



**Motivating At-home Composting Through Bottom-up Initiatives:
A Case Study in Kathmandu**

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Abstract

The capital of Nepal, Kathmandu, struggles with inefficient waste management. While a large share of waste is compostable, all waste is transported to the landfill, dumped in natural landscapes, or burned; threatening public health and polluting nature. However, practicing at-home composting would substantially reduce waste. Local bottom-up initiatives (i.e., initiatives started by members of civil society) in Kathmandu try to motivate fellow citizens to start composting by organizing composting workshops. Drawing on social identity theory, I empirically tested how a Kathmandu-based bottom-up initiative can motivate other individuals to start composting by perceiving composting norms as being prevalent and identifying with a shared group membership (i.e., Kathmandu citizen). Collective efficacy was included as a covariate. Further, I tested whether communicating that the initiative was started by ordinary members of the city (i.e., inclusive identity) versus young members of the city (i.e., exclusive identity) shapes composting motivations. Data was collected from 250 participants from Kathmandu in a paper-based experimental questionnaire. The results revealed that stating that the initiative started by young members resulted in enhanced awareness that the waste problem could be managed by composting for all participants; and greater perceived composting norms for younger participants. Importantly, older participants were significantly less likely to perceive composting norms after reading that young people started the initiative. In turn, participants with stronger composting norms and collective efficacy were more interested in joining composting workshops and the initiative itself. Kathmandu citizen identification was not associated with the other variables. These findings have implications for the techniques that bottom-up initiatives may use to successfully promote themselves, with a particular emphasis on engaging different age groups and solving waste management concerns in different countries. Furthermore, limitations and future research directions are discussed.

Motivating At-home Composting Through Bottom-up Initiatives: A Case Study in Kathmandu

Global climate change results from human actions releasing increased greenhouse gas emissions, with one of the sources being solid waste. According to estimates by the United Nations Environment Program (2015), landfills are responsible for 1.9% of greenhouse gas emissions worldwide, and open waste dumps for 5%. In Kathmandu, the capital of Nepal, waste management is poor, with all waste either being transported to the city's landfill site, dumped in open landscapes, or burnt (CBS, 2021). Unmanaged waste in Kathmandu threatens public health and causes environmental pollution in the natural and urban areas (CBS, 2021).

Each family in Kathmandu generates 0.5 kg of waste per day, of which 70% is organic waste. However, organic waste is not segregated from non-organic waste; only 30% of residents compost at home (ADB, 2013). Composting organic waste is a traditional, simple, and cheap process that produces decomposed organic matter, which is useful in agriculture as fertilizer. Effective global waste management may result in a 10–20% decrease in greenhouse gas emissions worldwide (UNEP, 2015). Similarly, if all households in Kathmandu utilized their organic waste to the utmost by composting it at home, only 10% of waste would ultimately end up in the landfill (ADB, 2013). Therefore, composting might be a feasible solution to waste management in Kathmandu. However, public participation and cooperation on a household level is still limited, yet necessary for Kathmandu to transition to sustainable waste management.

In Kathmandu, local governments are responsible for waste management (top-down regulations); however, due to increasing demand they are unable to manage all waste (ADB, 2013). In turn, bottom-up initiatives (i.e., local initiatives started by members of civil society) were formed to help cope with the waste problem. Bottom-up initiatives aim to motivate the

larger public to engage in pro-environmental actions. By empowering local communities to take ownership of their waste management, bottom-up initiatives might help to increase collective action. An example of a local bottom-up initiative in Kathmandu is Team RIGHTE (Research and Innovation in Governance, Health, Technology, and the Environment), a youth-led initiative motivated to promote composting. Their approach is to organize composting workshops to motivate other citizens to adopt this new habit and build a composting community. This research aims to investigate whether the bottom-up initiative of locally formed groups such as Team RIGHTE can increase Kathmandu's citizens' interest in composting. The social identity approach is used to shed light on the group processes underlying how such local initiatives can influence other citizens to compost their organic household waste and will be explained next.

Social Identity Approach

Social identity theory (Tajfel & Turner, 1979), together with self-categorization theory (Turner et al., 1987), form the basis of the social identity approach (Fielding & Hornsey, 2016). These theories explain how group membership influences people's attitudes, values, and behavior. Humans define themselves either with their personal identity ('I') or with a relevant social identity ('we'). When a specific social identity is made salient (e.g., environmentalist), people internalize the content (i.e., values, norms, and goals) of this social identity (Turner et al., 1987). During this categorization process, individuals assimilate their attitudes, values, and behaviors to the norms (i.e., socially accepted ways of behaving within a group) of their ingroup and away from an outgroup. Further, ingroup similarities and outgroup differences are accentuated, creating an 'us' versus 'them' mentality (Tajfel & Turner, 1979).

Inclusive and Exclusive Identities

Although research has revealed that collective environmental action frequently comprises a diverse group of individuals from various backgrounds, people have unfavorable views of environmentalists as violent, confrontational, and odd (Bashir et al., 2013). Bashir et al. (2013) demonstrated that when participants read an article promoting sustainability written by an author who was a common environmentalist instead of an extreme environmentalist, they had higher pro-environmental intentions. This shows how actions from (radical) environmental groups may not resonate with the general public and may even polarize individuals against supporting critical pro-environmental movements, supposedly because they see extreme identities as their outgroup. In line with this reasoning, in a recent study, the effects of ingroup (i.e., meat consumers) and outgroup (i.e., vegans) identification on rejection of a message to promote plant-based diets were investigated (Thürmer et al., 2022). They found that meat consumers were more receptive to criticism about their diet when it came from fellow meat consumers than when the criticism came from vegans. Furthermore, they found a similar trend for attitudes towards and engagement in a vegan initiative; participants who received an ingroup message, compared to an outgroup message, rated the initiative as more positive.

In the same vein, the way a bottom-up initiative is presenting itself as either representative of the general public (inclusive social identity) or only representing a specific subgroup, for instance, young environmentalists (exclusive social identity), might either lead to perceiving the initiative as an ingroup or an outgroup. This, in turn, might have implications on the motivation to change for non-members. Supposedly, people who see the initiative as representative of themselves (e.g., in terms of age) might be more inclined to adopt new behaviors; whereas people who cannot identify with the initiative and perceive them as an outgroup might be demotivated to change. Therefore, the present research wants

to experimentally test if perceiving members of a bottom-up initiative to be inclusive versus exclusive changes the motivation to compost in non-members. More specifically, Team RIGHTE is a youth-led initiative, which depending on how it is communicated, might motivate other citizens matching this identity (i.e., young Kathmandu citizens) to engage in composting or demotivate citizens not matching this identity (i.e., older Kathmandu citizens). The following will explain the potential positive influence of pro-environmental initiatives when they are perceived as an ingroup.

Pro-environmental Initiatives

Theoretically, individuals identifying with an environmentally conscious social identity adopt its pro-environmental attitudes, values, and norms (Fielding & Hornsey, 2016). However, previous studies have reported a rather negative image of bottom-up initiatives by showing that non-members socially sanctioned emerging initiative members, strengthening their commitment to the current norm rather than accepting the new emerging norm (Bolderdijk & Jans, 2021). Yet, more recent evidence showed the potential of bottom-up initiatives to change the intention of pro-environmental behavior in members of the larger social group in which they emerged, by strengthening group norms and common group identity (Jans, 2021).

In three field studies, Jans (2021) investigated perceived top-down versus bottom-up initiative formations. She tested the effect of perceiving initiatives to be formed from the bottom-up and top-down (studies 1 and 2), forming social identities, which in turn motivate behavior in the initiative members, as well as in the overarching group (study 3). The influence of bottom-up initiative formation was (partially) mediated by pro-environmental norms and identification with the group. The perceived shared social identity, in turn, motivated self-reported behavior (study 2) and intention to act environmentally friendly (studies 1 and 3). Despite this promising finding, the effect size was small ($\eta^2 = .01$).

Interestingly, not only members involved in the initiative but also people who were not involved in the formation process of the initiative perceived they shared a common social identity of the overarching group. This finding is specifically relevant to the present research. In the following, I will outline how pro-environmental initiatives might influence potential outgroup members by highlighting a common superordinate identity.

Superordinate Identity

As outlined above, cognitive biases against outgroup members might limit initiatives' capacity to motivate pro-environmental action. However, according to the 'common ingroup identity model' it might be possible to make more inclusive social identities salient and change the self-categorization process from an 'us' versus 'them' mentality to a broader 'we' (Gaertner & Dovidio, 1993). Membership in social groups can be based on superordinate categories (e.g., gender), professional groups (e.g., psychologists), or interest-based organizations (e.g., environmental groups; Fielding & Hornsey, 2016). Increasing awareness of a shared superordinate identity might enable re-categorizing two groups into one, which is thought to happen subconsciously (Gaertner & Dovidio, 1993). Similarly, Masson and Fritsche (2021) suggest making inclusive categories of pro-environmental groups more salient (e.g., humankind) because it might open a potential for all people to identify with the group and thus motivate collective climate action. Empirical evidence showed the effectiveness of making a superordinate identity salient, which decreased biases against an authority group and increased positive public perceptions of recycled drinking water (Schultz & Fielding, 2014). Yet, this effect was limited to participants who strongly identified with the shared superordinate identity.

The bottom-up initiative Team RIGHTE is determined to positively influence other citizens to start composting. However, other citizens might perceive the initiative as an outgroup. A common group membership can be highlighted to circumvent the potential

negative biases that other citizens might have towards Team RIGHTE. Kathmandu citizen identification is chosen as an inclusive social identity that participants will have in common with Team RIGHTE. Potentially, by highlighting that Kathmandu citizens initiate Team RIGHTE, other citizens of the city might be able to see this common social identity; and in turn, might be more receptive to Team RIGHTE's pro-environmental norms. Thus, it might not be necessary that people are identified with the initiative to be motivated to compost. Instead, hearing that other Kathmandu citizens like them promote composting might increase Kathmandu citizen identification and signal ingroup composting norms.

Social Norms

According to the social identity approach, people are guided by the norms of the salient ingroup, which makes norms the drivers of individual action to reach the group's goals. Sparkman and Walton (2017) investigated the effects of perceived changing norms over time (i.e., dynamic norms) and static norms. Dynamic norms can signal that more and more people are changing their behavior, making individuals who are not adopting the new norm yet question the commonly approved norm by seeing it as less tight (Bolderdijk & Jans, 2021). Accordingly, Sparkman and Walton (2017) found that communicating dynamic norms was associated with increased interest in changing one's behavior, compared to static norms; even when the dynamic norm was counter-normative.

Perceiving Team RIGHTE as a relevant ingroup of Kathmandu citizens, other citizens may become guided by their composting norms. The norm influence on individuals' behavior will likely be more pronounced for members who strongly identify with Team RIGHTE. However, based on the finding of Jans (2021), other citizens may equally be influenced by the composting norms because they share a common overarching group identity (i.e., Kathmandu citizens). Further, composting norms will be asked in static and dynamic forms since composting is only practiced by a few households in Kathmandu and might thus be

perceived as counter-normative. Hearing about Team RIGHTE, other citizens might get the impression that more and more citizens are starting to compost and might be influenced by this new emerging norm.

Collective Efficacy

Apart from identification with a salient social identity and group norms, collective efficacy (i.e., perceived effectiveness to achieve a group goal) is another variable that influences behavior (van Zomeren et al., 2008). Yet, Masson and Fritsche (2014) found that ingroup norms and identification were better predictors of intention to act climate-friendly than perceived efficacy of the group. They found that group identification with a pro-environmental group increases intention to act pro-environmentally even when confronted with barriers, resulting in low perceived collective efficacy. Therefore, collective efficacy is included as a control variable in the present study. Due to the severity of current waste pollution in Kathmandu, participants might not see positive changes in composting. Further, Team RIGHTE will not be known to most participants; thus, controlling for low perceived efficacy is worthwhile.

Research Question

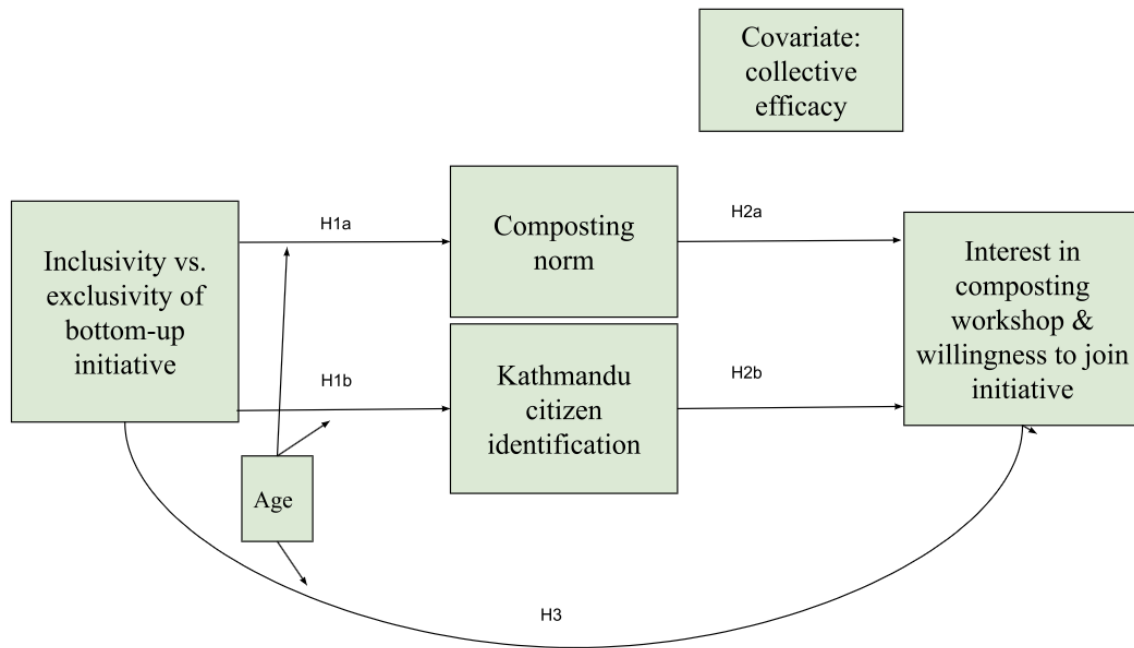
This research seeks to address the following research question: What is the influence of perceiving Team RIGHTE as initiated by young rather than general Kathmandu citizens on motivating fellow citizens to compost, through increased composting norms and identification as Kathmandu citizens?

Hypotheses

Based on previous research, I derived the following hypotheses (Figure 1):

Figure 1.

Hypothesized model for the relationship between variables.



Hypothesis 1. Perceived inclusivity of Team RIGHTE will increase composting norms for all participants, compared to participants in the exclusive condition in which only young participants will have stronger composting norms, but not older participants (H1a). Similarly, participants in the inclusive condition will be more likely to have a strong identification as a Kathmandu citizen, compared to participants in the exclusive condition, in which this effect will only be found in young participants but not older participants (H1b).

Hypothesis 2. Increased composting norms (H2a) and identification as a Kathmandu citizen (H2b) will increase interest in composting workshops and willingness to join the initiative.

Hypothesis 3. In the inclusive condition, all participants will be more likely to be interested in composting workshops and willing to join the initiative than in the exclusive condition, where only young participants will be interested in composting workshops and willing to join the initiative, compared to older participants in this condition.

Methods

Study Location

Kathmandu Metropolitan City has about 862.400 inhabitants with 238.966 households (National Statistics Office, 2021). When counting in all suburbs, the population reaches 2.9 million people, being the biggest and most populated region in Nepal (CBS, 2021). Data collection for the present study took place in April 2023 in Ward 15 in Kathmandu Metropolitan City (see Appendix 1). Wards are the smallest units of local governments in Nepal, with 32 Wards existing in Kathmandu Metropolitan City. Ward 15 has 54.476 residents (Office of Municipal Executives, n.d.). The study area was chosen because of a current collaboration between Ward 15 and Team RIGHTE.

Participants

An a priori G*Power analysis for a main effect of the experimental manipulation assuming a small to medium effect size ($f = .18$), a Type I error probability of .05, and a statistical power of .80 resulted in a minimum of 245 participants. Accounting for inattentive participants, a total of 250 questionnaires were collected.

Participants were manually recruited at their homes by several research team members. At randomly chosen approached houses, the participants were asked to participate in a short master thesis research on home composting. When a person was willing to participate, they were given the information letter and informed consent, which they were told to read carefully and to answer all questions truthfully. The only inclusion criterion was that participants had to be older than 18 years old. There was no compensation for participation, which the participants read in the information letter.

The study's sample was representative of the population of Kathmandu according to the census in 2021 (National Statistics Office, 2021); see Table 1 for the sample characteristics for each experimental condition. The mean age of the participants was 38 years ($SD = 15.5$), with the youngest being 18 years old and the oldest 96 years old. The literacy rate in

Kathmandu is 76.2 % (National Statistics Office, 2021), and in the sample, 40.8 % reported having an informal education ($n = 102$); 39.2 % reported a high school degree as their highest education ($n = 98$); 17.2 % had a bachelors degree ($n = 43$) and 2.8 % received a master degree or higher ($n = 7$). 74.8 % ($n = 187$) of the participants lived in Kathmandu for more than nine years, 13.2% ($n = 33$) between five and nine years, and 12 % ($n = 30$) for less than five years.

Table 1.

Sample Characteristics.

Characteristics	Inclusive condition		Exclusive condition		Total	
	Female	Male	Female	Male	Female	Male
Gender	48.7 %	51.1 %	51.2 %	48.8 %	49.2 % (49.3 %)	52.4 % (50.7 %)
Age						
18 - 29 years	18.5 %		52.4 %		35.4 % (21.6 %)	
30 - 39 years	23.4 %		22.9 %		23.1 % (18.3 %)	
40 - 49 years	26.6 %		12.3 %		19.5 % (13.3 %)	
50 - 59 years	13.7 %		4.9 %		9.3 % (8.8 %)	
60 - 69 years	13.7 %		3.3 %		8.5 % (4.8 %)	
Over 70 years	4 %		4 %		4.1 % (3.5 %)	

Note. 2021 census data in brackets.

Participants were further asked some questions regarding their home and waste management. 27.6 % reported living alone in an apartment ($n = 69$), 39.6 % in a shared apartment ($n = 99$), and 32.8 % in a house ($n = 82$). 99.6 % of participants had a weekly waste pick-up service at home ($n = 249$), with a mean monthly payment of 239 Nepalese Rupees ($SD = 188.5$), ranging from 0 Nepalese Rupees to 900 Nepalese Rupees (6.20 Euros).

Most participants said they were undecided about how much they are involved in household waste disposal decisions ($M = 4$, $SD = 2.1$). Finally, 13.2 % of the participants reported composting their household waste, whereas 81.2 % reported not composting at home.

Materials

The research design was a between-subjects experimental questionnaire with two groups (group 1 = inclusivity vs. group 2 = exclusivity). The materials included two versions of the questionnaire, translated into Nepali and printed out as paper-based versions. The questionnaire started with a cover story introducing Team RIGHTE from Kathmandu, including the experimental manipulation. In the first condition, participants were told that ordinary city members initiated Team RIGHTE, and in the second condition, participants were told that the initiative was formed by young inhabitants of the city (Table 2).

Table 2.

Cover Story Texts with Experimental Manipulation.

<p>Condition: Inclusivity</p>	<p>Team RIGHTE is a bottom-up initiative based in Kathmandu. The initiative was founded three years ago by a group of citizens from Kathmandu Metropolitan City. They are motivated to promote composting because they want to act against the negative influence of waste on the city. The citizens decided to initiate composting workshops, to reduce organic waste illegally dumped or being transported to the landfill site. Their goal is to engage all citizens to voluntarily adopt this new habit, see the benefits for themselves, and contribute to saving the environment together.</p>
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<p>Condition: Exclusivity</p>	<p>Team RIGHTE is a youth-led bottom-up initiative based in Kathmandu. The initiative was founded three years ago by a group of youth from Kathmandu Metropolitan City. They are motivated to promote composting because they want to act against the negative influence of waste on the city. The young citizens decided to initiate composting workshops, to reduce organic waste illegally dumped or being transported to the landfill site. Their goal is to engage all citizens to voluntarily adopt this new habit, see the benefits for themselves and contribute to save the environment together.</p>
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The texts were followed by two attention check questions asking “What is the goal of Team RIGHTE?” and “Who initiated Team RIGHTE?” with four answer options each. Participants who failed either of these two questions or both were excluded from the data analysis. The remaining questions were the same in both questionnaire versions and will be discussed next.

Composting Norms

After the manipulation texts, the participants were asked six questions on perceived norms surrounding composting. All questions were on a seven-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Three items on perceived composting norms were adapted from Jans (2021) (e.g., “It is important for Kathmandu citizens to reduce the waste problem by composting their waste”). The other three items on dynamic norms were adapted from

Sparkman and Walton (2017) (e.g., “More and more citizens in Kathmandu are starting to compost”). Cronbach’s Alpha was .79 ($M = 4.9$, $SD = 0.98$).

Kathmandu Citizen Identification

Participants answered four questions regarding the degree to which they identified as Kathmandu citizens. The items were adapted from Postmes et al. (2013) (e.g., “I feel committed to the citizens of Kathmandu”). This scale was chosen because it reflects the four underlying dimensions of identification (i.e., self-stereotyping, homogeneity, self-investment and group solidarity). All questions were measured on a seven-point Likert scale with 1 = strongly disagree and 7 = strongly agree. This scale had a Cronbach’s Alpha of .72 ($M = 5.2$, $SD = 1.3$).

Collective Efficacy

Following that, participants were asked to answer three questions on their perceived collective efficacy in reducing waste in Kathmandu through composting. The items were adapted from van Zomeren et al. (2008) (e.g., “I think together the citizens of Kathmandu are able to change the waste problem by composting”). Participants answered the questions on a seven-point Likert scale with 1 = not at all and 7 = very much. The Cronbach’s Alpha was .73 ($M = 5.6$, $SD = 1.2$).

Interest in Composting Workshops and Willingness to Join Initiative

The dependent variables asked for participants' interest in the composting workshops and their willingness to join the initiative, which were self-constructed (e.g., “I am interested to join the composting workshops”). Answer options ranged from 1 = totally disagree to 7 = totally agree. The mean score for the two items asking for the interest to join a composting workshop of Team RIGHTE was 4.9 ($SD = 1.7$) with a Cronbach's Alpha of .91; the mean of the two items measuring the willingness to join the initiative was slightly lower with 4.3 ($SD = 1.6$) and Cronbach's Alpha of .95.

Procedure

Data collection started after approval of the Ethics Committee of Psychology at the University of Groningen. Nepalese volunteers who helped with data collection were trained before to ensure the collection of data reliably. Three neighborhoods of Ward 15 (Chamati, Dallu and Kimdol) were visited for one week. Volunteers were instructed to visit every fifth house. At approached houses, interested participants were given the information letter and informed consent (see Appendix B). The volunteers explained the content of the information letter vocally and asked afterward if there were any questions and whether the participant wanted to participate in the research. In cases where informed consent was given, the questionnaire was handed out. Participants were assigned to one of two conditions giving them either the first or second version of the questionnaire (see Appendix C). Participants were asked to carefully read the text and answer all questions truthfully. The questionnaire started with demographic questions and continued with the manipulation texts. After reading the texts, participants answered two attention check questions to control whether they had read the text and understood its content. Following the attention check, participants answered the statements outlined above. Completion of the questionnaire took approximately 10-15 minutes. After completion of the questionnaire, participants were debriefed by informing them of the real purpose of the study and that there were two different conditions (see Appendix D). The questionnaire was fully anonymized to ensure the protection of the participants' identities.

Data Analysis

The data was analyzed using IBM SPSS statistics 29. Firstly, I started to prepare the data for analysis by excluding participants who did not pass the attention check. Then, I calculated the bivariate correlations between the quantitative variables to get an impression of the strength and direction of the relationships. Before conducting the statistical analysis, I

checked if the six assumptions (linearity, normality, homoscedasticity, uncorrelatedness of residuals, multicollinearity, and outliers) for regression analysis were met. Then, I tested the hypotheses for each dependent variable in two PROCESS macro models 8 (Hayes, 2012) to investigate moderated mediation of the direct and indirect effects. The independent variable in the present design was condition (0 = inclusivity condition vs. 1 = exclusivity condition). The dependent variables were 'interest to join a composting workshop' and 'motivation to join the initiative' of Team RIGHTE. The mediator variables assessed were composting norms and Kathmandu citizen identification. Age was included as the moderator of the indirect effect and direct effect. Lastly, collective efficacy was included as the covariate. Alternative explanations were tested with an additional PROCESS macro model 7, with norms and collective efficacy as mediators and age as moderator for the indirect effect.

Results

Attention Check

Before turning to the main analyses of the hypotheses, the data set was scanned through to evaluate whether all participants answered the attention check questions correctly. In total, four participants failed to answer the two questions correctly. One participant was in the inclusive condition, and the other three participants were in the exclusive condition. Due to the possibility that the participants were inattentive during the cover story, their answers might be distorted. Therefore, these four participants are excluded from further reported analyses, constituting a total sample of $n = 246$.

Descriptive Statistics

The two dependent variables, 'interest in composting workshops' and 'willingness to join the initiative', showed a strong positive correlation (Table 3). Composting norms and collective efficacy showed a moderate positive correlation with both dependent variables and with each other. Surprisingly, Kathmandu citizen identification had no relationship with the

other five variables. Age had a weak negative relationship with most other variables, except with Kathmandu citizen identification.

Table 3.

Bivariate Pearson's Correlations between Main Variables.

	1	2	3	4	5	6	Cronbach's Alpha
1. Interest in composting workshops	1						.91
2. Willingness to join initiative	.77**	1					.95
3. Kathmandu citizen identification	.10	.13*	1				.72
4. Composting norms	.43**	.43**	.13*	1			.79
5. Collective efficacy	.32**	.39**	.00	.28**	1		.73
6. Age	-.13*	-.1	.11	-.11	-.11	1	N/A

Note. The independent variable is excluded since it is a binary variable.

Note. ** = $p < .01$, * = $p < .05$

Assumption Checks

A visual (partial plots for each independent variable with dependent variables, histogram, normal probability plot, scatter plot of standardized predicted values and studentized residuals) as well as a statistical inspection (Durbin-Watson test and collinearity diagnostics) of the data revealed that all assumptions for conducting regression analyses were met.

Outliers

Casewise diagnostics did not indicate the existence of outliers. However, three cases existed in which the Mahalanobis distance was outstanding and might be considered multivariate outliers. After checking the participants' scores, I decided not to exclude any outliers since they probably reflect natural variations in the population and are not

measurement errors. To conclude, all regression analysis assumptions were met and it was concluded that a PROCESS macro model 8 analysis can be conducted on the data set.

Hypotheses Testing

Moderated mediation was tested with PROCESS macro model 8 (Hayes, 2012). The model summaries can be found in Table 4. Only results on ‘interest in composting workshops’ will be discussed; results for ‘willingness to join the initiative’ were similar and can be found in Appendix E.

Table 4.

Model Summaries.

	F-statistic (4, 241)	<i>p</i> -value	<i>R</i> ²	Inclusive		Exclusive	
				<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Composting norms	7.37	.00**	.11	4.9	.96	5	.98
Kathmandu citizen identification	1.81	.13	.03	5.1	1.2	5.3	1.3
Interest in composting workshops	12.33	.00**	.24	4.7	1.8	5	1.7

Note. ** = $p < .001$

Hypothesis 1.

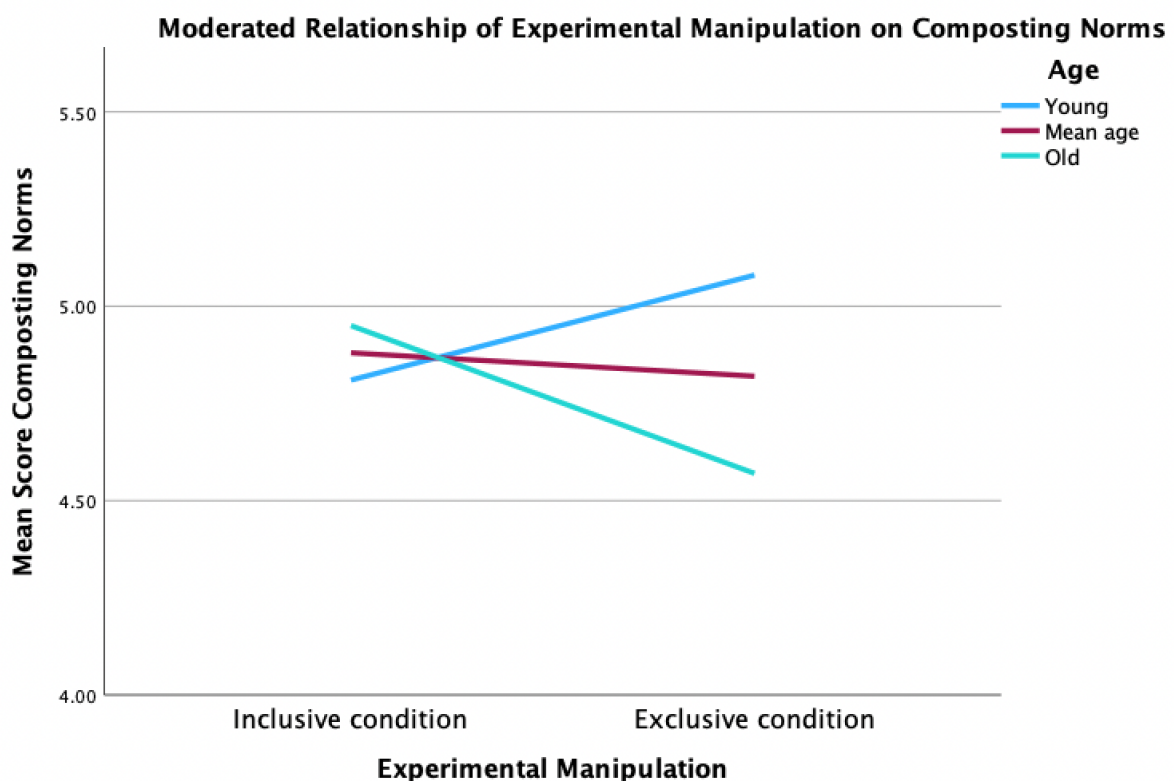
The first hypothesis stated that all participants in the inclusivity condition will have increased composting norms, compared to participants in the exclusive condition, in which only young participants will have stronger composting norms, than older participants (H1a). A similar trend was expected for identification as a Kathmandu citizen (H1b).

Inclusivity/ Exclusivity Condition on Composting Norms. The main effect of the inclusive and exclusive condition on composting norms was not significant ($t(241) = -0.40, p$

> .05; 95% CI [-0.30, 0.20]). However, the interaction effect of the experimental manipulation and age was significant ($t(241) = -2.53, p < .05, 95\% \text{ CI} [-0.04, -0.01]$). For participants aged 51 years and older, the experimental condition and composting norms were significantly related ($t(241) = -1.97, p = .05, \text{ CI} [-0.73, -0.02]$). As age increased, the relationship between the experimental manipulation and composting norms became stronger and more negative (Figure 2). Younger participants in the exclusive condition were more likely to perceive composting norms. In contrast, older participants were more likely to perceive composting norms in the inclusive condition. Therefore, H1a was partly approved.

Figure 2.

Moderation of Age on Relationship between Experimental Manipulation and Composting Norms.



Note. Scale of mean scores shows scores in the data set and not the whole scale.

Note. Young age equals -1 *SD*; old age equals +1 *SD*.

Inclusivity/ Exclusivity Condition on Kathmandu Citizen Identification. The experimental manipulation was not associated with higher Kathmandu citizen identification ($t(241) = 1.96, p > .05, 95\% \text{ CI } [-0.00, 0.68]$). Further, the moderation of age was neither significant ($t(241) = 0.71, p > .05, 95\% \text{ CI } [-0.01, 0.03]$). Thus, hypothesis H1b is rejected.

Hypothesis 2.

The second hypothesis stated that increased composting norms (H2a) and identification as a Kathmandu citizen (H2b) will be associated with interest in composting workshops.

Composting Norms on Interest in Composting Workshops. Resulting from the analysis, the higher the perceived composting norm, the more likely participants were to be interested in the composting workshops ($t(239) = 5.9, p < .001, 95\%, \text{ CI } [0.41, 0.83]$). This finding approves H2a that composting norms are associated with increased interest in composting workshops.

Kathmandu Citizen Identification on Interest in Composting Workshops. Kathmandu citizen identification did not significantly increase interest in composting workshops ($t(239) = 1.11, p > .05, 95\% \text{ CI } [-0.07, 0.24]$). Therefore, identifying as a Kathmandu citizen is not associated with an increased interest in composting workshops and disapproves of H2b.

Hypothesis 3.

The third hypothesis stated that all participants in the inclusive condition will be more likely to be interested in composting workshops compared to participants in the exclusive condition, in which only young but not older participants will be interested in composting workshops.

Inclusivity/ Exclusivity on Interest in Composting Workshops. The results revealed an

insignificant direct effect of condition on interest in joining composting workshops ($t(239) = -0.06, p > .05, 95\% \text{ CI} [-0.43, 0.40]$). Further, this relationship was not moderated by age ($t(239) = 0.25, p > .05, 95\% \text{ CI} [-0.02, 0.03]$). Therefore, the experimental manipulation did not lead to increased interest in joining composting workshops rejecting H3.

Collective Efficacy

In addition to the main mediators, collective efficacy was included as a covariate to control for low perceived efficacy to solve the waste problem. Collective efficacy was positively associated with composting norms ($t(242) = 4.5, p < .001, 95\% \text{ CI} [0.13, 0.34]$) and interest in composting workshops ($t(239) = 3.6, p < .001, 95\% \text{ CI} [0.14, 0.49]$).

Therefore, participants who perceived the waste problem might be solved by composting were significantly more likely to perceive composting as a norm within the population, and were more likely to be interested in the composting workshops.

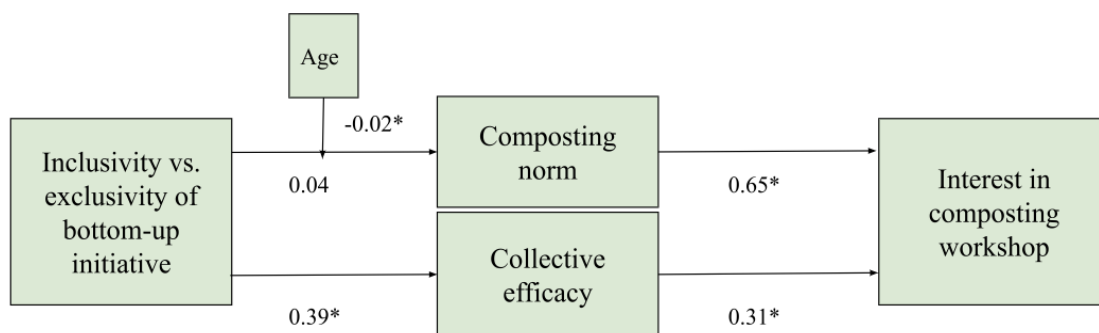
Additional Analysis

Based on the former results, an additional PROCESS macro analysis model 7 was conducted to examine whether composting norms and collective efficacy as mediators are more fitting, with age as a moderator of the indirect effects. Interestingly, the experimental manipulation significantly increased collective efficacy ($t(242) = 2.5, p < .05, 95\% \text{ CI} [0.08, 0.69]$). Participants in the exclusive condition were more likely to perceive composting as a solution to the waste problem. The interaction effect of age and the manipulation was not significant ($t(242) = 0.4, p > .05, 95\% \text{ CI} [-0.01, 0.02]$). The direct effect of the experimental manipulation on interest in composting workshops was neither significant ($t = 0.44, 95\% \text{ CI} [-0.30, 0.48]$, Figure 3). The index of moderated mediation for the indirect effect of composting norms was significant (index = $-0.01, 95\% \text{ CI} [-0.03, -0.002]$). Thus, the indirect effect of the experimental manipulation, through composting norms, on interest in joining composting workshops was positive for young participants and negative for older

participants. These results identify age as a negative moderator for the relationship between the experimental manipulation and interest in composting workshops. The index of moderated mediation for the indirect effect of collective efficacy was not significant (index = 0.00, 95% CI [-0.01, 0.01]), however without age as a moderator, the indirect effect was significant ($t = 2.17$, 95% [0.03, 0.27]). Therefore, collective efficacy mediated the relationship between the experimental manipulation and interest in joining composting workshops.

Figure 3.

Moderated Mediation of Composting Norms and Collective Efficacy.



Note. * = $p < 0.05$

Discussion

The present study was designed to determine the potential influence of a bottom-up initiative on motivating fellow citizens of Kathmandu to compost. More specifically, the effect of the bottom-up initiative was hypothesized to increase composting norms and Kathmandu citizen identification, which would result in a higher likelihood of being interested in composting. Contrary to my expectations, neither experimental condition influenced Kathmandu citizen identification, interest in composting workshops, nor willingness to join the initiative, rejecting hypotheses 1b and 3. Identifying as a Kathmandu

citizen was also not related to interest in composting, rejecting hypothesis 2b. Resulting from an additional analysis, an important finding was that composting norms and collective efficacy were fully mediating the effect of the experimental manipulation on interest in composting. Further, age mediated the indirect effect of norms. On the one hand, older participants who read that young members built the initiative were significantly less likely, compared to young participants, to perceive strengthened composting norms, which was partly in accordance with hypothesis 1a. On the other hand, all participants in the exclusive condition were significantly more likely, compared to participants in the inclusive condition, to perceive the waste problem might be solved by composting. In turn, the results indicate perceiving fellow citizens to compost (i.e., composting norms) and seeing composting as a solution to the waste problem were associated with a stronger likelihood to join composting workshops and the initiative, approving hypothesis 2a.

Inclusive and Exclusive Identities

Telling participants that general or young city members started the Kathmandu-based initiative did not directly influence their composting interests. To my knowledge, Jans (2021) was the first to experimentally manipulate information of a bottom-up initiative to investigate its effects on pro-environmental intentions. In line with the present results, she also found no direct effect of perceived bottom-up initiative formation on pro-environmental intentions in study three. However, I found a full mediation of composting norms and collective efficacy in the sample. As hypothesized, communicating that young members of the city started the initiative led to weakened perceived norms in participants aged 51 years and older and stronger perceived norms for young participants. A possible explanation for this result might be that older participants in the exclusive condition perceived Team RIGHTE as an outgroup. According to self-categorization theory, people have cognitive biases against outgroup members (Tajfel & Turner, 1979). Therefore, receiving information from outgroup members

is often disregarded and might even lead to strengthened opposing beliefs. Accordingly, in the present study, older participants who did not match the description of the youth-led initiative might have identified them as an outgroup, disregarding the shared superordinate identity. In turn, these participants might have been discouraged by the initiatives' composting intentions and reported perceiving composting norms less. On the other hand, younger participants who matched the description of young Team RIGHTE members might have perceived them as an ingroup and, in turn, were more likely to report that composting norms were prevalent. When interpreting this finding, it is important to bear in mind that young participants were overrepresented in the exclusive condition.

All participants in the exclusive condition were more likely to perceive that Kathmandu citizens can act together against the waste problem by composting their waste than participants in the inclusive condition. A potential explanation for this result might be that participants who read that young members of the city started the initiative of Team RIGHTE were more convinced that they could make a positive change in the waste management system. It may be that young people are seen as more willful and determined to reach their goals, especially in the environmental domain. This belief is mirrored in recent political developments in Kathmandu, where the mayor and vice mayor are both under the age of 35. Previously, older political parties in power did not produce significant reforms, which may have caused voters to place greater trust in proactive new institutions. Similarly, the description of general members might not have been specific enough that participants could visualize the initiative or even be convinced they existed. Thereby, disregarding participants' age, they were more inspired by a young Team RIGHTE solving the waste problem than unspecified general citizens.

Composting Norms

The results showed that participants' perception of other Kathmandu citizens

composting was associated with a greater likelihood of being interested in composting. This finding aligns with social identity theorizing, showing that people are guided by salient ingroup norms (e.g., Masson & Fritsche, 2014). Ingroup norms prescribe people's direction for their intended actions. Conformity to these ingroup norms is likely strong to avoid social sanctioning by other members (Tajfel & Turner, 1979). Accordingly, in the present research, participants who perceived that others compost were more likely to conform to this belief and indicated they were interested in joining the composting workshops and joining the initiative. Yet, composting is not practiced by most citizens in Kathmandu; thus, it could have been the case that they would not influence composting intentions because they might not be perceived as prevalent. Dynamic norms were used in the present study to control for the possibility that participants do not perceive composting norms. Therefore, the present results seem to support the literature on dynamic norms and their effectiveness in influencing intended behavior despite being counter-normative (Sparkman & Walton, 2017). Hence, these insights suggest that perceiving a changing social norm might influence behavioral intentions.

Collective Efficacy

Interestingly, participants who perceived collective composting as a solution to the waste problems were more likely to perceive stronger composting norms, be more likely interested in composting workshops and join the initiative. This finding was unexpected since it was initially included to control for low perceived efficacy. This finding is in accordance with theoretical predictions (Fritsche et al., 2018) and empirical results (van Zomeren et al., 2008), highlighting the importance of perceived effectiveness of a group to achieve its goals. An explanation might be that participants see composting as a feasible solution to the waste problem, which motivated them to show interest in composting workshops offered by Team RIGHTE and join the initiative. Further, participants who perceived the waste problem to be solved by composting were likelier to perceive that others also compost. These individuals

might have friends or family members who already practice composting; thus, their perception of it was more primed and positive.

Kathmandu Citizen Identification

In the present study, identification with a superordinate identity did not increase interest in composting. This finding aligns with study three by Jans (2021), who also found that norms were associated with pro-environmental intentions, but identification with an overarching group was not. There are several possible explanations for this result. Firstly, identification as Kathmandu citizens might not have been an important part of how participants see themselves. During the questionnaire, many participants reported not being from Kathmandu; hence, their identification and responsibility as a citizen might have been low. Kathmandu is the capital of Nepal, and many people come for better job opportunities from rural areas; therefore, participants might have yet to see themselves as Kathmandu citizens. However, average identification scores were not that low overall, which speaks against this explanation.

Another potential explanation might be that the commitment to a specific identity is more important than its activation. This accords with other observations, which showed that only participants who identified strongly with a superordinate identity showed less bias toward new information (Schultz & Fielding, 2014). In the present case, participants' identity as Kathmandu citizens might have been activated; however, their commitment to this identity might be low. In turn, no commitment was associated with no strengthened interest in composting. Additionally, it might be that identifying with this specific superordinate identity was not relevant to participants; it might not prescribe any pro-environmental attitudes or goals because, in its essence, it is not seen as environmentally friendly. In line with social identity theory, people internalize the content of the salient social identity; if the content of the social identity is pro-environmental, individuals will internalize environmentally friendly

intentions and behaviors. However, being a Kathmandu citizen might not have any pro-environmental content, and thus individuals did not adopt pro-environmental intentions when this identity was salient.

Implications

Theoretically, the present study's contribution offers further insight into the effects of bottom-up initiatives to motivate others for pro-environmental action. This study does not support the finding of Jans (2021) that bottom-up initiatives can directly increase pro-environmental intentions. However, the present study highlights the importance of perceived norms and collective efficacy for the influence of bottom-up initiatives. In turn, as Fritsche et al. (2018) suggested, norms and collective efficacy were important predictors of pro-environmental intentions. Some of the issues emerging from the findings relate to identification with a shared group membership, as it was not necessary to enhance composting intentions. This raises the question of whether identification is only sometimes necessary to promote climate action and in which specific situations it will be important. It might be worthwhile to investigate if priming a superordinate identity that prescribes pro-environmental behavior might affect intentions and behavior. These insights together provide a base for future studies to investigate the focal predictors suggested by Fritsche et al. (2018) in their social identity model of pro-environmental action. More specifically, it will be necessary to further disentangle the effects of norms, collective efficacy, and identification to promote collective climate action.

Practically, this study may have important implications for bottom-up initiatives. The findings suggest that community initiatives in Kathmandu might advertise themselves by highlighting pro-environmental norms and collective efficacy in the community. This might be done, for example, with newsletters about how many people joined the composting workshops or bought at-home composting bins. Community initiatives such as Team

RIGHTE could communicate how many kilograms of compost were produced or tons saved to be brought to the landfill. Generally, initiatives should describe themselves as visual and real as possible to increase perceived efficacy. Another idea might be organizing neighborhood events and starting personal interactions and discussions between the initiative and community members.

Moreover, the study may have important implications for motivating young versus older people. Nepal's population is generally young (National Statistics Office, 2021). However, waste disposal is a collective problem, so it is crucial to investigate how to encourage everyone to take their part in saving the environment. The results suggest an interaction of norms and age that should be investigated more. One could advise initiatives to first target young people since they were generally more likely to be influenced. Furthermore, it is advisable to approach young citizens with people matching their age. In turn, the youth can positively influence their family members by introducing new pro-environmental norms and behavioral changes. Additionally, for older people, it is advisable to make more inclusive identities salient and to include them more in community initiatives. The initiative should have diverse members, including older people, to make non-members feel represented and be more inclined to see the initiative as an ingroup.

The present research may also have implications for other countries in the Global South facing difficulties in waste management. Based on the findings, it might encourage other bottom-up community projects to engage fellow citizens by highlighting that change is happening and that collectively the necessary steps can be accomplished, despite unstable or unable governments. It might be enough to have an initial core group that believes in the cause and communicates norms and collective efficacy to others. Based on the current findings, when the initiative gains support, they should ensure to represent different types of

groups so that everyone can feel included in the initiative. This combination of findings supports the conceptual premise of the inductive process of social identities (Postmes et al., 2005). Shared differences in bottom-up initiatives strengthen the group's diversity by increasing group identification and cooperation (Jans et al., 2012). It is thought that each initiative member can actively shape the group's social identity, creating strong social identities. Therefore, to empower local communities to take ownership of their waste management, diverse bottom-up initiatives might be a starting point to increase collective action.

Limitations and Future Research

Besides the contributions of this research, there are also some drawbacks. The first limitation of the current study is that young participants are overrepresented in the exclusive condition. During data collection, older people were likelier to be at work and less interested in participating in the research. Further, volunteers were young themselves (i.e., bachelor students); hence it might have been that younger participants were more approachable or felt more comfortable. Therefore, results on the interaction effect must be interpreted with caution. It might be that young participants were generally more likely to perceive composting norms, compared to older participants. However, what speaks against this possibility is that age's main effect was insignificant, pointing to the assumption that the interaction of young people in the exclusive condition led to increases in composting norms. Future studies that wish to replicate these findings must ensure that participant characteristics are equally distributed between the two experimental conditions.

Another limitation is that the experimental manipulation was not pre-tested in the target population due to time constraints. It might be that the manipulation may have been too weak to initiate the hypothesized effects. The cover story was intended to show participants an initiative fighting for a cleaner city environment, however, it was only a short description

of the initiative. Initially, the intention was to include pictures but it was not feasible to supply pictures satisfying both conditions in which the only difference was age. Additionally, it was not controlled whether participants saw Team RIGHTE as representative of Kathmandu citizens, nor how much they saw Team RIGHTE as a potential in- or outgroup.

Future studies could improve the experimental manipulation. For instance, to strengthen the experimental manipulation, one could include pictures or other representations of the initiative's work to make it as lively as possible for the participants and to see the active engagement and representativeness of the initiative. Alternatively, a field study with actual initiative members could strengthen the manipulation. In such a set-up, the members of an initiative could introduce themselves in a public space, and after an interaction, participants would be asked to answer some questions for a research project. According to the 'common ingroup identity model', intergroup interactions are associated with expanding inclusive ingroup identity (Gaertner & Dovidio, 1993), which might increase the potential influence of the bottom-up initiative. Further, real behavior could be measured by including actual sign-ups for participation in the initiative.

Thirdly, the generalizability of the results is limited by the specific neighborhood sample (Ward 15). Nearly all participants had access to a weekly waste pick-up service in this specific sample. However, it is not representative of all neighborhoods in Kathmandu. Therefore, it might be that the participants were less interested in composting as it poses certain time constraints on the individual. They might not perceive the necessity if all waste is picked up either way. It might also be that self-reported measures led to biased responses. Self-reported measures only indicate people's intentions to join the composting workshops and initiative, but not their actual behavior, which would presumably be lower if they were confronted with starting composting.

As a suggestion for future research, conducting in-depth interviews with stakeholders all over Kathmandu's neighborhoods might be interesting. In that way, controlling whether intentions to compost differ depending on households' locations might be possible. Further, including different stakeholders might enable a more thorough understanding of the waste problem. Governmental regulation, or top-down approaches, are often separated from community (i.e., bottom-up) approaches to waste management. This study did not investigate the difference between these two approaches; however, examining how they might work synergistically might be worthwhile. For instance, by conducting in-depth interviews, community members' and policymakers' interests could be analyzed, and beneficial collaborations suggested. For instance, policymakers could support bottom-up initiatives by making them visible to the broader public and encouraging more social interactions with non-members (Bolderdijk & Jans, 2021). Personal interaction with local initiates may accelerate their influence on other citizens and support behavioral change.

Conclusion

To conclude, the study examined the impact of a bottom-up initiative on motivating the citizens of Kathmandu to compost. Composting norms and collective efficacy fully mediated the experimental manipulation's influence on composting interest. Notwithstanding the limitations, age acted as a moderator, with older people in the exclusive condition perceiving weaker composting norms than younger participants. These findings have implications for how bottom-up initiatives might promote themselves, targeting diverse age groups, and tackling waste management in other countries. Overall, this study adds to the literature on bottom-up initiatives and offers practical insights for community waste management and participation. It also opens up possibilities for future studies to investigate the interaction of norms, collective efficacy, and identity in driving collective climate action. Taken together, bottom-up initiatives may play a critical role in tackling environmental issues

by stirring local communities towards more climate action.

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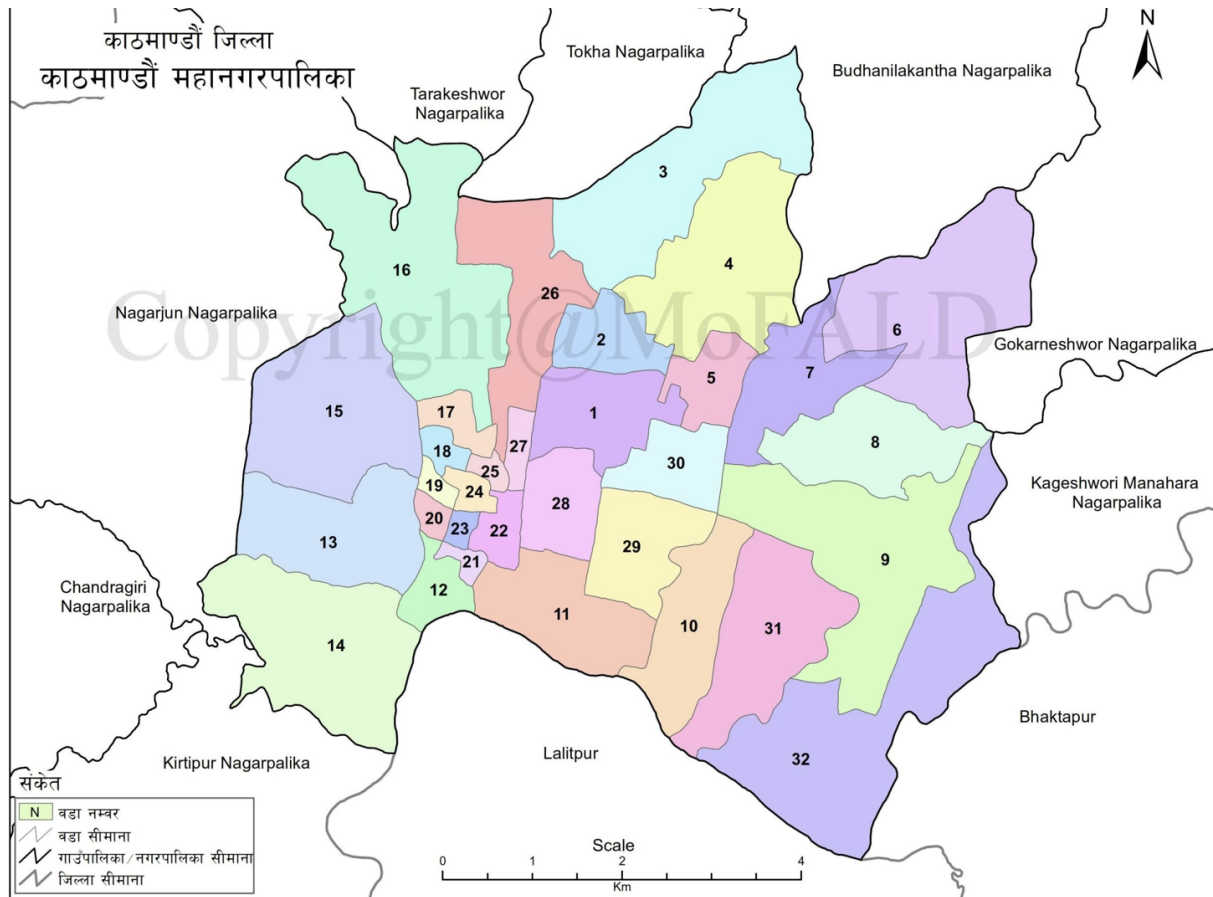
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Appendix A

Map of Kathmandu



Source: Office of Municipal Executives. (n.d.). *Ward No. 15*.

<https://kathmandu.gov.np/ward/ward-no-15/?lang=en>

Appendix B

Information Letter and Informed Consent

INFORMATION ABOUT THE RESEARCH

VERSION FOR PARTICIPANTS

“COMPOSTING WASTE IN KATHMANDU”

PSY-2223-S-0175

Why do I receive this information?

We would like to invite you to participate in our survey about waste composting in Kathmandu Metropolitan City. We are an international research team consisting of Emily Weinberg, a supervised master student at Groningen University and principal investigator, and Bibek Shrestha, the co-investigator at the Global Institute of Interdisciplinary Studies. We ask you to participate because you live in Kathmandu Metropolitan City. Before you decide to participate, it is important that you understand information about the research and what you will have to do. Please take time to understand this information.

Do I have to participate in this research?

No. You can choose to participate or not participate in the research, and it's completely up to you. We need your permission to proceed with the research, and you can ask any questions you have before deciding whether to participate. If you decide not to participate, you don't have to explain why, and there won't be any negative consequences for you. You have the right to make this decision at any time, even after you have already agreed to participate.

Why this research?

The purpose of the questionnaire is to examine your attitudes and opinions on composting in Kathmandu Metropolitan City.

What do we ask of you during the research?

Firstly, after reading this information letter you will have to decide if you want to participate in the questionnaire study. If you decide to participate you will be given the main questionnaire, consisting of a short text you will read, followed by about 30 questions about composting household waste. This questionnaire will take approximately 15-20 minutes of your time. There is no compensation for your participation.

What are the consequences of participation?

There will be no direct or indirect positive or negative consequences for you by participating in this questionnaire study. We will use your answers only for research purposes.

How will we treat your data?

Emily Weinberg is working on her Master's thesis and needs to collect and analyze data for her research. The data collected will only be used for training purposes and we won't ask for any personal or sensitive information that could identify you. You can choose not to answer any questions you don't feel comfortable with. Your data will be kept anonymous and will be stored with Emily Weinberg. The results of the study will only be shared with Bibek Shrestha (co-investigator).

What else do you need to know?

You may always ask questions about the research: now, during the research, and after the end of the research. You can do so by speaking with one of the researchers present right now or by emailing Emily Weinberg (e.o.g.weinberg@student.rug.nl), her supervisor at Groningen University (g.perlaviciute@rug.nl) or Bibek Shrestha (bibekrajshrestha@gmail.com).

Do you have questions/concerns about your rights as a research participant or about the conduct of the research? You may also contact the Ethics Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl.

Do you have questions or concerns regarding the handling of your personal data? You may also contact the University of Groningen Data Protection Officer: privacy@rug.nl.

As a research participant, you have the right to a copy of this research information.

INFORMED CONSENT

“COMPOSTING WASTE IN KATHMANDU”

PSY-2223-S-0175

- I have read the information about the research. I have had enough opportunities to ask questions about it.
- I understand what the research is about, what is being asked of me, which consequences participation can have, how my data will be handled, and what my rights as a participant are.
- I understand that participation in the research is voluntary. I myself choose to participate. I can stop participating at any moment. If I stop, I do not need to explain why. Stopping will have no negative consequences for me.
- Below I indicate what I am consenting to.

Consent to participate in the research:

Yes, I consent to participate; this consent is valid until 01.08.2023

No, I do not consent to participate

Participant's initials:	Date:

Researcher's signature:	Date:

The researcher declares that the participant has received extensive information about the research.

Appendix C

Questionnaire (Inclusive Condition)

Part 1. Demographics

1. With which gender do you identify?

Male / female / other / I prefer not to answer

2. What is the highest education you have accomplished?

- informal education / high school /undergraduate and bachelor/ Masters /Higher than masters

3. How old are you?

4. How long have you been living in Kathmandu?

- less than one year, 1-3 years, 3-5 years, 5-9 years, more than 9 years

5. Do you live in a ... ?

- Single room/apartment (only have access to the kitchen), Shared flat (many people have access to the kitchen), House (I share with my family members)

6. How often are you composting your organic household waste?

1= never; 2= rarely; 3= not often; 4= every once in a while; 5 sometimes; 6= almost always; 7= always

7. Is there a waste pick up service at your home? yes / no

8. How much do you pay for waste pick up?

9. To what extent are you involved in decisions about waste disposal in your household?

1= Not at all; 2= not really; 3= slightly not; 4= neutral; 5= slightly; 6= sometimes; 7= very much

Part 2.

Team RIGHTE is a bottom-up initiative based in Kathmandu. The initiative was founded three years ago by a **group of citizens from Kathmandu Metropolitan City**. They are motivated to promote composting, because they want to act against the negative influence of waste on the city. The citizens decided to initiate composting workshops, to reduce organic waste illegally dumped or being transported to the landfill site. Their goal is to engage all citizens to voluntarily adopt this new habit, see the benefits for themselves, and contribute to saving the environment together.

<p>1. What is the goal of team RIGHTE?</p> <p>A. To save animals</p> <p>B. To build more affordable houses</p> <p>C. To build a composting community in Kathmandu</p> <p>D. To increase forest areas</p>	<p>2. Who initiated team RIGHTE?</p> <p>A. Members of the local government</p> <p>B. A group of High School students</p> <p>C. A group of Kathmandu citizens</p> <p>D. Members of an international research team</p>
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Part 3.

Questions	1 = strongly disagree	2 = disagree	3 = slightly disagree	4 = neutral	5 = slightly agree	6 = agree	7 = strongly agree
3. It is important for Kathmandu citizens to reduce the waste problem by composting their waste.							
4. Citizens of Kathmandu try to reduce the waste problem by composting.							

5. Citizens of Kathmandu think that every citizen should help reduce the waste problem through composting.							
6. More and more citizens in Kathmandu are starting to compost.							
7. More citizens in Kathmandu start to compost to reduce the waste problem.							
8. I think in the next year, most citizens in Kathmandu will compost.							
9. I identify as a citizen of Kathmandu:							
10. I feel committed to the citizens of Kathmandu.							
11. I am glad to be a citizen of Kathmandu.							
12. Being a citizen of Kathmandu is an important part of how I see myself.							
13. I think together the citizens of Kathmandu are able to change the waste problem by composting.							
14. The citizens of Kathmandu together are able to stop the negative influence of waste on the city.							
15. The citizens of Kathmandu can successfully stand up together against the waste problem by composting waste.							
16. I am interested to join the composting workshops organized by team RIGHTE:							
17. I would like to receive more information on the composting workshops:							
18. I am interested to join team RIGHTE:							

19. I want to become involved in team RIGHTE:							

Appendix D

Debriefing Form

Debriefing

“COMPOSTING WASTE IN KATHMANDU” PSY-2223-S-0175

Thank you for participating in our questionnaire study!

Disclosure of information

The study you just completed aimed to discover whether local initiatives taken by citizens of Kathmandu Metropolitan City can inspire others to compost. We did not tell you the exact research question or that there were two versions of the questionnaire before you started. The two versions were almost identical, except that one group was told that team RIGHTE was started by regular citizens, while the other group was told it was started by young citizens of Kathmandu. We did not give you this information beforehand because it might have affected how you answered the questions.

After having read this debriefing form, you have the right to withdraw your data without any negative consequences.

If you want more information about the study you can always contact us.

Contact details

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Appendix E

Results of Willingness to Join the Initiative

Similar results were found for the second dependent variable willingness to join the initiative and are reported below. See table 5 for the model summary.

Table 5.

Model Summary.

	F-statistic (6, 239)	p-value	R ²	Inclusive		Exclusive	
		e		M	SD	M	SD
Willingness to join the initiative	15.45	.00**	.28	4.08	1.5	4.58	1.7

Note. ** = $p < .001$

Hypothesis 2.

The higher the composting norm the more likely participants were to be willing to join the initiative ($b = .53, t(239) = 5.5, p < .001, 95\% \text{ CI } [0.34, 0.72]$). Therefore, composting norms were positively associated with higher willingness to join the initiative. Kathmandu citizen identification did not significantly increase willingness to join Team RIGHTE ($b = .1, t(239) = 1.52, p > .05, 95\% \text{ CI } [-0.03, 0.25]$). Therefore, identifying as a Kathmandu citizen is not associated with an increased willingness to join the initiative.

Hypothesis 3.

The direct effect of condition on willingness to join the initiative was insignificant ($b = .22, t(239) = 1.13, p > .05, 95\% \text{ CI } [-0.15, 0.60]$). The moderator age neither had a significant effect on willingness to join the initiative ($b = -.01, t(239) = -1.1, p > .05, 95\% \text{ CI } [-0.04, 0.01]$).

Collective Efficacy

The covariate collective efficacy was significantly associated with willingness to join the initiative ($b = .39$, $t(239) = 4.84$, $p < .001$, 95% CI [0.23, 0.55]). Therefore, participants who perceived the waste problem might be solved by composting were significantly more likely to be willing to join the initiative.