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Assessing the Reliability of Integrated Model of Behavioural Prediction Framework for Conservation Behaviour in Kinabalu UNESCO Global Geopark

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Abstract

Human behaviour plays a critical role in the success of biodiversity conservation initiatives, particularly in community-based conservation settings. Quantitative studies in this field commonly rely on behavioural theories to examine probable causation factors that influencing conservation behaviour; however, the applicability and reliability of theoretical constructs may vary across contexts. This study aimed to conduct a pilot test of a survey instrument grounded in the Integrative Model of Behavioural Prediction (IMBP), adapted to the local context of the Kinabalu UNESCO Global Geopark (KUGGp), Sabah, Malaysia. A close-ended questionnaire, utilizing a five-point Likert scale, was administered to 32 local community members aged 18 years and older, who were selected through simple random sampling. Descriptive statistics were used to examine response patterns and scale functioning, followed by reliability analysis using Cronbach's alpha to assess internal consistency of the constructs. The results indicated high mean scores for attitude, perceived norms, self-efficacy, and intention towards conservation behaviour, while skills limitation and environmental barriers showed greater variability. Reliability analysis showed that most constructs met the minimum acceptable Cronbach's alpha threshold of 0.70, while self-efficacy and environmental barriers fell slightly below this level and were identified for refinement. Overall, the findings suggest that the survey instrument is largely reliable and suitable for full-scale data collection, with minor revisions required for selected constructs. This pilot study contributes to methodological rigor by supporting the contextual application of IMBP-based measures in UNESCO Global Geopark communities.

Keywords Conservation Behaviour, Instruments, Feasibility, Stakeholder, Geopark

Introduction

Human behaviour towards conservation is proven to be a key driver of successful conservation actions planned by authorities (Mohamad Syahrul Nizam et al., 2023). Conservation behaviour is described as human action towards biodiversity conservation, and research in this area is often aimed at examining the behavioural constructs of respondents towards specific initiatives (Gonçalves et al., 2021; Momenpour et al., 2024; Ribeiro et al., 2022). The outcomes of such behavioural studies can inform authorities to ensure that participation in conservation behaviour is at an adequate level (Ibrahim et al., 2025). However, a significant debate within the social sciences concerns the cross-cultural validity of these behavioural models. Scholars increasingly argue that frameworks developed in Western contexts may not accurately capture the nuances of community-based conservation in unique socio-ecological landscapes without rigorous contextual validation (Tam & Milfont, 2020; Henrich et al., 2010). Ignoring this matter could result in low participation in biodiversity protection actions, leading to wasted resources and financial loss. Consequently, human conservation behaviour is depicted as a crucial factor in achieving biodiversity conservation.

In quantitative research on biodiversity conservation, behavioural theoretical frameworks are often employed. Frameworks such as the Theory of Planned Behaviour (TPB), the Theory of Reasoned Action (TRA), and the Integrative Model of Behavioural Prediction (IMBP) are common frameworks (Chang, 2013; Torabi et al., 2025; Yuriev et al., 2020), chosen based on their contextual suitability for the proposed research. While recent empirical studies have successfully utilized TPB to predict general pro-environmental intentions (Empidi & Emang, 2021), growing evidence suggests that these models must be extended to account for specific barriers—such as skills deficits and environmental constraints—that are critical in rural development contexts (Savari et al., 2023; Valizadeh et al., 2021). The theory becomes a bridge between behaviour and its potential determinants, typically operationalised through survey instruments. However, these theories are developed based on specific populations and contexts studied in the literature; therefore, some of their constructs may be irrelevant in the specific context of the current study (Sarmiento et al., 2019). Hence, an appropriate literature review needs to be conducted to investigate the suitability of these constructs for the proposed research. Consequently, a conceptual framework, derived from the reviewed theoretical frameworks, will be developed based on their suitability.

Hence, conducting a pilot study is important to ensure the reliability of the constructs derived from the conceptual framework. Pilot studies are commonly recommended in social science research as they help identify potential measurement issues before full-scale data collection is conducted (Hazzi & Maaldaon, 2015). Metrics such as Cronbach's alpha are calculated using pilot data to assess the internal consistency of items within each construct. In social science research, a Cronbach's alpha value of 0.70 or higher is generally considered acceptable for indicating adequate reliability (Bujang et al., 2018). By rigorously testing these metrics, this research directly addresses the call for methodological robustness in conservation psychology, ensuring that theoretical constructs are not merely assumed but empirically verified within the target population (Draheim et al., 2019). Therefore, conducting a pilot study allows the researcher to refine the survey instrument prior to the main study, ensuring that subsequent analyses are based on reliable measurements.

This study used the Integrative Model of Behavioural Prediction (IMBP) as its primary theoretical framework, with certain elements adapted to suit the local context of the Kinabalu UNESCO Global Geoparks (KUGGp) community. The primary objective of this study is to assess the internal consistency and reliability of this adapted survey instrument. The scope is specifically limited to the methodological validation of the IMBP constructs—specifically attitude, norms, self-efficacy, and environmental barriers—rather than a full-scale hypothesis testing of behavioural prediction. Hence, this study aimed to conduct a pilot study to test the reliability of each construct in the survey instrument. The pilot was intended to refine the survey items before the full-scale data collection. Additionally, this study sought to extend current knowledge by addressing the applicability of the IMBP scales in a UNESCO Global Geoparks (UGGPs) sample.

Methodology

This study primarily aims to test the internal consistency and validity of the constructed survey items prior to the actual data collection. The pilot study serves to identify and rectify potential issues at an early stage, thereby minimising non-sampling measurement errors that may affect subsequent analyses (Hazzi & Maaldaon, 2015). In addition, the pilot study outlines and evaluates the procedures that will facilitate the implementation of the main data collection process.

Study Site

The study was conducted in the Kinabalu UNESCO Global Geopark (KUGGp), Sabah, Malaysia, which was officially designated as a UNESCO Global Geopark in 2023. The Geopark encompasses three districts, namely Ranau, Kota Marudu, and Kota Belud, located in northern Borneo. The area is recognised for its internationally significant geological features, as well as its high ecological value and rich tangible and intangible cultural heritage. Communities within the KUGGp are predominantly of Kadazan-Dusun ethnicity, comprising several sub-ethnic groups (Sabah Parks, 2025). The main economic activities in the area include highland agriculture, livestock rearing, and tourism. Local livelihoods are closely connected to the surrounding natural landscape, which provides essential resources for farming, animal husbandry, and tourism-related income. Ecotourism plays a particularly important role in the local economy, with Sabah recognised as one of Malaysia's leading tourism destinations (Danting et al., 2018).

Research Technique

A close-ended questionnaire was used to assess intentions towards conservation behaviour and was distributed to a total of 32 respondents who willingly participated in the study. The respondents comprised members of the local community within the study area and were selected using Respondents were selected using simple random sampling among local community members aged 18 years and above. According to Cooper & Schindler (2014), a sample size ranging from 25 to 100 respondents is considered adequate for a pilot study. Therefore, the sample size of 32 respondents employed in this pilot study is considered acceptable.

Items Development

The questionnaire was developed and administered in Bahasa Melayu, the national language of Malaysia, to ensure clarity and accessibility for local respondents. It employed a five-point

Likert scale ranging from strongly disagree to strongly agree and consisted of several sections measuring attitude, perceived norms, self-efficacy, skills limitation, environmental constraints, and intention towards conservation behaviour. Questionnaire items were adapted, revised, and supplemented based on relevant literature, particularly Ibrahim et al. (2023), to ensure conceptual alignment with the selected theoretical framework and contextual suitability for the study area.

Item Validity

The approach to the validity of the content includes literature reviews and follow-up by expert judges (Wang & Sahid, 2024). Before the respondents' interview, the questionnaire was validated by six experts in environmental sociology and social psychology from local universities in Malaysia namely Universiti Kebangsaan Malaysia, Universiti Pendidikan Sultan Idris and Universiti Putra Malaysia. The latter approach was used where expert comments were considered, and the questionnaire items subsequently updated.

Data Analysis

The data collected from the pilot study were analysed using IBM Statistical Package for the Social Sciences (SPSS) Version 24. Prior to reliability testing, descriptive statistics, including means and standard deviations, were computed for each item and construct to examine response distributions, scale utilisation, and preliminary variability among respondents. This step was conducted to identify potential ceiling or floor effects, response clustering, or ambiguities in item interpretation. The internal consistency of each construct in the survey instrument was subsequently assessed using Cronbach's alpha. Cronbach's alpha values of 0.70 or higher were considered acceptable, indicating adequate reliability of the items within each construct (Bujang et al., 2018). The combined results of descriptive and reliability analyses were used to determine the adequacy of the survey instrument and to inform any necessary refinements prior to full-scale data collection.

Results and Discussion

Sociodemographic

The pilot study involved 32 respondents from the local community and provides a basic picture of who participated in the survey. According to Table 1, it is noted that there are slightly more than half of the respondents were male (56.3%), while 43.8% were female. Most respondents were older adults, with the largest group aged between 41 and 60 years (43.8%), followed by those above 60 years old (31.3%). Only a small number of respondents were below 40 years old, especially those aged 18–25 (6.3%). This shows that the pilot sample mainly represents an older community.

In terms of ethnicity and religion, the sample was very homogeneous. Almost all respondents were Dusun (93.8%), with only a small number of Kadazan respondents (6.3%). All respondents were Christian. This indicates that the pilot participants came from a socially and culturally similar background, which is common in rural communities. Regarding education, a large proportion of respondents had no formal education (43.8%). About 37.5% had secondary education, while 12.5% had primary education. This supports the decision to use simple and clear language in the questionnaire, as many respondents may not be familiar with complex or technical terms. For occupation, half of the respondents were self-employed (50.0%), and 37.5% were unemployed. Only a small number worked as government servants

or private employees (each 6.3%). Most respondents also reported low-income levels, with 87.5% earning less than MYR 2,500 per month. This suggests that the community largely depends on small-scale or informal economic activities. Finally, most respondents had lived in the village for a very long time. About 93.8% had stayed for more than 20 years, while only 6.3% had lived there for 6–10 years. This shows strong long-term attachment to the area, which is relevant for a study on conservation behaviour because these residents have long and close relationships with the local environment. Overall, the descriptive results indicate that the pilot sample represents a stable, locally rooted, and socially similar community, making it suitable for testing the survey instrument.

Table 1
Demographic information of respondents (n=32)

Items	Frequency, n	Percentage, %
Gender		
Male	18	56.3
Female	14	43.8
Age		
18-25	2	6.3
26-40	6	18.8
41-60	14	43.8
> 60	10	31.3
Ethnic		
Kadazan	2	6.3
Dusun	30	93.8
Religion		
Christian	32	100
Level of education		
No formal education	14	43.75
Primary education	4	12.5
Secondary education	12	37.5
Occupation		
Government servant	2	6.3
Private employee	2	6.3
Self-employed	16	50.0
Unemployed	12	37.5
Monthly income		
Less than MYR2,500	28	87.5
MYR 4,851 - MYR 10, 970	4	12.5
Duration of stay in the village		
6-10 years	2	6.3
More than 20 years	30	93.8

Note: MYR1.00=USD0.25 (Based on currency on January 2026)

Mean Analysis of Construct-Level Variables

The descriptive analysis of the pilot data indicates clear and interpretable response patterns across all measured constructs. Attitude towards conservation behaviour recorded a high mean score (M = 4.64, SD = 0.51), suggesting strong positive evaluations of conservation-

related statements among respondents. Similarly, perceived norms showed a high mean (M = 4.58, SD = 0.48), indicating that social expectations and community influence in support of conservation behaviour were widely shared within the sample. Intention towards conservation behaviour also demonstrated a high mean value (M = 4.72, SD = 0.48), reflecting a strong stated willingness to engage in conservation-related actions.

Self-efficacy yielded a moderately high mean score (M = 4.33, SD = 0.53), suggesting that respondents generally felt confident in their ability to participate in conservation behaviour. In contrast, skills limitation recorded a lower mean (M = 2.80, SD = 1.14), indicating that respondents differed considerably in their perceptions of skill-related constraints. Environmental barriers showed a moderate mean score (M = 3.76, SD = 0.81), suggesting that while some external constraints were perceived, they were not uniformly experienced across the sample.

Overall, the observed minimum and maximum values across constructs indicate that respondents utilised a wide range of the Likert scale, and the standard deviations suggest adequate variability in responses. These findings demonstrate that the survey items functioned as intended in the pilot study and that the data were suitable for subsequent reliability analysis and refinement of the instrument prior to full-scale data collection.

Table 2
Descriptive statistics of construct-level variables in the pilot study

Constructs	Mean, (M)	Std. deviation, (SD)	Minimum	Maximum
Attitude	4.6375	0.50911	3.60	5.00
Perceived Norms	4.5750	0.48126	3.40	5.00
Self-Efficacy	4.3250	0.52732	3.40	5.00
Skills limitation	2.8021	1.14099	1.33	5.00
Environmental barriers	3.7604	0.81423	2.33	5.00
Intention	4.7222	0.47561	3.56	5.00

Item Internal Consistency
Using the criterion proposed by Bujang et al. (2018), where a Cronbach's alpha value of 0.70 or higher is considered the minimum acceptable threshold for internal consistency, the reliability results from the pilot study show mixed but interpretable outcomes across constructs.

Based on Table 3, the attitude construct demonstrated acceptable reliability with a Cronbach's alpha of 0.77, indicating that the five items consistently measured respondents' evaluative beliefs towards conservation behaviour. Perceived norms also showed acceptable internal consistency (α = 0.80), suggesting that the four items reliably captured social and community influences related to conservation. Similarly, the intention construct recorded a high reliability coefficient (α = 0.87), indicating strong internal consistency among the six items measuring respondents' willingness to engage in conservation behaviour.

Skills limitation exhibited a high Cronbach's alpha value of 0.86, reflecting very good internal consistency and suggesting that the items measuring perceived skill-related constraints were coherent and well understood by respondents. In contrast, self-efficacy recorded a

Cronbach's alpha value of 0.61, which falls below the recommended threshold of 0.70. Environmental barriers also showed a marginally lower alpha value of 0.66. According to Bujang et al. (2018), these values indicate moderate but insufficient internal consistency, suggesting that some items within these constructs may require refinement or clearer wording.

Overall, the reliability analysis indicates that most constructs met the minimum acceptable reliability standard, supporting the general adequacy of the survey instrument. Constructs with alpha values below 0.70 were identified for further review and potential revision prior to full-scale data collection, consistent with the diagnostic purpose of a pilot study.

Table 3
Reliability test of construct

Variable	No. of items	Cronbach's Alpha
Attitude	5	0.77
Perceived Norms	4	0.80
Self-Efficacy	5	0.61
Skills limitation	5	0.86
Environmental barriers	5	0.66
Intention	6	0.87

The results indicate that most constructs demonstrated acceptable reliability and coherent response patterns, supporting the overall adequacy of the instrument for use in the main study. The descriptive analysis showed high mean scores for attitude, perceived norms, and intention towards conservation behaviour, alongside relatively low dispersion. These patterns indicate that the items measuring these constructs were clearly understood and contextually appropriate for the study population. Correspondingly, the Cronbach's alpha values for these constructs exceeded the minimum acceptable threshold of 0.70 proposed by Bujang et al. (2018), suggesting satisfactory internal consistency. As a result, no modifications were made to these constructs following the pilot study.

In contrast, self-efficacy and environmental barriers recorded Cronbach's alpha values below the recommended threshold. Although their mean scores indicated that respondents were able to engage with the items meaningfully, the lower reliability coefficients suggest that the items within these constructs may not have captured the underlying concepts consistently. In response, only these constructs were identified for revision. Item wording and content were reviewed to improve clarity and conceptual alignment of the questionnaire. Skills limitation demonstrated a high Cronbach's alpha value, indicating strong internal consistency, despite showing greater variability in responses. This suggests that the construct was well specified and capable of capturing meaningful differences among respondents. Therefore, no changes were made to this construct.

Conclusion, Caveats, and Implications

The pilot study assessing the reliability of an Integrative Model of Behavioural Prediction (IMBP)-based survey instrument in the Kinabalu UNESCO Global Geopark (KUGGp) community has largely confirmed the suitability of the instrument for future, full-scale data

collection. The results suggest that the constructs related to attitude, perceived norms, self-efficacy, skills limitation, environmental barriers, and intention towards conservation behaviour are generally reliable, with most constructs meeting the minimum acceptable internal consistency threshold of Cronbach's alpha ≥ 0.70. Specifically, constructs such as attitude (α = 0.77), perceived norms (α = 0.80), and intention (α = 0.87) showed strong internal consistency, indicating that the survey items effectively captured respondents' perceptions and willingness to engage in conservation behaviour. However, self-efficacy (α = 0.61) and environmental barriers (α = 0.66) fell below the recommended threshold, signaling a need for refinement in the wording and conceptual alignment of these constructs before full-scale data collection. Despite these areas for improvement, the study overall demonstrates the feasibility and reliability of the adapted IMBP framework for assessing conservation behaviour in the context of UNESCO Global Geoparks.

While the study's findings offer promising insights, several limitations must be acknowledged. First, the sample size of 32 respondents, though adequate for a pilot study, is small and may not fully represent the broader community of KUGGp. The homogeneity of the sample in terms of ethnicity and religion (with nearly all respondents being Dusun Christians) limits the generalizability of the findings to other ethnic or religious groups within the region. Furthermore, the high proportion of respondents aged 41 and older, along with a large number having no formal education, may influence the interpretation of the survey results, particularly in terms of how the constructs are understood and responded to. This demographic skew could affect the reliability and relevance of certain items in the survey, especially those that require higher literacy or specific knowledge of environmental and conservation issues. Additionally, the focus of the study was on assessing the reliability of survey instruments rather than testing the actual impact of conservation behaviours. The limited scope of this pilot means that the survey's ability to predict real-world conservation actions in the community has not yet been fully evaluated. Finally, while expert validation was conducted to ensure content relevance, there may still be nuances specific to the local context that were not fully captured or addressed, especially regarding the constructs of self-efficacy and environmental barriers.

This study provides significant implications for conservation research and practice, particularly in the context of community-based conservation efforts within UNESCO Global Geoparks. The successful application of the IMBP-based instrument demonstrates its potential for use in similar settings where understanding human behaviour is crucial for the success of conservation programs. The findings highlight that factors such as attitude, perceived norms, and intention play a central role in shaping individuals' willingness to engage in conservation, which could inform strategies aimed at fostering pro-environmental behaviours in local communities.

For policymakers and conservation practitioners, the study underscores the importance of refining survey instruments to reflect local realities. The identification of self-efficacy and environmental barriers as areas needing refinement suggests that future conservation initiatives should consider addressing both psychological barriers (such as self-doubt) and physical barriers (such as access to resources or information) to enhance community participation. Moreover, the study's results indicate that constructs such as skills limitation, despite showing variability in responses, remain relevant and provide insight into potential

gaps in knowledge or capacity that may hinder conservation efforts. Finally, the study lays the groundwork for future research in biodiversity conservation, encouraging the use of locally adapted behavioural models. The insights gained from this pilot study can be used to further tailor conservation programs in KUGGp and similar regions, ensuring that they are grounded in a reliable and contextually appropriate understanding of community attitudes and behaviours towards conservation.

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References

Bujang, M. A., Omar, E. D., & Baharum, N. A. (2018). A review on sample size determination for cronbach's alpha test: A simple guide for researchers. *Malaysian Journal of Medical Sciences*, *25*(6). https://doi.org/10.21315/mjms2018.25.6.9

Chang, G. (2013). Factors influencing water conservation behavior among urban residents in China,s arid areas. *Water Policy*, *15*(5), 691–704. https://doi.org/10.2166/wp.2013.093

Cooper, D. R., & Schindler, P. S. (2014). Business Research Methods. In *McGraw-Hill*.

Danting, Z., Quoquab, F., & Mahadi, N. (2018). Enhancing the tourism operation success in Sabah Malaysia: A conceptual framework. *International Journal of Engineering and Technology (UAE)*, *7*(3). https://doi.org/10.14419/ijet.v7i3.21.17151

Draheim, M. M., Patterson, K. W., Rockwood, L. L., Guagnano, G. A., & Parsons, E. C. M. (2019). Evaluation of the use of psychometric scales in human–wildlife interaction research to determine attitudes and tolerance toward wildlife. *Conservation Science and Practice*, *1*(12), e132. https://doi.org/10.1111/csp2.132

Empidi, A. V. A., & Emang, D. (2021). Understanding public intentions to participate in protection initiatives for forested watershed areas using the theory of planned behavior: A case study of Cameron Highlands in Pahang, Malaysia. *Sustainability*, *13*(8), 4399. https://doi.org/10.3390/su13084399

Gonçalves, J., Mateus, R., Silvestre, J. D., Roders, A. P., & Bragança, L. (2021). Attitudes matter: Measuring the intention-behaviour gap in built heritage conservation. *Sustainable Cities and Society*, *70*. https://doi.org/10.1016/j.scs.2021.102913

Hazzi, O. A., & Maaldaon, I. S. (2015). A pilot study: Vital methodological issues. *Business Theory and Practice*, *16*(1), 53–62. https://doi.org/10.3846/btp.2015.437

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*(2–3), 61–83. https://doi.org/10.1017/S0140525X0999152X

Ibrahim, M. S. N., Assim, M. I. S. A., Johari, S., Mohammad, S. K. W., Afandi, S. H. M., & Hassan, S. (2023). Public awareness on biodiversity conservation and well-being: case of Gunung Mulu National Park, Sarawak. *GeoJournal*, *88*(3), 3471–3496. https://doi.org/10.1007/s10708-022-10818-x

Ibrahim, M. S. N., Johari, S., Assim, M. I. S. A., Mohammad, S. K. W., Afandi, S. H. M., & Hassan, S. (2025). An economic assessment on public well-being for biodiversity conservation

in Gunung Mulu National Park, Sarawak, Malaysia. *Environment, Development and Sustainability*, *27*(6), 14497–14521. https://doi.org/10.1007/s10668-024-04533-5

Mohamad Syahrul Nizam, I., Mohamad Ibrani Shahrimin, A. A., Shazali, J., Syarifah Kamariah, W. M., & Suziana, H. (2021). Influence of Knowledge, Attitude and Experience Towards Biodiversity Conservation: Case Study of Bako National Park, Sarawak, Malaysia. *Malaysian Forester*, *84*(2), 255–270.

Momenpour, Y., Sadighi, H., Choobchian, S., Lebailly, P., Dogot, T., Viira, A.-H., & Azadi, H. (2024). Towards predicting the pro-environmental behaviour of wheat farmers by using the application of value-belief-norm theory. *Environment, Development and Sustainability*. https://doi.org/10.1007/s10668-024-04865-2

Ribeiro, M., Patino-Martinez, J., Agues, J., Marcal-Correia, A., & Nuno, A. (2022). Exploring a Comprehensive Behavioural Model to Investigate Illegal Sea Turtle Trade in Cabo Verde. *Conservation and Society*, *20*(4), 325–335. https://doi.org/10.4103/cs.cs_98_21

Sabah Parks. (2025). *What is UNESCO Global Geopark?* Https://Kinabalugeopark.Sabahparks.Org.My/.

Sarmiento, A. V., Pérez, M. V., Bustos, C., Hidalgo, J. P., & del Solar, J. I. V. (2019). Inclusion profile of theoretical frameworks on the study of sociocultural adaptation of international university students. *International Journal of Intercultural Relations*, *70*, 19–41. https://doi.org/10.1016/j.ijintrel.2019.02.004

Savari, M., & Khaleghi, B. (2023). Application of the extended theory of planned behavior in predicting the behavioral intentions of Iranian local communities toward forest conservation. *Frontiers in Psychology*, *14*, 1121396. https://doi.org/10.3389/fpsyg.2023.1121396

Tam, K. P., & Milfont, T. L. (2020). Towards cross-cultural environmental psychology: A state-of-the-art review and recommendations. *Journal of Environmental Psychology*, *71*, 101474. https://doi.org/10.1016/j.jenvp.2020.101474

Torabi, Z.-A., Hall, C. M., Ravanbeh, S., Zare, N., & Beiraghi Khatibi, N. (2025). Unraveling Tourist Behavior in Tehran's Rural Fringe: Moral Norms and Environmental Concerns in Shemiranat's Biodiversity. *Journal of Quality Assurance in Hospitality and Tourism*. https://doi.org/10.1080/1528008X.2025.2505924

Valizadeh, N., Bijani, M., & Abbasi, E. (2021). Farmers' active participation in water conservation: Insights from a survey among zoning irrigation systems in western Iran. *Global Ecology and Conservation*, *27*, e01532. https://doi.org/10.1016/j.gecco.2021.e01532

Wang, F., & Sahid, S. (2024). Content validation and content validity index calculation for entrepreneurial behavior instruments among vocational college students in China. *Multidisciplinary Reviews*, *7*(9). https://doi.org/10.31893/multirev.2024187

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., & Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. *Resources Conservation and Recycling*, *155*. https://doi.org/10.1016/j.resconrec.2019.104660