 2020a). Importantly, high stability of SN in TPB was found, which supported the significance of SN in TPB as identified by Shin et al. (2018).

The anticipated role of ST, KN, and TH on the activation of AC was verified in this study, providing an extension to the original framework of the NAM. The findings confirmed the effectiveness of the previously established positive link between ST and AC (Meng et al., 2020a; Nghiễm-Phú et al., 2021; Stern, 2000). Attendees who regarded social distancing as beneficial to society, contributing to equality, world peace, social justice, and assisting others, were more likely to be aware of the unfavorable outcomes of not practicing social distancing. More knowledge relevant to the pandemic could help to raise awareness of potential issues that could

arise from not behaving pro-socially, which also agreed with the results of previous research (Chi et al., 2022; Li et al., 2020) and bolstered understanding of the formulation of outdoor event attendees' pro-social behavioral intentions.

Contrary to prior findings (e.g., Han et al., 2020; Jeon et al., 2022), outdoor event attendees' attitudes toward social distancing behavior were found to negatively influence their ultimate decisions about engaging in social distancing practices. The results showed that outdoor event attendees were likely to take actions contradictory to their original attitudes, a phenomenon known as "cognitive dissonance," which is the expansion of social comparison as described by Festinger in 1954 (Cooper, 2019). Another possible explanation for this negative result may relate to the issue of self-concept developed by Aronson (1992, 1999), which claimed that dissonance was a discrepancy between action and self-esteem (Cooper, 2019). Thibodeau and Aronson (1992) further identified that the discrepancy between attitude (which could be activated by self-concept) and behavior tended to occur when people were aware of aversive outcomes, which could imply personal responsibility for negative results. As the sequential relationships (i.e., AC→SDB→SDP) were supported in the current study, Aronson's self-concept theory supported this significantly negative relationship.

Furthermore, contrary to the original assumption, TH was found to hinder AC. Trimpop (1994) claimed that an action would only be seen as a danger or a threat if it was known or thought to have negative consequences. In this regard, outdoor event attendees' concerns about their safety being jeopardized by the pandemic can only be articulated once they are aware of the specific dangers caused by non-pro-social behavior.

The negative impacts in H3 and H9 differed from those obtained in previous studies conducted in a variety of settings, demonstrating that outdoor event attendees' self-interest values

and perceived controllability of their social distancing practices had a negligible impact on their final decision on whether to maintain social distancing (Conner & Armitage, 1998; Kaiser & Gutscher, 2003). With the lowest values of the grand means for BC and SE, at 4.398 and 5.069 respectively, among all 11 constructs, respondents tended to question whether maintaining social distancing was a behavior that would benefit their social power, wealth, authority, influence, and ambition. To some extent, the results are consistent with those of other studies that demonstrated lower stability and validity of BC in TPB (Lee & Kim, 2018; Shin et al., 2018; Sussman & Gifford, 2019).

Lastly, Chinese outdoor event attendees' engagement in the with-COVID-19 era and their perceptions of COVID-19 were determined. Limited event outdoor attendance since the start of the pandemic was identified as a reason for strict pandemic-control regulations. The popularity of social gatherings reflected the public's desire to spend time with their networks, including family members and friends. Likewise, sales events were also popular among Chinese event attendees, partially attributed to consumption-boosting measures and panic-buying behaviors or the influence of prior experienced fear of product shortages or competitive consumption of necessities (Babbitt et al., 2021; Islam et al., 2021). Another reason for this trend is the fact that Chinese local governments officially promoted a diversity of promotive activities, such as festivals for encouraging culture or tourism-related consumption, to boost the consumer market (Xinhua, 2022a). In terms of perceptions regarding the pandemic, 2 years after the outbreak, Chinese event attendees' psychological concerns about the pandemic's perceived risk were shown to be rather high, similar to earlier studies (Li et al., 2020; Li et al., 2021; Wang et al., 2020).

### ***Academic implications***

First, the current research examined a theoretical mechanism displaying how outdoor event

attendees' behavioral intentions for practicing social distancing measures were developed, particularly under the critical impact of the COVID-19 pandemic. This supplemented the empirical research exploring consumer behavior during outdoor event tourism. This study was an initial effort to identify the antecedents of pro-social intention in outdoor event settings in a global disease emergency situation.

Second, this study is among the few (e.g., Chi et al., 2022; Gan, 2020) that have demonstrated the effectiveness of the integrated TPB–NAM framework in studying tourists' behavioral intentions in the event tourism setting. The correlations between awareness of consequences and attitude, subjective norms and personal norms were found to be significant, reinforcing the findings in previous research (Chi et al., 2021, 2022; Kim & Hwang, 2020; Manosuthi et al., 2020). However, the insignificant and negative results further established the instability and volatility of the actual effects of perceived behavioral control and attitude when they are adapted to diverse contexts, as suggested by Sussman and Gifford (2019).

Third, different from other research on personal values (e.g., Han et al., 2020; Kim et al., 2021; Meng et al., 2020a), the current findings only revealed the activating effect of self-transcendent value on building pro-social intention, demonstrating a lower importance of personal interests in motivating individuals' pro-social intentions in event tourism in the COVID–19 era. The current findings imply that the antecedent impact of personal values on the integrated model of TPB and NAM was not always effective, and needs to be examined in specific contexts.

Fourth, reinforcing previous findings (e.g., Han et al., 2020; Kim et al., 2021), the direct impact of perceived knowledge and perceived threat on awareness of consequences was examined in the event tourism context, providing a theoretical understanding of the formation of

awareness of consequences about pandemic-related issues. This also expanded the original framework of NAM by adding constructs acting as the antecedents of awareness of consequences.

### ***Practical implications***

First, the findings highlighted the importance of event attendees' problem awareness when developing pro-social intentions to engage in social distancing practices in the COVID-19 era. In this regard, outdoor event managers and legislators should emphasize the need for raising event attendees' awareness of the negative consequences of disobeying social distancing policies, while encouraging them to maintain social distancing at outdoor events.

Second, strengthening the sense of caring for others, providing crisis-related knowledge, and reducing psychological concerns about safety can all help to increase event attendees' awareness of avoidable tragic results. They can be encouraged to practice social distancing because it is a desirable action that allows them to benefit society, contribute to a safe atmosphere, and protect others from being harmed.

Third, events' health management teams should learn their attendees' engagement preferences and their views of the potential risks or threats. To reduce event attendees' psychological anxiety about safety, event organizers should make attendees aware of the precautions, materials, or facilities available on-site. Attendees are then more likely to feel accountability and ethical responsibility, resulting in an increased tendency to engage in social distancing behavior.

Fourth, if social distancing measures are more likely to be widely accepted as obligatory from a public standpoint, attendees will be more ready to agree and act pro-socially at outdoor events. Guidance, encouraging people to engage in social-distancing practices for a safer and

healthier event environment, needs to be provided to the public via diverse channels including broadcasts, SNS platforms, advertisements, billboards and advertisements, and educational institutions. Attendees are more likely to adhere to social distancing practices at outdoor events if they make greater commitments to behaving pro-socially for themselves and others.

Lastly, in the post-pandemic era, outdoor event organizers can benefit from the current findings to strengthen preventive measures and contingency plans prepared for future potential pandemics. The interpretation of event attendees' psychological mechanism for maintaining social distancing contributes to developing appropriate executive strategies for promoting social distancing practices on-site by stimulating event attendees' pro-social behavioral engagement.

### **Limitations and suggestions for future research**

This study recommends further research on the promotion of pro-social intentions under novel conditions, which could provide a deeper understanding of the impact of policies or regulations on shaping individuals' attitudes, norms, intentions, and practical behaviors. This in-depth insight can also be obtained by comparing the outcomes of the existing framework with events from other countries with individualistic cultural origins, which had lifted most pandemic prevention measures earlier. Since two paths in this study did not show significance even though they were hypothesized as significant relationships, future research needs to identify whether the insignificance is also found in different contexts, by conducting a similar study in different countries. Furthermore, because this study relied on an online survey due to travel constraints, qualitative research approaches need to be adopted in future studies to achieve a holistic overview of consumers' pro-social behavioral intentions.

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## Tables

Table 1. Results of EFA and reliability check (N=457)

Constructs	Communalities	Factor Loadings	Mean
<b>Knowledge of the pandemic</b>			
(Eigenvalue = 1.566, Variance explained = 78.20%, Cronbach's $\alpha$ = 0.722, Grand mean = 6.264)			
KN1_I have knowledge about the facts and negative influences of the COVID-19 pandemic.	0.783	0.885	6.17
KN2_I recognize the seriousness of the COVID-19 pandemic and its negative influences.	0.783	0.885	6.36
<b>Perceived threat</b>			
(Eigenvalue = 1.995, Variance explained = 66.497%, Cronbach's $\alpha$ = 0.747, Grand mean = 5.999)			
TH5_I think that safety comes first.	0.626	0.791	6.40
TH6_I don't take risks with my health.	0.729	0.854	5.86
TH7_I prefer to avoid risks.	0.639	0.799	5.73
<b>Self-enhancement value</b>			
(Eigenvalue = 3.563, Variance explained = 71.266%, Cronbach's $\alpha$ = 0.898, Grand mean = 4.398)			
SE1_Social power	0.747	0.865	4.47
SE2_Wealth	0.700	0.836	4.19
SE3_Authority	0.795	0.891	4.09
SE4_Influence	0.736	0.858	4.53
SE5_Ambition	0.586	0.765	4.71
<b>Self-transcendent value</b>			
(Eigenvalue = 3.392, Variance explained = 67.831%, Cronbach's $\alpha$ = 0.878, Grand mean = 5.655)			
ST1_Equal opportunity for all (Equality)	0.669	0.818	5.60
ST2_Freedom from war and conflict (World peace)	0.668	0.817	5.39
ST3_Correcting injustice, caring for the weak (Social justice)	0.756	0.870	5.71
ST4_Working for the welfare of others (Helping)	0.690	0.831	5.82
ST5_Increasing positive returns for the community (Cooperation)	0.608	0.780	5.75
<b>Awareness of consequences</b>			
(Eigenvalue = 2.048, Variance explained = 68.283%, Cronbach's $\alpha$ = 0.767, Grand mean = 6.338)			
AC1_Practicing social distancing measures helps minimize the negative impact of the COVID-19 pandemic on the environment.	0.680	0.825	6.31
AC2_Practicing social distancing measures helps reduce the harm COVID-19 can cause to people's health.	0.670	0.818	6.33
AC3_Practicing social distancing measures helps minimize infections and environmental degradation in the COVID-19 era.	0.698	0.836	6.38
<b>Ascribed responsibility</b>			
(Eigenvalue = 2.042, Variance explained = 68.053%, Cronbach's $\alpha$ = 0.765, Grand mean = 6.261)			
AR1_I feel jointly responsible for practicing social distancing measures when attending outdoor events in the COVID-19 era.	0.595	0.771	6.42
AR2_I feel jointly responsible for the negative results of failing to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.742	0.862	6.17
AR3_I think every event participant, including me, is partly responsible for the negative effects of not practicing social distancing measures when attending outdoor events in the COVID-	0.704	0.839	6.20

19 era.

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**Attitude toward social distancing behavior**

(Eigenvalue = 3.527, Variance explained = 58.787%, Cronbach's  $\alpha$  = 0.858, Grand mean = 5.806)

SDB1_Good	0.610	0.781	5.35
SDB2_Wise	0.569	0.754	5.78
SDB3_Pleasant	0.508	0.713	5.56
SDB4_Positive	0.629	0.793	5.95
SDB5_Socially responsible	0.665	0.816	6.25
SDB6_That I am caring for the community	0.545	0.738	5.85

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**Perceived behavioral control**

(Eigenvalue = 1.681, Variance explained = 84.056%, Cronbach's  $\alpha$  = 0.806, Grand mean = 5.069)

BC1_I think whether or not to practice social distancing measures when attending outdoor events in the COVID-19 era is totally up to me.	0.841	0.917	4.85
BC2_I believe that practicing or not practicing social distancing measures when attending outdoor events in the COVID-19 era is under my control.	0.841	0.917	5.28

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**Subjective norms**

(Eigenvalue = 2.039, Variance explained = 67.982%, Cronbach's  $\alpha$  = 0.764, Grand mean = 6.346)

SN1_Most people who are important to me think I should practice social distancing measures when attending outdoor events in the COVID-19 era.	0.678	0.824	6.35
SN2_Most people who are important to me want me to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.680	0.825	6.37
SN3_People whose opinions I value would prefer me to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.681	0.825	6.32

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**Personal norms**

(Eigenvalue = 2.143, Variance explained = 71.424%, Cronbach's  $\alpha$  = 0.797, Grand mean = 6.274)

PN1_I feel morally obliged to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.694	0.833	6.34
PN2_My moral principles would be violated if I did not practice social distancing measures when attending outdoor events in the COVID-19 era.	0.662	0.813	6.10
PN3_No matter what others do, I should practice social distancing measures when attending outdoor events in the COVID-19 era because of my moral obligation.	0.787	0.887	6.37

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**Pro-social intention for social distancing practices**

(Eigenvalue = 2.034, Variance explained = 67.815%, Cronbach's  $\alpha$  = 0.762, Grand mean = 6.457)

SDP1_I am willing to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.686	0.828	6.55
SDP2_I will make an effort to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.681	0.825	6.46
SDP3_I am likely to practice social distancing measures when attending outdoor events in the COVID-19 era.	0.667	0.817	6.36

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Table 2. Model Fit of Each Construct.

Construct	chisq	df	CFI	GFI	TLI	RMSEA
KN	NA	-1	NA	1	NA	0
TH	0	0	1	1	1	0
SE	38.488	5.0	0.976	0.970	0.951	0.121
ST	24.651	5.0	0.983	0.979	0.966	0.093
AC	0	0	1	1	1	0
AR	0	0	1	1	1	0
SDB	50.287	9.0	0.962	0.964	0.937	0.100
BC	NA	-1	NA	1	NA	0
SN	0	0	1	1	1	0
PN	0	0	1	1	1	0
SDP	0	0	1	1	1	0

Note. KN = Knowledge of the pandemic, TH = Perceived threat, SE = Self-enhancement value, ST = Self-transcendent value, AC = Awareness of consequences, AR = Ascribed responsibility, SDB = Attitude toward social distancing behavior, BC = Perceived behavioral control, SN = Subjective norms, PN = Personal norms, SDP = Pro-social intention for social distancing practices.

Table 3. Results of CFA ( $N=457$ )

Construct	Items	Standardized Factor Loading	AVE	C.R.
Knowledge of the pandemic	KN1	0.75	0.57	0.72
	KN2	0.76		
Perceived threat	TH5	0.68	0.50	0.75
	TH6	0.76		
	TH7	0.68		
Self-enhancement value	SE1	0.83	0.65	0.90
	SE2	0.78		
	SE3	0.88		
	SE4	0.82		
	SE5	0.69		
Self-transcendent value	ST1	0.77	0.60	0.88
	ST2	0.77		
	ST3	0.84		
	ST4	0.77		
	ST5	0.72		
Awareness of consequences	AC1	0.79	0.52	0.77
	AC2	0.68		
	AC3	0.70		
Ascribed responsibility	AR1	0.69	0.53	0.77
	AR2	0.74		
	AR3	0.74		
Attitude toward social distancing behavior	SDB1	0.73	0.51	0.86
	SDB2	0.70		
	SDB3	0.65		
	SDB4	0.74		
	SDB5	0.77		
	SDB6	0.68		
Perceived behavioral control	BC1	0.73	0.70	0.82
	BC2	0.93		
Subjective norms	SN1	0.73	0.52	0.76
	SN2	0.72		
	SN3	0.72		
Personal norms	PN1	0.76	0.58	0.80
	PN2	0.69		

	PN3	0.82		
Pro-social intention for social distancing practices	SDP1	0.75		
	SDP2	0.73	0.52	0.76
	SDP3	0.68		

Note. Goodness-of-fit statistics for the measurement model:  $\chi^2 = 1067.099$ ,  $df = 610$ ,  $p < .001$ ;  $\chi^2/df = 1.749$ ; RMSEA = .041; CFI = .947; NFI = .886; and TLI = .939.

Table 4. Correlation matrix (N=457)

Construct	K	TH	SE	ST	AC	AR	SDB	BC	SN	PN	SDP
KN	<b>0.752</b>										
TH	0.315**	<b>0.709</b>									
SE	0.054	0.044	<b>0.803</b>								
ST	0.09	0.221**	0.542**	<b>0.775</b>							
AC	0.551**	0.295**	0.058	0.281**	<b>0.725</b>						
AR	0.528**	0.303**	0.04	0.252**	0.650**	<b>0.725</b>					
SDB	0.232**	0.173**	0.328**	0.436**	0.330**	0.394**	<b>0.712</b>				
BC	0.025	0.048	0.207**	0.130**	0.09	0.099*	0.191**	<b>0.837</b>			
SN	0.489**	0.316**	0.081	0.329**	0.645**	0.645**	0.470**	0.085	<b>0.721</b>		
PN	0.482**	0.297**	0.095*	0.293**	0.630**	0.663**	0.432**	0.155**	0.636**	<b>0.761</b>	
SDP	0.504**	0.298**	0.024	0.231**	0.637**	0.653**	0.343**	0.132**	0.666**	0.713**	<b>0.719</b>

Note. KN = Knowledge of the pandemic, TH = Perceived threat, SE = Self-enhancement value, ST = Self-transcendent value, AC = Awareness of consequences, AR = Ascribed responsibility, SDB = Attitude toward social distancing behavior, BC = Perceived behavioral control, SN = Subjective norms, PN = Personal norms, SDP = Pro-social intention for social distancing practices.

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table 5. Hypothesis testing and results of SEM ( $N=457$ )

Hypothesis	Path	Standard coefficient ( $\beta$ )	$t$ -value	$p$ -value	Decision
H1	Attitude toward social distancing behavior → Pro-social intention for social distancing practices	-0.10	-2.287*	0.022	<b>Accepted</b>
H2	Subjective norms → Pro-social intention for social distancing practices	0.42	4.344***	0.000	<b>Accepted</b>
H3	Perceived behavioral control → Pro-social intention for social distancing practices	0.04	1.078	0.281	Rejected
H4	Awareness of consequences → Ascribed responsibility	0.91	13.403***	0.000	<b>Accepted</b>
H5	Ascribed responsibility → Personal norms	0.59	5.467***	0.000	<b>Accepted</b>
H6	Personal norms → Pro-social intention for social distancing practices	0.62	6.422***	0.000	<b>Accepted</b>
H7	Awareness of consequences → Attitude toward social distancing behavior	0.53	9.182***	0.000	<b>Accepted</b>
H8	Subjective norms → Personal norms	0.34	3.27**	0.001	<b>Accepted</b>
H9	Self-enhancement value → Awareness of consequences	0.00	0.012	0.99	Rejected
H10	Self-transcendent value → Awareness of consequences	0.31	4.499***	0.000	<b>Accepted</b>
H11	Knowledge of the pandemic → Awareness of consequences	0.99	10.8***	0.000	<b>Accepted</b>
H12	Perceived threat → Awareness of consequences	-0.18	-2.576*	0.010	<b>Accepted</b>

$\chi^2=1231.969$ ,  $df=638$ ,  $p < .001$ ;  $\chi^2/df=1.931$ ; RMSEA = .045; CFI = .931; NFI = .868; TLI = .924.

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

# Figures

Figure 1. The proposed model

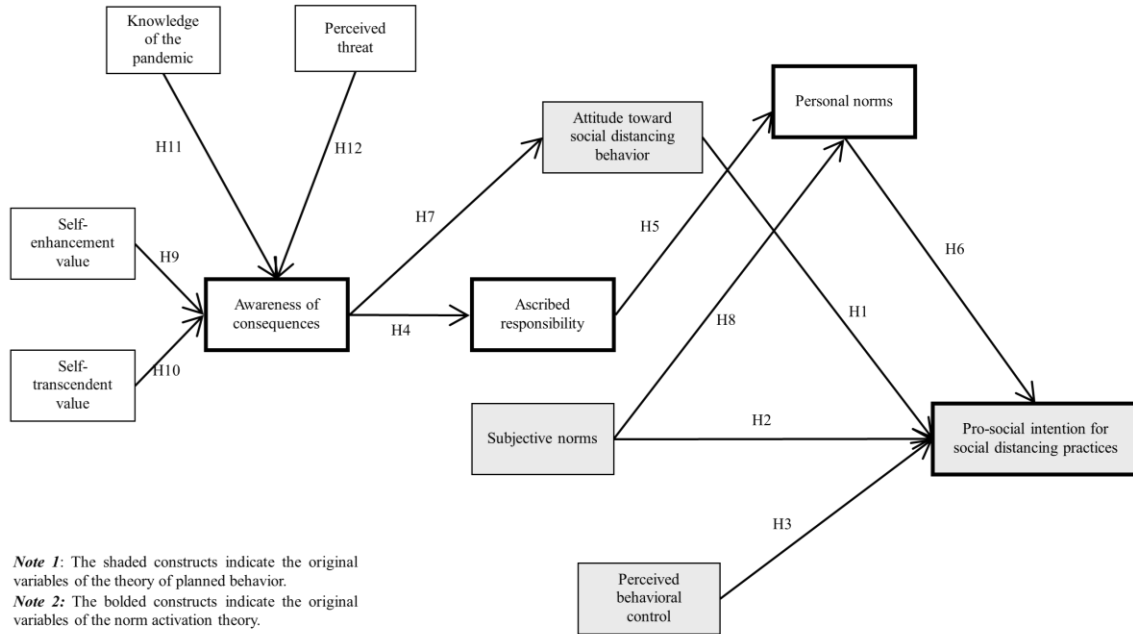
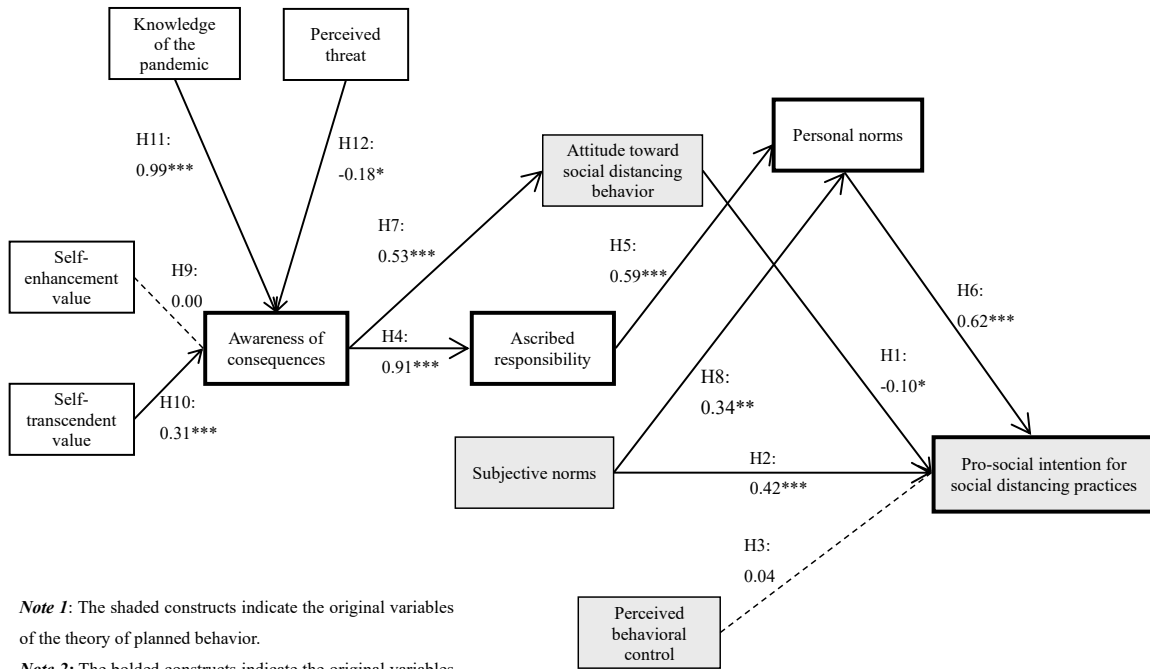


Figure 2. Results of the final structural model



**Note 1:** The shaded constructs indicate the original variables of the theory of planned behavior.

**Note 2:** The bolded constructs indicate the original variables of the norm activation theory.

**Note 3:** \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$