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Original Article

Determinants of worker participation in basic occupational health services: The roles of social capital and motivation among informal tourism workers in Indonesia

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ABSTRACT

Introduction: Informal tourism workers play a vital role in Indonesia's tourism economy but often lack access to occupational health protections, making them vulnerable to workplace hazards. Basic Occupational Health Services (BOHS) provide a preventive and promotive health framework for underserved sectors; however, participation among informal workers remains limited and the determinants of readiness to engage in BOHS are still poorly understood.

Methods: A cross-sectional survey was conducted among 222 informal tourism workers in Yogyakarta, Indonesia. Data were collected using validated questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationships among health promotion, social capital, motivation, and readiness to participate in BOHS.

Results: Social capital was most strongly associated with health promotion ($\beta = 0.667$, $p < 0.001$) and was significantly affected motivation ($\beta = 0.273$, $p = 0.003$) and readiness to participate ($\beta = 0.234$, $p = 0.001$). Health promotion was significantly associated with motivation ($\beta = 0.240$, $p = 0.004$) and readiness ($\beta = 0.360$, $p < 0.001$). Motivation partially mediated the associations between social capital and health promotion and readiness. The model demonstrated moderate to substantial explanatory power (R^2 readiness = 0.534) and good predictive relevance (Q^2 readiness = 0.283).

Conclusion: Strengthening BOHS participation among informal tourism workers may benefit from strategies that enhance community social capital and motivational engagement rather than relying solely on information dissemination. Participatory health promotion and community-based initiatives may improve the readiness and sustainability of BOHS programs in informal tourism settings.

Keywords: Basic Occupational Health Services, health promotion, motivation, social capital, tourism workers

Introduction

Tourism is a cornerstone of economic and social development, employing over 230 million people, approximately 7.2% of the global workforce, with many more working indirectly in related value chains.[1] In Indonesia, tourism's importance is magnified by the vast informal workforce that sustains local economies, especially in culinary, craft, and management roles in destinations such as Yogyakarta. These workers constitute a substantial and often overlooked segment of the tourism labor force, operating largely outside formal occupational health and safety (OHS) protection systems. These informal tourism workers face numerous occupational health and safety (OHS) risks, ranging from ergonomic strain and foodborne illness to heat stress and infectious threats, often without access to formal protections.[2] Unsafe workplaces claim nearly 2.78 million lives annually and cause hundreds of millions of injuries globally, with informal workers among the most vulnerable due to limited regulation and social protection.[3] Participation in Basic Occupational Health Services (BOHS) is therefore essential not only for safeguarding worker health[4] but also for maintaining service quality[5], strengthening tourism resilience, and promoting community well-being.[6] BOHS represent an inclusive model of occupational health specifically designed to extend preventive and promotive services to underserved and informal sectors.[7]

Evidence from several countries demonstrates that BOHS can improve occupational health outcomes when effectively implemented. Successful examples include community-integrated OHS systems in Thailand.[8] The integration of BOHS into primary healthcare in Iran,[9] and targeted interventions for vulnerable workers in Bangladesh.[10] However, the presence of BOHS programs does not necessarily guarantee active participation by workers. Previous studies have shown that uptake and sustained engagement in occupational health initiatives remain low in many informal-sector settings, even where services are available.[11] In Indonesia, policy efforts have primarily focused on expanding health-center coverage rather than understanding why workers may or may not be ready to participate in BOHS programs.[12]

Yogyakarta, a major tourism hub in Indonesia, has initiated BOHS programs for tourism workers. Nevertheless, preliminary focus group discussions with OHS post managers indicate alarmingly low participation levels.[13] This suggests that the availability of services alone is insufficient to ensure engagement. Instead, workers' readiness to participate becomes a critical determinant of program success. Participation readiness refers to a psychosocial state encompassing willingness, preparedness, and confidence to engage in health programs.[14] Such readiness does not emerge automatically but develops through such as social interaction, information exchange, empowerment, and collective mobilization.[15] Consistent with the pre-adoption stages of the Innovation-Decision Process in Diffusion of Innovations theory, readiness in this study is operationalized as a multidimensional construct comprising awareness (knowledge of BOHS), persuasion (formation of a favorable attitude), decision (intention to participate), and confirmation (perceived reinforcement of the appropriateness of the participation decision prior to sustained action).[16] This conceptualization distinguishes readiness as a precursor to full adoption, focusing on the cognitive and motivational progression that precedes sustained behavioral engagement.[17]

Previous research from low- and middle-income settings, particularly in Southeast Asia, including Malaysia, Thailand, Singapore, Vietnam, Indonesia, and the Philippines, has examined individual determinants of occupational health behavior, such as health promotion exposure, social capital, and motivation.[18,19] However, these factors have rarely been examined simultaneously within a single theoretical framework, particularly in informal tourism contexts. Existing studies in occupational health and safety have largely focused on formal industrial workplaces in high-

income countries, leaving a substantial evidence gap regarding how psychosocial and community-level factors shape readiness to engage in occupational health services among informal workers in low- and middle-income settings.[20] As a result, the mechanisms through which health promotion, social capital, and individual motivation interact to influence readiness to participate in BOHS remain poorly understood.

The present study integrates several complementary theoretical perspectives. First, Diffusion of Innovations theory conceptualizes participation in BOHS as an adoption process, in which individuals move through stages of awareness, persuasion, decision, implementation, and confirmation.[16] Diffusion theory emphasizes that the spread of new practices depends not only on the innovation itself but also on communication processes within social networks and the characteristics of the adopting community.[21] Innovation diffusion occurs through interpersonal networks that transmit information, shape perceptions, and influence behavioral decisions within a social system.[21] Second, Social Capital Theory highlights the importance of trust, social networks, and reciprocal relationships in facilitating collective action and information sharing within communities.[22] In informal tourism settings, where formal institutional support may be limited, social capital can function as a key mechanism for disseminating health information and encouraging participation in health initiatives. Third, Self-Determination Theory provides insight into the motivational mechanisms that drive behavioral engagement.[23,24] According to this framework, intrinsic and extrinsic motivations influence individuals' willingness to adopt new behaviors, including participation in occupational health programs. Together, these theoretical perspectives suggest that social networks may facilitate the diffusion of BOHS information, health promotion activities may enhance awareness and perceived benefits, and motivation may translate these influences into behavioral readiness.

Despite the theoretical relevance of these constructs, empirical research integrating diffusion processes, social capital, and motivational mechanisms in the context of BOHS participation remains scarce. Understanding how these factors interact is particularly important in informal tourism sectors, where occupational health interventions depend heavily on community engagement and voluntary participation.

Therefore, this study aims to examine the structural relationships among health promotion, social capital, motivation, and readiness to participate in BOHS among informal tourism workers in Yogyakarta, Indonesia. By integrating diffusion of innovation, social capital, and motivational perspectives within a structural equation modeling framework, this study seeks to provide a more comprehensive understanding of the psychosocial and community-level determinants of readiness for BOHS participation.

Methods

This study employed a cross-sectional analytical design to investigate the influence of health promotion and social capital on motivation and readiness to participate in Basic Occupational Health Services (BOHS) among informal tourism workers. A cross-sectional approach was selected because it allows the simultaneous examination of relationships among psychosocial constructs within a real-world community setting where experimental manipulation is not feasible.

The analysis examined two exogenous variables (health promotion and social capital) and two endogenous variables (motivation and readiness to participate) within a structural equation modeling framework. In this study, health promotion refers to workers' perceived exposure to and experience of occupational health activities within their work environment.

Figure 1 presents the hypothesized structural model examined in this study. The model includes two exogenous latent variables (health promotion and social capital) and two endogenous latent

variables (motivation and readiness to participate in BOHS). Readiness to participate is operationalized as a higher-order construct comprising four first-order dimensions: awareness, persuasion, decision, and confirmation. Direct paths are specified from health promotion and social capital to both motivation and readiness to participate, and from motivation to readiness to participate. Indirect effects are examined to assess the mediating roles of motivation and health promotion.

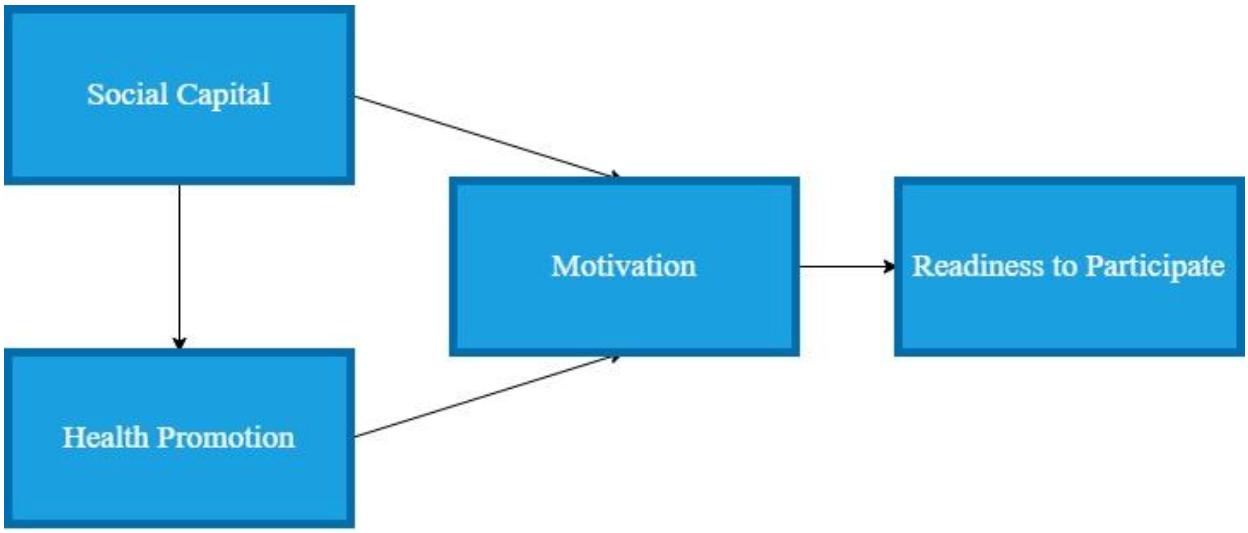

Figure 1. Hypothesized Structural Model of Readiness to Participate in Basic Occupational Health Services

The study population consisted of managers, artisans, and culinary traders working in tourist destinations in Bantul District, Indonesia, who were registered in the Bantul District Health Office's BOHS program database. At the time of the study, the registry contained 487 registered informal tourism workers. Eligible participants were those who were willing to participate in the study, were permanently employed in tourist destinations covered by BOHS, and were able to communicate effectively, either orally or in writing. Participants were selected using a simple random sampling procedure based on the official BOHS participant registry provided by the district health authority. This approach ensures that each registered worker has an equal probability of being included in the study.

A total of 260 workers were randomly selected and invited to participate. Of these, 222 provided complete responses and were included in the final analysis, yielding an 85.4% response rate. The final sample consisted of 222 respondents. The adequacy of this sample size for Partial Least Squares Structural Equation Modeling (PLS-SEM) was assessed using multiple criteria. According to the "10-times rule", the minimum required sample should be at least ten times the largest number of structural paths directed at a latent construct in the model.[25] In the present model, the maximum number of structural paths directed to a single construct was three, indicating a minimum sample requirement of 30 respondents. Recognizing that this rule alone is no longer considered sufficient, the sample size was further evaluated using the inverse square root method, which is specifically recommended for estimating the minimum sample size in PLS-SEM.[26] Based on this method, a sample size of approximately 155 respondents is required to detect path coefficients of at least 0.20 at a significance level of 0.05. The current sample of 222 respondents comfortably exceeds this threshold. The sample size meets the recommendations of Hair et al. (2019), who suggest that for a model with a maximum of three structural paths pointing to a construct, a sample size of approximately 124 is adequate to detect

minimum R^2 values of 0.25 at a 5% significance level with 80% power. The use of PLS-SEM was deemed appropriate for this study given the predictive nature of the research aim, the inclusion of a higher-order construct (readiness to participate), and the non-normal distribution of several indicator variables, conditions under which PLS-SEM offers distinct advantages over covariance-based SEM.[27] Data were collected between June and August 2024.

The research instruments were developed based on the theoretical framework integrating Diffusion of Innovations theory, Social Capital Theory, and Self-Determination Theory, which guided the operationalization of each construct in the study model. Readiness to participate was measured as a higher-order construct reflecting the pre-adoption stages of the innovation-decision process, comprising four first-order dimensions: awareness (knowledge of BOHS), persuasion (perceived benefits and relevance), decision (intention to participate), and confirmation (pre-action conviction in the value of participation). Items measuring readiness to participate were adapted from the Innovation-Decision Process dimensions described by Rogers and Shoemaker (1971).[28] Items for social capital were adapted from the multidimensional framework of social capital proposed by Usman (2018),[29] covering social networks, trust, and reciprocal relationships. Items for health promotion were adapted from the community participation and empowerment dimensions outlined by Obot et al. (2022).[30] Items for motivation were adapted from the Self-Regulation Questionnaires developed by Ryan and Connell (1989),[31] capturing both intrinsic and extrinsic motivational orientations. All items were adapted with wording modifications to ensure relevance to the context of Basic Occupational Health Services and informal tourism work in Indonesia.

The initial item pool comprised 45 items across all constructs. Content validity was assessed using Aiken's V method. The Aiken's V coefficient was calculated based on the following formula: $V = \Sigma s / [n(c-1)]$, where $s = r - lo$, r is the rating score given by each expert, lo is the lowest validity rating score (1), n is the number of experts, and c is the highest validity rating score (5).[32] Seven raters participated in the content validation process, comprising two language experts, two health promotion specialists, two academics with expertise in structural equation modeling, and one practitioner from the District Health Office. Based on a critical value table with RC = 0.05, the minimum acceptable Aiken's V threshold was 0.75. Items with Aiken's V values below 0.75 were removed. Items recommended for revision were modified directly in accordance with expert suggestions. Following this process, 41 items were retained for further psychometric evaluation. The validated items are documented in the supplementary materials.

As the study was conducted in Indonesia, with Bahasa Indonesia as the primary language of participants, the questionnaire was translated from English to Bahasa Indonesia using a forward-and-back-translation procedure. The initial translation was performed by a bilingual researcher, followed by independent back-translation by a professional translator blinded to the original English version. Discrepancies were resolved through consensus discussion between the translators and the research team.

A pilot test was conducted with 30 informal tourism workers from a neighboring district not included in the main study sample. The pilot test assessed clarity, comprehensibility, and average completion time. Minor wording adjustments were made based on participant feedback to improve clarity without altering item meaning. The final questionnaire consisted of statements representing each study variable, with responses recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with reverse scoring applied to negatively worded items.

The complete list of questionnaire items in both English and Bahasa Indonesia, including the 13 indicators subsequently removed during measurement model evaluation, is provided in the Supplementary Material.

Convergent validity was evaluated using the Average Variance Extracted (AVE) criterion, with a threshold of 0.50 or higher. Reliability was assessed using Cronbach's alpha, rho_A, and Composite Reliability (CR), with acceptable values defined as alpha> 0.60 and CR> 0.70.[27]

Data were gathered through structured face-to-face interviews administered by trained research assistants using the standardized questionnaire. Before data collection, each respondent was provided with a detailed explanation of the study's objectives, procedures, and confidentiality assurances. Written informed consent was obtained from all participants. The interviews were conducted in the respondents' workplaces to ensure convenience and to facilitate accurate responses. To minimize the risk of social desirability bias, interviewers emphasized the voluntary and anonymous nature of participation and assured respondents that there were no right or wrong answers and that their responses would not affect their standing in the BOHS program or their employment. Additionally, the questionnaire was structured such that items measuring the predictor variables (health promotion and social capital) were placed in a separate section from items measuring the outcome variable (readiness to participate), and the order of items within each section was randomized where feasible to reduce the likelihood of consistent response patterning.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.0. The analysis began with an evaluation of the measurement model, which included assessing indicator loadings with an acceptance threshold of 0.60 or higher, confirming convergent validity using AVE, and examining internal consistency reliability using Cronbach's alpha, rho_A, and CR.[33] The structural model was then evaluated by examining collinearity through the inner Variance Inflation Factor (VIF) with a cut-off value below 5, estimating path coefficients, calculating effect sizes (f^2), and determining predictive relevance (Q^2). Bootstrapping with 5,000 subsamples was used to assess the significance of both direct and mediating effects, with a significance level of $p < 0.05$ ($t > 1.96$). Model fit was further assessed through the coefficient of determination (R^2), Q^2 Predict, PLS Predict, and the Cross-Validated Predictive Ability Test (CVPAT). To assess the potential influence of common method bias, Harman's single-factor test was conducted. An exploratory factor analysis with all measurement items entered into an unrotated principal component analysis revealed that the first factor accounted for 31.7% of the total variance, which is below the 50% threshold commonly used to indicate substantial common method bias. While this does not rule out bias, it suggests that common method variance is unlikely to be the primary driver of the observed relationships.[34]

The study was approved by the Health Research Ethics Committee of Doctor Moewardi General Hospital, Indonesia (Approval Number 1.030/IV/HREC.2024). All study procedures were conducted in accordance with relevant ethical guidelines and regulations. Participants were informed about the objectives and procedures of the study prior to data collection. Written informed consent was obtained from all participants before participation. All participants were assured that their identities would remain confidential, and all data were collected and analyzed in anonymized form. All personal identifiers were removed from the dataset prior to analysis and replaced with unique participant codes. No personally identifiable information was retained in any analytical files or shared with third parties. Participants were also informed that their participation was voluntary and that they could withdraw from the study at any time without any consequences.

Results

A total of 222 informal tourism workers participated in this study, consisting of culinary traders (37.84%), tourism managers (36.04%), and artisans (26.13%). Female workers accounted for 52.70% of the sample, indicating a high level of female participation in the informal tourism sector. The age distribution showed that the largest proportion of respondents was aged ≤30 years (26.58%), followed by those aged 31-40 years (24.32%), 41-50 years (25.68%), and >50 years (23.42%). The age range extended from 17 to 75 years, indicating a broad demographic spread. Educational attainment was dominated by high school graduates (62.61%), followed by junior high school or below (30.63%), and undergraduate degree holders (6.76%). Table 1 summarizes the socio-demographic profile of the respondents.

Table 1. Socio-Demographic Characteristics of Respondents

Characteristics	N
Sex	
Women	117 (52.70 %)
Men	105 (47.30 %)
Age (years)	
≤30	59 (26.58 %)
31–40	54 (24.32 %)
41–50	57 (25.68 %)
>50	52 (23.42 %)
Education level	
Elementary school	24 (10.81 %)
Middle school	44 (19.82 %)
High school	139 (62.61 %)
Undergraduate	15 (6.76 %)
Job type	
Culinary traders	84 (37.84 %)
Artisans	58 (26.13 %)
Tourism managers	80 (36.04 %)

The measurement model was evaluated using the hierarchical component model (HCM) with the repeated indicator approach. Thirteen indicators with outer loadings <0.600 were removed during the first-order confirmatory analysis. After respecification, all remaining indicators achieved outer loadings >0.600, satisfying the requirement for convergent validity.

Average Variance Extracted (AVE) values for all dimensions and constructs were greater than 0.50, confirming acceptable convergent validity. Composite reliability (CR) values exceeded 0.70, and Cronbach's alpha values were above 0.60 for all constructs, indicating strong internal consistency. Discriminant validity was assessed using the Fornell-Larcker criterion. As shown in Table 2, the square root of the AVE for each construct (diagonal values) was greater than its correlation with any other construct (off-diagonal values), satisfying the Fornell-Larcker criterion. Inspection of indicator cross-loadings confirmed that all items loaded more highly on their intended construct than on any other construct. Table 3 shows the results of internal consistency reliability and convergent validity.

Collinearity diagnostics showed all inner VIF values were below 5, indicating no multicollinearity among predictor variables. Path analysis revealed that health promotion significantly predicted both motivation ($\beta = 0.240$, $p = 0.004$) and readiness to participate ($\beta = 0.360$, $p < 0.001$). Social capital significantly influenced health promotion ($\beta = 0.667$, $p < 0.001$), motivation ($\beta = 0.273$, $p = 0.003$), and readiness to participate ($\beta = 0.234$, $p = 0.001$). Motivation also significantly affected readiness to participate ($\beta = 0.296$, $p < 0.001$).

Table 2. Discriminant Validity Assessment Using the Fornell–Larcker Criterion

Variable	HP	MOT	RTP	SC
Health Promotion (HP)	0.883			
Motivation (MOT)	0.42	0.79		
Readiness to Participate (RTP)	0.642	0.548	0.746	
Social Capital (SC)	0.666	0.432	0.603	0.8

Table 3. Internal Consistency, Reliability and Convergent Validity of Constructs

Construct	Indicator	Outer Loading	AVE (Dim.)	AVE (Var.)	Cronbach's Alpha	rho_A	CR
RTP	IIN3	0.719	0.587	0.557	0.829	0.829	0.887
	IIN4	0.802					
	INN5	0.859					
	INN6	0.872					
	PER1	0.800	0.743	0.630	0.853	0.855	0.895
	PER2	0.813					
	PER3	0.744					
	PER4	0.817					
	PER5	0.794					
	DEC2	0.822	0.825	0.813	0.772	0.791	0.897
	DEC3	0.921					
	CON1	0.799	0.807	0.711	0.796	0.796	0.880
	CON2	0.853					
	CON3	0.875					
HP	COM3	0.918	0.793	0.853	0.830	0.920	
	COM4	0.929					
	PLA1	0.966	0.940	0.920	0.957	0.957	0.972
	PLA2	0.968					
	PLA3	0.944					
	IMP1	0.913	0.887	0.841	0.812	0.813	0.914
	IMP2	0.922					
	EV1	0.966	0.922	0.934	0.929	0.929	0.966
	EV2	0.966					
SC	NET1	0.897	0.826	0.820	0.781	0.785	0.901
	NET2	0.914					
	TRU1	0.809	0.760	0.726	0.628	0.657	0.841
	TRU3	0.893					
	RR2	0.841	0.839	0.820	0.656	0.665	0.853
	RR3	0.883					

Construct	Indicator	Outer Loading	AVE (Dim.)	AVE (Var.)	Cronbach's Alpha	rho_A	CR
MOT	EX1	0.865	0.791	0.706	0.831	0.866	0.898
	EX2	0.931					
	EX3	0.791					
	INS1	0.750	0.859	0.675	0.843	0.843	0.892
	INS2	0.816					
	INS3	0.898					
	INS4	0.815					

Note. AVE = Average Variance Extracted; CR = Composite Reliability; Dim. = Dimension; Var. = Variable; HP = Health Promotion; SC = Social Capital; MOT = Motivation; RTP = Readiness to Participate; IIN = Introduction of Innovation; PER = Persuasion; DEC = Decision; CON = Confirmation; COM = Communication; PLA = Participative Planning; IMP = Implementation; EV = Evaluation/Monitoring; NET = Social Network; TRU = Trust; RR = Reciprocal Relationship; EX = Extrinsic Motivation; INS = Intrinsic Motivation.

Table 4. Path Coefficients, Significance, and Effect Sizes of The Structural Model

Hypothesis	Inner VIF	β (Original)	Mean	SD	t-value	p-value	f^2	Effect size
H1: HP → MOT	1.800	0.240	0.235	0.083	2.908	0.004	0.041	Low to moderate
H2: HP → RTP	1.874	0.360	0.361	0.067	5.370	<0.001	0.148	Moderate
H3: SC → HP	1.000	0.667	0.670	0.041	16.399	<0.001	0.800	High
H4: SC → MOT	1.800	0.273	0.282	0.093	2.929	0.003	0.053	Low to Moderate
H5: SC → RTP	1.895	0.234	0.240	0.072	3.255	0.001	0.062	Low to Moderate
H6: MOT → RTP	1.281	0.296	0.294	0.068	4.331	<0.001	0.146	Moderate

Note. HP = Health Promotion; SC = Social Capital; MOT = Motivation; RTP = Readiness to Participate.

Table 5. Mediation Effects of Motivation and Health Promotion on Readiness to Participate

Pathway	β (Original)	Mean	SD	t-value	p-value
H7: HP → MOT → RTP	0.071	0.069	0.028	2.501	0.012
H8: SC → HP → MOT → RTP	0.047	0.046	0.019	2.444	0.015
H9: SC → HP → RTP	0.240	0.242	0.048	4.989	<0.001
H10: SC → MOT → RTP	0.081	0.084	0.036	2.268	0.023

Note. HP = Health Promotion; SC = Social Capital; MOT = Motivation; RTP = Readiness to Participate.

Mediation analysis indicated that motivation significantly mediated the relationship between social capital and readiness to participate (β = 0.081, p = 0.023). Health promotion also had a significant indirect effect on readiness through motivation (β = 0.071, p = 0.012).

The model's explanatory power was moderate to substantial, with R^2 values of 0.219 for motivation, 0.445 for health promotion, and 0.534 for readiness to participate. Predictive relevance (Q^2) values were 0.117 for motivation, 0.340 for health promotion, and 0.283 for readiness to participate, confirming acceptable predictive capability.

The Cross-Validated Predictive Ability Test (CVPAT) indicated that the PLS-SEM model outperformed both the indicator average (IA) and the linear regression model (LM) for most variables, as shown by negative and statistically

significant average loss differences in key constructs.

PLS Predict analysis further demonstrated the model's predictive power, with Root Mean Squared Error (RMSE) and Mean Absolute Error (MAE) values for the PLS-SEM model generally lower than those of the LM baseline.

Table 6. Cross-Validated Predictive Ability Test (CVPAT)

Variable	R^2	R^2 Adjusted	Q^2 Predict	PLS-SEM vs IA (Avg. Loss Diff.)	t-value	p-value	PLS-SEM vs LM (Avg. Loss Diff.)	t-value	p-value
HP	0.445	0.442	0.340	-0.338	5.946	0.000	0.049	1.847	0.066
MOT	0.219	0.212	0.117	-0.104	2.619	0.009	-0.020	2.412	0.017
RTP	0.534	0.527	0.283	-0.183	3.786	0.000	-0.015	0.992	0.322
SC	–	–	0.000	-0.229	5.680	0.000	0.021	1.593	0.113

Note. IA = Indicator Average; LM = Linear Model; Avg. Loss Diff. = Average Loss Difference; HP = Health Promotion; SC = Social Capital; MOT = Motivation; RTP = Readiness to Participate.

Table 7. PLS Predict: RMSE and MAE Comparison between PLS-SEM and LM

Variable	Indicator	PLS-SEM RMSE	PLS-SEM MAE	LM RMSE	LM MAE
HP	COM	0.845	0.598	0.813	0.561
	PLA	0.828	0.683	0.800	0.632
	IMP	0.783	0.617	0.760	0.577
	EV	0.815	0.669	0.776	0.621
MOT	EX	0.970	0.614	0.978	0.623
	INS	0.935	0.773	0.947	0.749
RTP	IIN	1.002	0.714	0.944	0.713
	PER	0.884	0.547	0.847	0.501
	DEC	0.894	0.584	0.901	0.596
	CON	0.849	0.648	0.855	0.640

Note. HP = Health Promotion; SC = Social Capital; MOT = Motivation; RTP = Readiness to Participate; IIN = Introduction of Innovation; PER = Persuasion; DEC = Decision; CON = Confirmation; COM = Communication; PLA = Participative Planning; IMP = Implementation; EV = Evaluation/Monitoring; NET = Social Network; TRU = Trust; RR = Reciprocal Relationship; EX = Extrinsic Motivation; INS = Intrinsic Motivation.

Discussion

To the best of our knowledge, this is the first study to empirically examine the interplay among health promotion, social capital, and motivation in relation to readiness to participate in Basic Occupational Health Services (BOHS) among informal tourism workers. Using a validated structural equation model, we found that social capital demonstrated the strongest association with health promotion, with a large effect size, and both social capital and health promotion were significantly associated with readiness to participate. Motivation was

identified as a meaningful mediator in the relationship between social capital and readiness. The model demonstrated moderate to substantial explanatory power, with R^2 reaching 0.534 for readiness to participate, and predictive relevance was confirmed through Q^2 values exceeding zero for all endogenous constructs. The Cross-Validated Predictive Ability Test (CVPAT) indicated that the PLS-SEM model consistently outperformed the indicator average (IA) benchmark, whereas its predictive performance relative to the linear model (LM) benchmark was more equivocal, reaching statistical significance only for Motivation (Table 5). The PLS Predict analysis revealed that the PLS-SEM model yielded lower prediction errors than the LM benchmark for some, but not all, indicators (Table 6). These results suggest that the model possesses acceptable predictive capability, though the evidence of superior performance over simpler benchmarks is mixed. Among the relationships examined, the association between social capital and health promotion represented the most substantial pathway within the model. This finding suggests that in informal tourism settings, community-based social structures may serve as the primary mechanism by which health promotion activities are mobilized and sustained. Given the cross-sectional design, these associations should be interpreted as structural relationships consistent with the proposed theoretical framework rather than as evidence of causal effects or temporal mediation.

The strong association between social capital and health promotion is consistent with previous studies in community-based tourism and occupational health that have highlighted the role of trust, interpersonal networks, and reciprocal relationships in enabling collective health action.[35] Where formal institutional health support is often lacking in informal tourism settings, these social ties may serve as the main conduit for mobilizing resources, disseminating health information, and sustaining participation in BOHS programs.[36] This finding aligns with a study in India,[37] which found that mutual trust and community participation help reduce transaction costs for cooperative initiatives and nurture a sense of collective ownership. This relationship suggests that health promotion in informal tourism communities may not be attributable solely to institutional interventions but rather to socially embedded communication processes within existing networks. The diffusion of occupational health knowledge may occur primarily through interpersonal relationships rather than through formal organizational channels.

Social networks among tourism workers, cooperative vendor groups, and local associations may constitute the backbone of health promotion delivery. These networks could enhance the credibility of health messages, encourage mutual accountability, and create an enabling environment for participation.[38] This pattern is consistent with the diffusion mechanism proposed in the Diffusion of Innovations theory, in which innovations spread through interpersonal communication within social systems. Within such systems, trusted peers may often serve as informal opinion leaders who influence perceptions of program relevance and encourage behavioral adoption.

The significant indirect association between social capital and readiness via motivation is consistent with the principles of reciprocal determinism. In cohesive social environments, individuals are more likely to internalize shared values, develop a sense of collective efficacy, and translate that into personal readiness to engage in BOHS. This mechanism may be especially relevant in informal economies, where interpersonal trust can substitute for limited formal oversight.[39]

These findings can also be interpreted through Self-Determination Theory (SDT), which emphasizes the fulfillment of three basic psychological needs (autonomy, competence, and relatedness) to sustain motivation.[40,41] Social capital is conceptually linked to relatedness, as

networks, trust, and reciprocal relationships foster a sense of belonging among workers.[41] However, relatedness alone may not be sufficient to generate sustained behavioral engagement. Workers likely must also perceive that they have the capability (competence) and the autonomy to act on the information received.

This may explain why the association of social capital with motivation and readiness to participate was relatively limited in the absence of additional structural and internal factors. The present study offers a potential extension of SDT by highlighting that the conversion of social capital into sustained motivation may require not only supportive community networks but also participatory health promotion strategies and structured occupational health management systems. However, the cross-sectional nature of the data precludes definitive conclusions regarding the temporal or causal ordering of these relationships.

Health promotion was found to be associated with readiness through both direct and indirect pathways, the latter involving motivation.[42] This dual association suggests that health promotion efforts in informal tourism contexts may operate not only by raising awareness but also by supporting self-efficacy and perceived behavioral control, which are conceptually relevant determinants of motivation.[43] Evidence from previous workplace health interventions in South Korea is consistent with this view, indicating that effective health promotion is associated with enhanced cognitive and affective determinants of behavior.[44]

Certain forms of health promotion, such as the provision of free first-aid kits, medicines, and health screenings, appear to deliver immediate, personally relevant benefits. Such tangible outcomes may strengthen workers' emotional engagement and foster a sense of ownership over BOHS programs. Nevertheless, the moderate direct association between health promotion and readiness suggests that information-based interventions alone may be insufficient to generate sustained engagement. Health promotion strategies that involve workers directly in program planning, implementation, and monitoring may therefore be more effective in fostering long-term participation.

The findings have important implications for the design and implementation of BOHS programs in informal tourism sectors.[13] Strengthening social capital may be a strategic priority, as community trust and interpersonal networks appear to be powerful enablers of participation.[45] Policy initiatives could therefore benefit from prioritizing community-based engagement strategies, such as peer-led health promotion, participatory planning processes, and recognition systems for workers who actively contribute to BOHS activities.[46] Building on existing social structures within tourism communities may accelerate the diffusion of positive norms regarding occupational health participation.[47]

This study makes several noteworthy contributions. It presents the first empirical model examining associations among social capital, health promotion, motivation, and readiness to participate in BOHS within the informal tourism workforce. The findings contribute to the theoretical literature by demonstrating how diffusion processes, social capital mechanisms, and motivational factors may interact in relation to readiness for occupational health participation in informal-sector settings. Methodologically, it employs PLS-SEM complemented by predictive performance metrics such as Q^2 and CVPAT, providing a level of rigor that goes beyond traditional explanatory modeling. While the evidence for out-of-sample predictive superiority over linear benchmarks is mixed, the model demonstrates acceptable in-sample explanatory power and predictive relevance.

An important limitation pertains to the sampling frame. The sample was drawn exclusively from workers already registered in the BOHS program database maintained by the district health office.

Consequently, the findings may not be generalizable to the broader population of informal tourism workers who are entirely unconnected to the BOHS system. The observed associations may therefore reflect patterns among workers with at least a baseline level of program exposure and may overestimate readiness relative to the completely unengaged informal workforce. The focus on a single district in Indonesia may limit the generalizability of the findings to other cultural and tourism contexts. The reliance on self-reported data introduces the possibility of recall bias and social desirability bias. Future research using longitudinal designs could explore additional contextual factors such as leadership practices, organizational culture, and economic conditions that may be associated with occupational health participation in tourism communities. Longitudinal and comparative studies across diverse tourism regions, ideally incorporating mixed-methods approaches, would further enhance understanding and strengthen the evidence base.

Conclusion

This study provides new empirical evidence on the psychosocial determinants associated with readiness to participate in Basic Occupational Health Services (BOHS) among informal tourism workers. The findings indicate that social capital is the factor most strongly associated with health promotion and participation readiness, while motivation emerged as a key mediating mechanism linking social capital and health promotion to behavioral engagement. These results suggest that readiness to participate in occupational health programs is not solely attributable to exposure to information but is strongly embedded in community social networks and motivational dynamics. From a policy perspective, BOHS initiatives may benefit from prioritizing community-based engagement strategies that strengthen interpersonal trust, peer networks, and participatory health promotion. Leveraging existing social structures within tourism communities could potentially support workers' motivation and contribute to sustained participation in occupational health programs. Given that the sample comprised workers already registered in the BOHS program, caution is warranted in extending these findings to informal tourism workers entirely outside the program's reach. The reliance on self-reported data introduces the possibility of common method bias and social desirability bias. Although procedural safeguards were implemented during data collection (e.g., anonymity assurances, separation of predictor and outcome items) and Harman's single-factor test did not indicate substantial common method variance, the potential for self-report biases cannot be entirely eliminated. Future research would benefit from incorporating objective measures of participation (eg, program attendance records) and multi-source data where feasible. Future research using longitudinal designs should examine how contextual factors such as organizational support and leadership affect the sustainability of BOHS participation among both registered and unregistered informal tourism workers across different tourism settings.

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