

Supplementary Materials

for the manuscript

Planning to Act Green: A Systematic Review of the Theory of Planned Behavior in Employee Green Behavior Research

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Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pages 2-3
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 3
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pages 8-9
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Pages 9-10
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page 10 and Document S3
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Page 10
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Pages 11-12 and Table S4
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pages 11-12
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Pages 11-12
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	N/A
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	N/A
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	N/A
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Pages 11-12
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Page 11-12 and Table S4
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Page 9
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A

Section and Topic	Item #	Checklist item	Location where item is reported
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	N/A
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	N/A
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Page 10 and Figure S1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Page 10 and Figure S1
Study characteristics	17	Cite each included study and present its characteristics.	Table S3
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	N/A
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	N/A
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Table S2-S3
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Pages 12-27
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	N/A
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pages 30-32
	23b	Discuss any limitations of the evidence included in the review.	Pages 28-34
	23c	Discuss any limitations of the review processes used.	Page 35
	23d	Discuss implications of the results for practice, policy, and future research.	Pages 28-34
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	N/A
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	N/A
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Page 36

Section and Topic	Item #	Checklist item	Location where item is reported
Competing interests	26	Declare any competing interests of review authors.	Page 36
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Supplementary Materials

Document S2: formation of theory of planned behavior's reflective indicators

The theory of planned behavior (TPB) relies on expectancy–value formulation to account for the formation of attitude, subjective norm, and perceived behavioral control (PBC). Consistent with Fishbein's (1963) summation theory of attitude, the TPB posits that attitude toward the behavior is determined by the set of readily accessible behavioral beliefs regarding the likely consequences of performing that behavior (i.e., the subjective probability that engaging in the behavior will lead to a certain outcome or provide a certain experience), weighted by the individual's evaluation of those consequences (Fishbein & Ajzen, 2010). Thus, overall attitude reflects the summation of the products of belief strength and outcome evaluation across salient beliefs, such that behaviors associated with positively valued outcomes give rise to favorable attitudes, whereas behaviors linked to negatively valued outcomes are associated with unfavorable attitudes (Fishbein & Ajzen, 2010). Formally, as shown in Equation (1), attitude (ATT) is assumed to be directly proportional ($\propto$) to the sum of the products obtained by multiplying each belief (b_i) by the corresponding subjective evaluation (e_i) of the outcome or experience of performing the behavior.

$$ATT \propto \sum b_i \cdot e_i \quad (1)$$

In a similar fashion, subjective norm is assumed to be a function of normative beliefs concerning the expectations and behaviors of salient social referents. Specifically, injunctive normative beliefs are defined as the perceived likelihood that a given social referent (e.g., family, friends, coworkers, or supervisor) approves or disapproves of performing the behavior in question. By contrast, descriptive normative beliefs refer to the subjective probability that important others themselves engage in the behavior (Ajzen, 2020). Just as attitudes are assumed to be directly proportional to the composite behavioral belief index, subjective norm represents the aggregate of the products of each accessible normative belief—injunctive or descriptive—and the individual's motivation to comply with, or importance attributed to, the corresponding referent. Accordingly, the overall perceived social pressure to perform the behavior increases to the extent that salient social referents are believed to approve or enact the behavior and are considered important by the individual. Formally, as shown in Equation (2), subjective norm (SN) is assumed to be directly proportional ($\propto$) to the

sum obtained by multiplying each normative belief (n_i) by the corresponding referent's importance and significant (s_i) to the individual.

$$SN \propto \sum n_i \cdot s_i \quad (2)$$

Consistent with the expectancy–value formulation, PBC is assumed to be based on accessible control beliefs regarding the presence of factors that may facilitate or impede performance of the behavior in the situation of interest, such as requisite skills and abilities, time and financial resources, or external constraints (Ajzen, 2020). Each control belief reflects the perceived likelihood that a given facilitating or inhibiting factor will be present and is weighted by the factor's perceived power to enable or constrain behavioral performance. Accordingly, PBC represents the aggregate of the products of control belief strength and perceived power across salient control factors. Formally, as shown in Equation (3), perceived behavioral control (PBC) is assumed to be directly proportional ($\propto$) to the composite score derived by summing the products of each control belief (c_i) and the corresponding perceived power (p_i).

$$PBC \propto \sum c_i \cdot p \quad (3)$$

In sum, according to the TPB, composites of salient accessible behavioral, normative, and control belief are assumed to be formative indicators of attitude toward the behavior, subjective norm, and PBC, respectively. Examination of salient beliefs therefore provides insight into the cognitive foundations of favorable or unfavorable attitudes, perceived social pressure to engage in or refrain from a behavior, and perceptions of control over behavioral performance (Fishbein & Ajzen, 2010). Importantly, within the TPB framework, the effects of accessible beliefs on intention are posited to be mediated by their corresponding reflective constructs. Accordingly, although formative indicators are expected to correlate with intention, their influence is hypothesized to operate indirectly through these proximal determinants of intention.

Table S1. The Green Five Taxonomy of employee green behavior

Category	Definition	Subcategory	Examples
Transforming	Behaviors aimed at modifying products and processes to enhance their environmental sustainability	Choosing responsible alternatives Embracing sustainable innovations Changing how work is done Creating sustainable products and processes	Changing the sequence of work tasks to reduce waste Adopting renewable energy solutions Adjusting work routines to minimize resource use Developing environmentally friendly packaging
Conserving	Behaviors directed toward preserving natural resources and minimizing wastefulness	Recycling and composting Reusing Repurposing Reducing use	Recycling workplace materials; engaging in energy-saving behaviors Repairing equipment rather than replacing it Converting waste materials into new usable forms; repurposing packaging Limiting electricity consumption; printing only when necessary
Avoiding harm	Behaviors focused on limiting one's environmental footprint and minimizing environmental harm	Monitoring environmental impact Preventing pollution Strengthening ecosystems	Planting trees to offset greenhouse gas emissions Managing waste disposal responsibly Supporting biodiversity conservations projects
Influencing others	Behaviors aimed at promoting environmentally sustainable practices among organizational members	Educating and training Managing, facilitating, and coordinating Leading, encouraging, and supporting	Helping colleagues perform pro-environmental actions more effectively Providing resources to support sustainability engagement Motivating others to adopt green practices
Taking initiatives	Proactive and entrepreneurial actions that often involve personal risk	Initiating programs and policies Lobbying and activism Putting environmental interests first	Voicing suggestions for environmental improvement Participating in green campaigns within the organization Prioritizing ecological considerations over short-term profit

Note. Adapted from Ones et al. (2018) and Zacher et al. (2023)

Document S3: full query string used in each database

Full query string used in Scopus

TITLE-ABS-KEY (“green behavior” OR “green practice” OR “pro-environmental behavior” OR “pro-environmental practice” OR “task-related green behavior” OR “task-related green practice” OR “task-related pro-environmental behavior” OR “task-related pro-environmental practice” OR “voluntary green behavior” OR “voluntary green practice” OR “voluntary pro-environmental behavior” OR “voluntary pro-environmental practice” OR “organizational citizenship behavior toward the environment” OR “ocbe” OR “energy-saving behavior” OR “energy-saving practice” OR “energy-saving action” OR “energy conservation behavior” OR “energy conservation practice” OR “waste management” OR “waste management activity” OR “waste management behavior” OR “waste management practice” OR “recycling” OR “recycling activity” OR “recycling practice”) AND TITLE-ABS-KEY (“employee” OR “worker” OR “laborer” OR “office worker” OR “personnel” OR “white-collar workers” OR “blue-collar workers”) AND TITLE-ABS-KEY (“theory of planned behavior” OR “theory of reasoned action” OR “tpb” OR “tra” OR “ajzen” OR “Fishbein and Ajzen” OR “reasoned action approach” OR “raa”) AND PUBYEAR > 2010 AND PUBYEAR < 2026 AND (LIMIT-TO (DOCTYPE , “ar”)) AND (LIMIT-TO (LANGUAGE, “English”))

Full query string used in Web of Science (WoS)

“green behavior” OR “green practice” OR “pro-environmental behavior” OR “pro-environmental practice” OR “task-related green behavior” OR “task-related green practice” OR “task-related pro-environmental behavior” OR “task-related pro-environmental practice” OR “voluntary green behavior” OR “voluntary green practice” OR “voluntary pro-environmental behavior” OR “voluntary pro-environmental practice” OR “organizational citizenship behavior toward the environment” OR “ocbe” OR “energy-saving behavior” OR “energy-saving practice” OR “energy-saving action” OR “energy conservation behavior” OR “energy conservation practice” OR “waste management” OR “waste management activity” OR “waste management behavior” OR “waste management practice” OR “recycling” OR “recycling activity” OR “recycling practice” (All Fields) AND “employee” OR “worker” OR “laborer” OR “office worker” OR “personnel” OR “white-collar workers” OR “blue-collar workers” (All Fields) AND “theory of planned behavior” OR “theory of reasoned action” OR “tpb” OR “tra” OR “ajzen” OR “Fishbein and Ajzen” OR “reasoned action approach” OR “raa” (All Fields) and Article (Document Types) and Article (Document Types) and English (Languages) and 2024 or 2023 or 2022 or 2021 or 2020 or 2019 or 2018 or 2017 or 2016 or 2015 or 2014 or 2013 or 2012 or 2011 (Publication Years)

Full query string used in ABI/Inform (ProQuest)

abstract(“green behavior” OR “green practice” OR “pro-environmental behavior” OR “pro-environmental practice” OR “task-related green behavior” OR “task-related green practice” OR “task-related pro-environmental behavior” OR “task-related pro-environmental practice” OR “voluntary green behavior”

OR “voluntary green practice” OR “voluntary pro-environmental behavior” OR “voluntary pro-environmental practice” OR “organizational citizenship behavior toward the environment” OR “ocbe” OR “energy-saving behavior” OR “energy-saving practice” OR “energy-saving activity” OR “energy conservation behavior” OR “energy conservation practice” OR “waste management” OR “waste management activity” OR “waste management behavior” OR “waste management practice” OR “recycling” OR “recycling activity” OR “recycling practice”) AND abstract(“employee” OR “worker” OR “laborer” OR “office worker” OR “personnel” OR “white-collar workers” OR “blue-collar workers”) AND abstract(“theory of planned behavior” OR “theory of reasoned action” OR “tpb” OR “tra” OR “ajzen” OR “Fishbein and Ajzen” OR “reasoned action approach” OR “raa”) AND pd(2011-2025) AND la.exact(“English”)

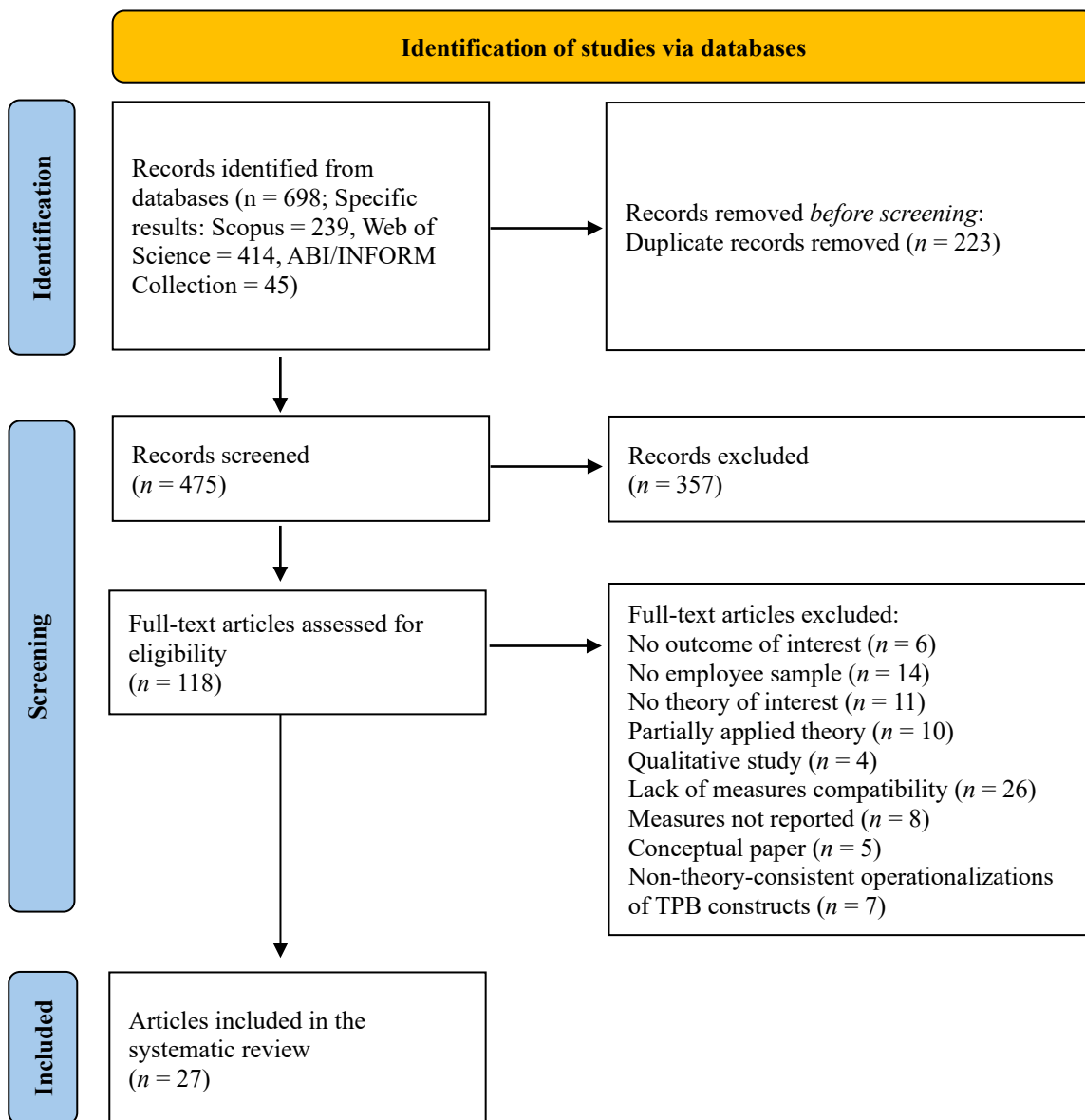


Figure S1. PRISMA flow diagram of the selection process

Table S2. Publications characteristics ($N = 27$)

ID	Author(s)	Year	Country	Journal name	Ranking
1	Akulume & Kiwanuka	2016	Uganda	<i>Journal of Environmental and Public Health</i>	Q2
2	Blok et al.	2015	Netherlands	<i>Journal of Cleaner Production</i>	Q1
3	Canova & Manganelli	2020	Italy	<i>Europe's Journal of Psychology</i>	Q2
4	Cao et al.	2022	China	<i>Journal of Environmental Management</i>	Q1
5	Chi et al.	2023	United States	<i>Business Strategy and the Environment</i>	Q1
6	Costa et al.	2022	<i>n/a</i>	<i>Frontiers in Psychology</i>	Q2
7	Daxini et al.	2019	Ireland	<i>Conservation and Recycling</i>	Q1
8	Ding et al.	2023	China	<i>Waste Management</i>	Q1
9	Dung et al.	2024	Vietnam	<i>International Journal of Energy Economics and Policy</i>	Q2
10	Fatoki	2020	South Africa	<i>Entrepreneurship and Sustainability Issues</i>	<i>n/a</i>
11	Fatoki	2022	South Africa	<i>International Journal of Energy Economics and Policy</i>	Q3
12	Gao et al.	2017	China	<i>Resources, conservation and recycling</i>	Q1
13	Greaves et al.	2013	Great Britain	<i>Journal of Environmental Psychology</i>	Q1
14	Islam et al.	2024	Bangladesh	<i>Cleaner Waste Systems</i>	Q2
15	Li et al.	2018	China	<i>Journal of Cleaner Production</i>	Q1
16	Lo et al.	2014	Netherlands	<i>Energy efficiency</i>	Q1
17	Meng et al.	2022	United States	<i>International Journal of Contemporary Hospitality Management</i>	Q1
18	Muniandy et al.	2021	Malaysia	<i>Sustainability</i>	Q2
19	Rastegari et al.	2023	Iran	<i>Environmental Development</i>	Q1
20	Ru et al.	2022	China	<i>Environment, Development and Sustainability</i>	Q2
21	Savari et al.	2023	Iran	<i>Scientific Reports</i>	Q1
22	Wu et al.	2017	China	<i>Waste management</i>	Q1

23	Xie et al.	2021	China	<i>Energy Policy</i>	Q1
24	Xu et al.	2020	United States	<i>Frontiers in Built Environment</i>	Q2
25	Xu et al.	2021	China	<i>Journal of Cleaner Production</i>	Q1
26	Xu et al.	2024	China	<i>Global Ecology and Conservation</i>	Q1
27	Yuriev et al.	2020	Canada	<i>International Journal of Manpower</i>	Q2

Note. All items were journal articles published in English. *n/a* = not applicable. Q = Quartile. Data are extracted from the “Scimago Journal & Country Rank” database.

Table S3. Characteristics of the included studies ($N = 27$)

ID	Study	TPB Model	Outcome	Variance explained	Sample (N)	Main findings
1	Akulume & Kiwanuka (2016)	Extended TPB model	Waste separation behavior	$R^2 = .67$ (behavior)	163 health-care workers	PBC and intention positively predicted behavior. Knowledge of color-coded bins was negatively associated with behavior.
2	Blok et al. (2015)	Extended TPB model	Pro-environmental behavior (PEB)	$R^2 = .19$ (intention) $R^2 = .48$ (behavior)	411 academic employees	Intention, social norm, and leadership support positively predicted PEB. Intention was, in turn, positively associated with attitude, social norm, PBC, personal norm, environmental awareness, exemplary leadership behavior, and information need.
3	Canova & Manganelli (2020)	Extended TPB model	Energy-saving behaviors: switching off lights, switching off electronic devices	<i>Switching off lights</i> $R^2 = .66$ (intention) $R^2 = .15$ (behavior) <i>Switching off electronic devices</i> $R^2 = .76$ (intention) $R^2 = .22$ (behavior)	295 employees from various organizations	<i>Switching off lights.</i> Cognitive attitude, subjective norm, PBC, and habit were positively associated with intention. Habit moderated the relationship between PBC and intention, with a stronger effect among employees with low levels of habit. Intention was the only significant direct predictor of behavior. <i>Switching off electronic devices.</i> Cognitive attitude, PBC, and habit were positively associated with intention. Cognitive attitude predicted intention only among employees with low habit, whereas subjective norm was a significant predictor only among those with high habit. Intention was the sole direct predictor of behavior.
4	Cao et al. (2022)	TPB + VBN	Intention to adopt sustainable agriculture practices	–	549 smallholders	Farmers' environmental value perceptions were positively related to attitude, subjective norm, and PBC. Subjective norm and PBC, in turn, predicted ascription of responsibility and were positively associated with intention.
5	Chi et al. (2023)	TPB + BRT + NAM	Pro-environmental intention	$R^2 = .72$ (intention)	374 employees from hospitality and tourism industry	Reasons for behavior positively predicted attitude, subjective norm, and PBC, whereas reasons against behavior negatively predicted attitude only. Intention was primarily predicted by subjective norm and PBC, with a smaller contribution from attitude. Attitude, subjective norm, and PBC also predicted personal norm. Awareness of consequences further contributed to attitude.
6	Costa et al. (2022)	Extended TPB model	Recycling behaviors: paper and plastic separation behaviors	<i>Paper separation</i> $R^2 = .32$ (behavior) <i>Plastic separation</i> $R^2 = .28$ (behavior)	311 employees from a tertiary sector organization	<i>Paper separation.</i> Green organizational climate (GOC) positively predicted attitude, subjective norm, and PBC. TPB belief-based construct, in turn, positively predicted behavior. Supervisor support moderated the relationship between GOC and subjective norm,

						although the interaction effect was small; the association was stronger among employees with low levels of supervisory support. <i>Plastic separation</i> . GOC was positively associated with attitude, subjective norm, and PBC. Attitude, subjective norm, and PBC, in turn, positively predicted behavior.
7	Daxini et al. (2019)	Extended TPB model	Intention to follow a nutrient management plan	Not reported	1009 farmers	Three farmer profiles were identified through a latent class analysis: traditional farmers (33%), supplementary income farmers (29%), and business-oriented farmers (38%). The extended TPB model was subsequently tested using binary logistic regression analyses performed separately for each class. <i>Traditional farmers</i> . Intention was positively predicted by attitude, subjective norm, PBC, agricultural extension—defined by the authors as individual and group-based advisory contacts—and mandatory policy requirements. <i>Supplementary income farmers</i> . Intention was positively and significantly associated with subjective norm, PBC, agricultural extension, and mandatory policy requirements. <i>Business-oriented farmers</i> . Intention showed positive and significant relationships with subjective norm, PBC, and mandatory policy requirements.
8	Ding et al. (2023)	TPB + NAM	Recycling intention	$R^2 = .37$ (intention)	210 construction and demolition contractors	Intention was positively predicted by PBC and personal norm. Personal norm, in turn, was positively and significantly associated with subjective norm, which also showed a positive and significant relationship with PBC. Additionally, both attitude and subjective norm were positively predicted by awareness of consequences.
9	Dung et al. (2024)	Extended TPB model	Energy-saving intention	Not reported	454 employees from various organizations	Intention was positively associated with attitude, injunctive and descriptive norm, PBC, and perceived benefit.
10	Fatoki (2020)	Extended TPB model	Energy-saving intention	$R^2 = .52$ (intention)	342 hotel employees	Intention was positively predicted by attitude, followed by PBC, environmental concern, and organizational energy-saving climate.
11	Fatoki (2023)	TPB + NAM	Energy-saving behavior	$R^2 = .69$ (intention)	444 hotel employees	The strongest positive and significant predictor of intention was personal norm, followed by attitude, ascription of responsibility, awareness of consequences, and PBC. Intention, in turn, positively and significantly predicted behavior.

12	Gao et al. (2017)	Extended TPB model	Energy-saving intention	$R^2 = .35$ (intention)	320 employees from various organizations	Intention was positively predicted by descriptive norm, followed by PBC, attitude, and personal norm, in decreasing order of effect size.
13	Greaves et al. (2013)	TPB with accessible beliefs	PC switch off, videoconferencing, and recycling intentions	<i>PC switch off</i> $R^2 = .68$ (intention) <i>Videoconferencing</i> $R^2 = .55$ (intention) <i>Recycling</i> $R^2 = .56$ (intention)	<i>Pilot study:</i> 48 employees (belief identification) and 8 employees (behavior selection), all from the same publicly funded media-sector organization <i>Main study:</i> 449 employees from the same organization	<i>PC switch off.</i> All path coefficients from the TPB constructs to intention were significant, with subjective norm emerging as the strongest predictor. Five of the ten elicited beliefs were positively associated with intention, primarily through the mediation of their corresponding TPB constructs. One direct effect also emerged, involving the behavioral belief that switching off one's PC is acceptable because it has a short start-up time. <i>Videoconferencing.</i> All TPB constructs significantly predicted intention, with subjective norm exerting the strongest effect. Four of the nine elicited beliefs showed positive associations with intention, largely via the indirect pathways via their respective TPB constructs. One control belief, relating to limited facilities, also showed a direct effect on intention. <i>Recycling.</i> Attitude—and to a lesser extent subjective norm—positively predicted intention. Two of the nine identified beliefs were positively related to intention, exclusively through indirect pathways involving their corresponding TPB constructs.
14	Islam et al. (2024)	Extended TPB model	Recycling intention	$R^2 = .47$ (intention)	124 employees from the leather industry	Environmental concern was the strongest predictor of intention, followed by attitude and, to a lesser extent, PBC.
15	Li et al. (2018)	Extended TPB model	Waste reduction behavior	$R^2 = .59$ (intention) $R^2 = .64$ (behavior)	491 construction-sector managers and employees	Intention was positively predicted by subjective norm, attitude, and PBC, in decreasing order of effect size. Behavior was positively associated with both knowledge and intention, with knowledge emerging as the strongest predictor. Knowledge, in turn, showed positive relationships with attitude and PBC. Attitude was also positively related to personal norm.
16	Lo et al. (2014)	Extended TPB model	Energy-saving behaviors: printing smaller, not printing e-mails, switching off lights, switching off monitors	<i>Printing smaller</i> $R^2 = .69$ (intention) $R^2 = .63$ (behavior) <i>Not printing e-mails</i> $R^2 = .50$ (intention) $R^2 = .53$ (behavior)	Employees from four organizations (two commercial companies, a university, and a non-governmental organization)	<i>Printing smaller.</i> Attitude, subjective norm, PBC, and habit were positively related to intention, with attitude emerging as the strongest predictor. Behavior was positively associated with both intention and habit, with intention showing the strongest effect. <i>Not printing e-mails.</i> Attitude, subjective norm, personal norm, habit, and PBC were positively associated with intention, in

				<i>Switching off lights</i> $R^2 = .67$ (intention) $R^2 = .56$ (behavior)		decreasing order of effect size. Intention and, to a lesser extent, habit positively predicted behavior. <i>Switching off lights.</i> Attitude was the strongest predictor of intention, followed by habit, personal norm, and PBC. Behavior was positively related to both habit and intention, with habit emerging as the strongest predictor. <i>Switching off monitors.</i> Intention was positively associated with attitude, subjective norm, and habit, with attitude emerging as the strongest predictor. Behavior showed positive associations with both habit and intention, with habit exerting the strongest effect.
				<i>Switching off monitors</i> $R^2 = .60$ (intention) $R^2 = .74$ (behavior)		Reasons for behavior had positive and significant effects on attitude, subjective norm, and PBC. Reasons against behavior had negative and significant effects on attitude and subjective norm. Subjective norm emerged as the strongest predictor of intention, followed by personal norm, positive anticipated emotion, PBC, negative anticipated emotion, and attitude.
17	Meng et al. (2022)	TPB + BRT	Pro-environmental intention	$R^2 = .70$ (intention)	343 employees from the hospitality and tourism industry	Intention was positively associated with all TPB belief-based constructs, with attitude emerging as the strongest predictor. Attitude, PBC, awareness of consequences, and personal norm were positively related to intention. Intention, in turn, was positively associated with behavior. Both subjective norm and awareness of consequences positively predicted attitude.
18	Muniandy et al. (2021)	Traditional TPB model	Waste management behavior	$R^2 = .55$ (intention)	252 academic employees	Attitude, injunctive and descriptive norms, PBC, environmental concern, and personal norm were positively associated with intention. Environmental concern was positively related to attitude, injunctive and descriptive norms, PBC, and personal norm.
19	Rastegari et al. (2023)	TPB + NAM	Fruit waste management behavior	$R^2 = .35$ (intention) $R^2 = .33$ (behavior)	230 fruit store managers	PBC emerged as the strongest predictor of intention, followed by subjective norm, attitude, and personal norm. Positive relationships also emerged between attitude and awareness of consequences, and between subjective norm and personal norm.
20	Ru et al. (2022)	Extended TPB model	Energy-saving intention	$R^2 = .64$ (intention)	364 employees from internet companies	In the initial structural model, attitude and subjective norm were positively associated with intention, in decreasing order of effect size. Economic viability was the only direct predictor of behavior. After deleting several paths to improve model fit, the final structural model retained only two direct paths on behavior.
21	Savari et al. (2023)	TPB + NAM	Pro-environmental intention	$R^2 = .77$ (intention)	381 farmers	
22	Wu et al. (2017)	Extended TPB model	Waste management behavior	Not reported	207 constructions and demolition contractors	

23	Xie et al. (2021)	Extended TPB model	Energy-saving intention	$R^2 = .24$ (intention)	797 employees from the State Grid Jiangsu Electric Power Co., Ltd.	Positive associations emerged between economic viability and behavior, and between governmental supervision and behavior, with economic viability exerting the strongest effect. Subjective norm emerged as the strongest predictor of intention, followed by PBC and attitude. Organizational interventions were positively associated with subjective norm, attitude, and PBC, in decreasing order of effect. Energy-saving knowledge positively moderated the relationship between organizational interventions and both attitude and PBC. Regarding educational level, moderation was examined through multi-group comparisons of structural path coefficients across three education groups. No significant differences were found for attitude or subjective norm. For PBC, the effect of organizational interventions was weaker in the moderate-education group (employees with a polytechnic diploma or a bachelor's degree) than in the high-education group (employees holding a master's degree or a Ph.D.) and the low-education group (employees without tertiary education).
24	Xu et al. (2020)	Extended TPB model	Energy-saving behavior	<i>Single-person offices</i> $R^2 = .57$ (intention) $R^2 = .13$ (behavior) <i>Shared offices</i> $R^2 = .54$ (intention) $R^2 = .21$ (behavior)	854 full-time office employees from various organizations	<i>Single-person offices.</i> Intention was positively associated with ascription of responsibility, attitude, and injunctive norm, with ascription of responsibility emerging as the strongest predictor. Intention, in turn, was the only direct predictor of behavior. <i>Shared offices.</i> Intention was positively related to ascription of responsibility, descriptive norm, and attitude, with ascription of responsibility again exerting the strongest effect. For behavior, intention was the strongest predictor, followed by PBC and ease of access to controls.
25	Xu et al. (2021)	Extended TPB model	Energy-saving behavior	Not reported	337 employees who worked in companies, schools, and government departments	Attitude emerged as the strongest predictor of intention, followed by PBC and personal norm. For behavior, the strongest association was observed with user experience. Additional positive relationships were found with individual comfort, organizational supervision, and intention, in decreasing order of effect size.
26	Xu et al. (2024)	TPB + NAM	Three green agricultural production behaviors: reducing the use of	Not reported	863 farmers	<i>Reducing the use of pesticides and fertilizers.</i> Attitude was the only direct predictor of intention. Intention, in turn, was the strongest predictor of behavior. An additional positive association emerged between personal norm and behavior. Awareness of consequences,

pesticides and
fertilizers, water-
saving, and straw
returning

PBC, and subjective norm were positively related to attitude, with awareness of consequences showing the strongest effect. Positive relationships also emerged between subjective norm and personal norm, and between ascription of responsibility and PBC.

Water-saving. Attitude emerged as the strongest predictor of intention. Unexpectedly, subjective norm was negatively associated with intention. Intention and, to a lesser extent, personal norm were positively related to behavior. Awareness of consequences, PBC, and subjective norm were positively associated with attitude, in decreasing order of effect size. A positive association also emerged between ascription of responsibility and PBC.

Straw returning. Attitude was the only direct predictor of intention. Intention and personal norm were positively associated with behavior, with intention exerting the strongest effect. Awareness of consequences was the strongest predictor of attitude, followed by PBC and subjective norm. A positive relationship also emerged between ascription of responsibility and PBC.

27	Yuriev et al. (2020)	TPB with accessible beliefs	Alternative transportation and eco-suggestions intentions	<i>Alternative transportation</i> $R^2 = .79$ (intention) <i>Eco-suggestions</i> $R^2 = .38$ (intention)	396 administrative employees at a Canadian university	<i>Alternative transportation.</i> Attitude, subjective norm, and PBC were positively associated with intention. Ten of the fourteen identified behavioral, normative, and control beliefs showed significant associations with their corresponding TPB constructs. Three behavioral beliefs (freedom of movement, environmental impact, and health benefits), one normative belief (family constraints), and three control beliefs (cost, trip duration, and distance) also had a direct effect on intention. Unexpectedly, respondents did not appear to be influenced by any organizational barriers when deciding how to commute to the office. <i>Eco-suggestions.</i> Attitude, subjective norm, and PBC were positively associated with intention. Five of the ten identified behavioral, normative, and control beliefs had significant effects on their corresponding TPB constructs. Two behavioral beliefs (facilitate the work of others and environmental impact) and one control belief (required paperwork) also showed direct associations with intention. Consistent with the hypotheses, intention was primarily explained by organization-related beliefs.
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Note. TPB = Theory of Planned Behavior. NAM = Norm Activation Model. VBN = Value–Belief–Norm Theory. PBC = Perceived Behavioral Control. R^2 = R-squared. “Not reported” indicates that the authors did not report the proportion of explained variance. When only the variance explained in behavior or intention is provided, this means that either the corresponding construct was not measured, or the authors did not report its explained variance.

Table S4. Coding procedure

Category	Subcategory	Coded variable	Explanation
General information		Study numerical ID	Progressive numerical identifiers assigned to each publication (e.g., 1, 2, 3).
Characteristics of publications		Study alphabetical ID	Alphabetical identifier consisting of the first author's surname and the study title.
		Year of publication	Year in which the study was published.
		Country of data collection	Country in which the data were collected.
		Journal name	Name of the journal in which the study was published.
		Journal quartile ranking	Journal quartile ranking (according to "Scimago Journal & Country Rank") for the year of publication. "Not applicable" is used for non-indexed journals.
Characteristics of studies	Theory (T)	Conceptual framework	Type of TPB model used to explain the decision-making process underlying employee green behavior (e.g., traditional TPB, extended TPB).
		Additional variables considered	Additional constructs included in the model beyond the core TPB components.
		Additional theoretical frameworks	Theoretical perspectives combined with the TPB.
		Percentage of variance explained in intention	Proportion of variance in intention explained by the hypothesized model. "Not reported" indicates that this information was not provided.
		Percentage of variance explained in behavior	Proportion of variance in behavior explained by the hypothesized model. "Not reported" indicates that this information was not provided.
	Context (C)	Type of organization	Type of organization in which the data were collected (e.g., private, public, or non-governmental organization). "Not applicable" indicates that this information was not reported or could not be determined from the publication.
		Industry sector	Economic sector in which the organization operates (e.g., manufacturing). "Not applicable" indicates that this information was not reported.
		Organizational sustainability policies	Formal or informal corporate social responsibility or environmental sustainability policies. "Not applicable" indicates that this information was not reported.
		Measure of behavior	Indicate whether behavioral measures were included ("yes"/ "no").
		Measure of intention	Indicate whether intention measures were included ("yes"/ "no").
		Outcome assessed	Type of employee green behavior (or intention) assessed in the study. Use one row for each outcome variable and repeat the same study ID accordingly.
		Population type	Type of participants recruited (e.g., employees, managers). "Not reported" is used when the information is not provided.
	Characteristics (C)	Antecedent(s) of TPB constructs	Antecedents of attitude, subjective norm, and perceived behavioral control. Use one row for each antecedent and repeat the same study ID accordingly. A separate column indicates the TPB construct predicted by each antecedent, repeating the

	Antecedents of intention	corresponding study ID and indicating the antecedent in parentheses when multiple antecedents are included in the same study.
	Antecedents of behavior	TPB variables and additional constructs examined as direct predictors of intention. Use one row per predictor and repeat the same study ID accordingly.
	Moderator(s) examined	TPB variables and additional constructs examined as direct predictors of behavior. Use one row per predictor and repeat the same study ID accordingly.
	Focal relationship tested	TPB variables and additional constructs specified as moderators. Use one row per moderator and repeat the same study ID accordingly.
	Simple slopes results	Relationship(s) in which the moderator operates (e.g., attitude → intention). Use one row per relationship, repeating the study ID, and indicate the moderator in parentheses when multiple moderators are tested within the same study. Use a separate column to specify the direction of the effect (e.g., positive, negative).
Methodology (M)	Research approach	Simple slope analyses conducted for significant interaction effects, indicating how the focal relationship varies at low, moderate, and high levels of the moderator (e.g., weaker, stronger, nonsignificant). Use one row per relationship, repeating the study ID, and indicate the moderator in parentheses when multiple moderators are included in the same study.
	Study design	Research paradigm adopted in the study (e.g., quantitative, mixed method).
	Data collection method	Design of the study (e.g., cross-sectional, prospective, longitudinal).
	Sampling strategy	Method used to collect data for testing research hypotheses (e.g., online questionnaire, focus groups). Use one row for each method and repeat the study ID accordingly. “Not reported” indicates that this information was not provided.
	Sample size used in analyses	Sampling method employed (e.g., convenience sampling, simple random sampling). Use one row for each method and repeat the study ID accordingly. “Not reported” indicates that this information was not provided.
	Gender distribution	Number of participants included in the analysis. “Not reported” indicates that this information was not provided.
	Analytic framework	Gender composition of the final sample based on the percentage of women (balance: 45–55%; female-skewed: ≥ 66%; male-skewed: ≤ 34%). “Not reported” indicates that gender distribution was not provided. “Not applicable” is used when the sample consisted exclusively of women.
		Analytic approach used for hypothesis testing (e.g., content analysis, general linear model, structural equation modeling). Use one row per analytic approach and repeat the same study ID accordingly.

Main findings	Data analysis results	Indicate whether the hypotheses were supported, partially supported, or rejected. Use one row for each category with the corresponding study ID. A separate column specifies which hypotheses were rejected when studies provided only partial support for the TPB-based model.
	Strongest predictor of intention	Use one row for each variable that exhibited the strongest effect on intention. “Not applicable” is used when standardized coefficients were not reported.
	Strongest predictor of behavior	Use one row for each variable that exhibited the strongest effect on behavior. “Not applicable” is used when standardized coefficients were not reported.
	Effects of accessible beliefs	Indicate whether accessible beliefs exerted a direct effect on intention or an indirect effect through their corresponding TPB construct. A separate column is used to indicate which specific beliefs had a direct effect on intention.

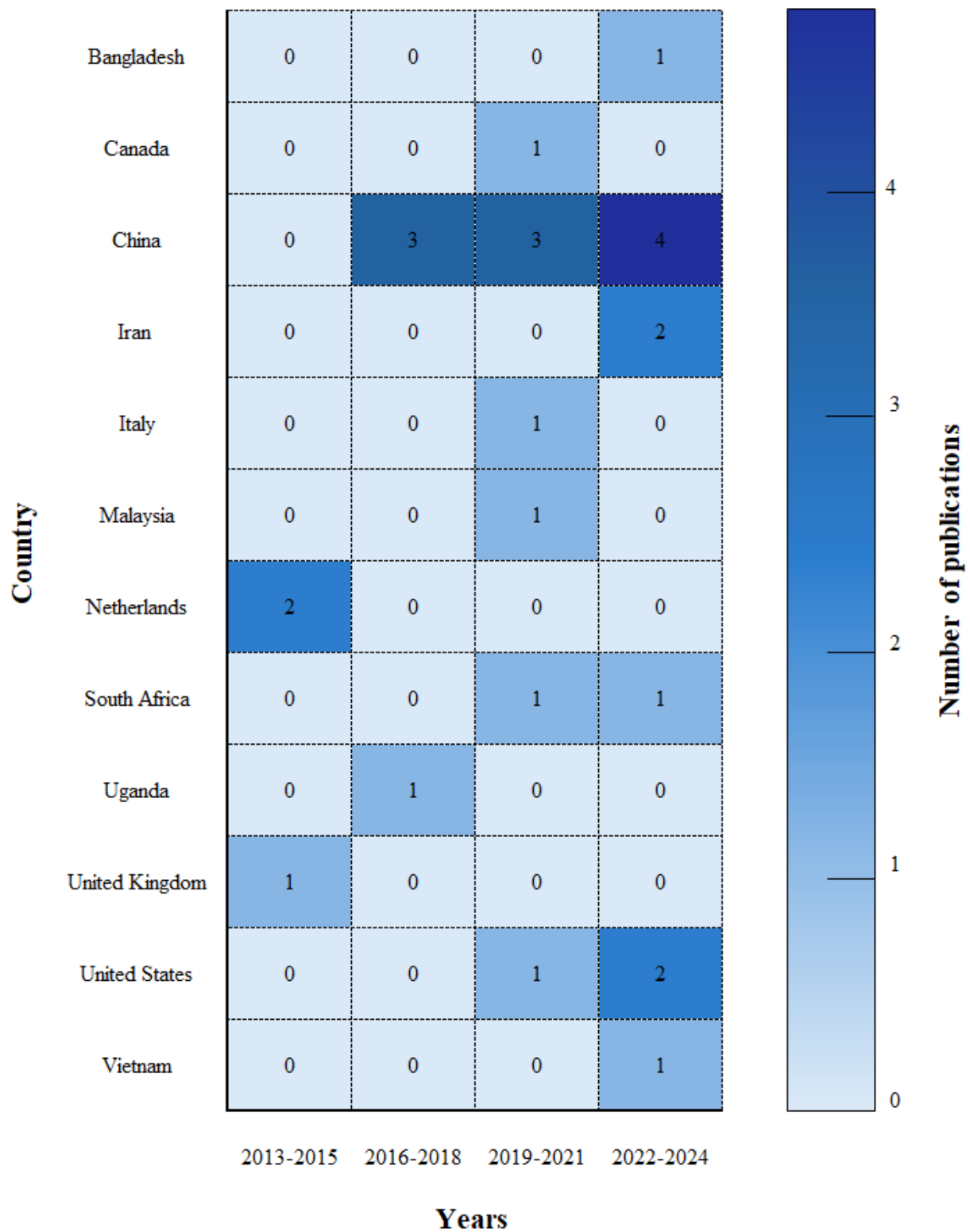


Figure S2. Heatmap of the geographical and temporal distribution of studies.

Table S5. Additional constructs included in studies adopting extended TPB models ($N = 27$)

Construct	<i>k</i>	Articles
Standalone construct identified in at least two independent studies		
Personal norm	8	Block et al., 2015; Dung et al., 2024 ; Gao et al., 2017; Li et al., 2018; Lo et al., 2014; Meng et al., 2022; Ru et al., 2022; Xu et al., 2021
Descriptive norm	5	Gao et al., 2017; Dung et al., 2024; Ru et al., 2022; Xu et al., 2020; Xu et al., 2021
Behavior-specific knowledge	3	Akulume & Kiwanuka, 2016; Li et al., 2018; Xie et al., 2021
Environmental concern	3	Fatoki, 2020; Islam et al., 2024; Ru et al., 2022
Habit	2	Canova & Manganelli, 2020; Lo et al., 2014
Green organizational climate	2	Costa et al., 2022; Fatoki, 2020
Leadership support	2	Blok et al., 2015; Costa et al., 2022
Organizational and governmental supervision	2	Wu et al., 2017; Xu et al., 2021
Aggregated category for single-occurrence constructs		
Normative and moral factors	3	Akulume & Kiwanuka, 2016; Blok et al., 2015; Xu et al., 2020
Affective and value-based factors	5	Akulume & Kiwanuka, 2016; Blok et al., 2015; Canova & Manganelli, 2020; Dung et al., 2024; Meng et al., 2022
Knowledge, experience, and skills	5	Akulume & Kiwanuka, 2016; Blok et al., 2015; Daxini et al., 2019; Xie et al., 2021; Xu et al., 2021
Comfort-related factors	1	Xu et al., 2021
Contextual and policy-related factors	6	Akulume & Kiwanuka, 2016; Blok et al., 2015; Daxini et al., 2019; Wu et al., 2017; Xie et al., 2021; Xu et al., 2020

Note. *k* = number of studies.