

Singapore Management University

# Institutional Knowledge at Singapore Management University

---

Research Collection School of Social Sciences

School of Social Sciences

---

5-2019

## Public Cleanliness Satisfaction Survey [2018]

Paulin STRAUGHAN

*Singapore Management University, paulints@smu.edu.sg*

Mathews MATHEW

*National University of Singapore*

Follow this and additional works at: [https://ink.library.smu.edu.sg/sooss\\_research](https://ink.library.smu.edu.sg/sooss_research)



Part of the [Asian Studies Commons](#), and the [Place and Environment Commons](#)

---

### Citation

STRAUGHAN, Paulin and MATHEW, Mathews, "Public Cleanliness Satisfaction Survey [2018]" (2019). *Research Collection School of Social Sciences*. Paper 2855.

[https://ink.library.smu.edu.sg/sooss\\_research/2855](https://ink.library.smu.edu.sg/sooss_research/2855)

Available at: [https://ink.library.smu.edu.sg/sooss\\_research/2855](https://ink.library.smu.edu.sg/sooss_research/2855)

This Report is brought to you for free and open access by the School of Social Sciences at Institutional Knowledge at Singapore Management University. It has been accepted for inclusion in Research Collection School of Social Sciences by an authorized administrator of Institutional Knowledge at Singapore Management University. For more information, please email [cherylds@smu.edu.sg](mailto:cherylds@smu.edu.sg).



## Public Cleanliness Satisfaction Survey Executive Summary

The Singapore Management University undertook the second wave of the Public Cleanliness Satisfaction Survey (PCSS) with over 2000 Singapore resident respondents.

The 2018 wave of the PCSS continued to reflect the overall satisfaction with public cleanliness in Singapore. There was a slight increase in the proportion of Singaporeans satisfied with the overall cleanliness of public areas which they had recently used (82% in 2017 vs. 84% in 2018).

Significantly more Singaporeans are satisfied with the cleanliness of spaces after public events (63% in 2017 vs. 74% in 2018).

Satisfaction with the cleanliness of food outlets is still the lowest among public spaces, but some areas have shown significant improvement. For example, more Singaporeans are satisfied with the cleanliness of wet markets (65% in 2017 vs. 73% in 2018).

Singaporeans are also becoming more prosocial when it comes to matters of public cleanliness. There has been an increase in pro-social behaviours, such as people clearing their own utensils at hawker centres. More Singaporeans reported that they cleared their utensils at hawker centres most or all of the time (35% in 2017 vs. 49% in 2018). Additionally, more Singaporeans reported seeing *others* clearing their own utensils at hawker centres at least some of the time (80% in 2017 vs. 88% in 2018).

There is also much consensus among Singaporeans about what constitutes littering. Improper disposal of an item no matter whether it was small or inconvenient was still considered as littering. There was considerable support for enforcement to ensure less littering with 76% of respondents wanting the government to put more focus on having persistent litterers pick up litter through Corrective Work and 65% hoping for more enforcement officers on the ground.

Credit for the increased satisfaction with cleanliness must go to all the stakeholders involved – public agencies, cleaning contractors and residents who have worked towards improving cleanliness standards. Nonetheless relying only on cleaning services to achieve higher levels of cleanliness, is not sustainable in the longer time, especially in areas which currently do not have high levels of satisfaction. This calls for more concerted efforts where Singaporeans, public agencies and food outlets co-create a culture of cleanliness in these spaces.

## FINDINGS FROM THE PUBLIC CLEANLINESS SATISFACTION SURVEY (2018)

### Introduction

The Singapore Management University undertook the second wave of the Public Cleanliness Satisfaction Survey<sup>1</sup>. The study was led by Professor Paulin Tay Straughan, Professor of Sociology (Practice) at SMU and Dr Mathew Mathews, Senior Research Fellow at the Institute of Policy Studies, National University of Singapore. The survey was conducted from August 2018 to December 2018 and sought the views of over 2000 Singapore Citizens and Permanent Residents<sup>2</sup> aged 21 years and above. The first wave of this study was conducted between October 2016 to March 2017.

The 2018 wave of the PCSS continued to reflect the overall satisfaction with public cleanliness in Singapore. It showed that satisfaction with cleanliness and cleaning services had improved substantially in some domains. Fewer respondents reported seeing some forms of dirt regularly. More respondents also engaged in prosocial behaviour related to public cleanliness.

### Satisfaction with the Cleanliness of Public Spaces

In general, we found that there was a high level of satisfaction with the cleanliness of public spaces in Singapore. Based on our Public Cleanliness Satisfaction Index (“Index”), 84% of the respondents were satisfied<sup>3</sup> with the cleanliness of public spaces that they had recently visited, a 2% increase from what was found in 2017<sup>4</sup> (see [table 1](#) for details). As with the 2017 study, there were differences in the levels of satisfaction with cleanliness in different domains and different public spaces categorised under each domain. Respondents were more satisfied with cleanliness in some domains such as *transport* (95%), *leisure* (89%) and *commuter paths* (85%) and less satisfied with cleanliness in other domains such as *neighbourhood* (79%), *after public events* (74%) and *food outlets* (71%).

In all but two domains (*leisure* and *neighbourhood*), the proportion of respondents who was satisfied was higher than those in 2017. For the domains of *leisure* and *neighbourhood* there was very little change in satisfaction levels.

The results of the survey show that efforts made by all stakeholders, be it the Government, the private sector or the community and individuals, to keep public spaces clean and liveable for everyone were largely successful. However, there continues to be room for improvement. Details of the results can be found in [Annex A](#).

---

<sup>1</sup> This study was made possible through funds from the Ministry of the Environment and Water Resources.

<sup>2</sup> We refer to Singapore citizens and permanent residents in this report as Singaporeans.

<sup>3</sup> This includes respondents who indicated that they are “satisfied” or “very satisfied”.

<sup>4</sup> In 2018 and for future waves of this study, we have decided to use only responses of those who had visited a place recently (i.e. not more than two weeks before responding to the survey). This is to counter recall biases and ensure that responses accurately reflected the opinions of only those who had used particular spaces. Those who had visited a place a long time ago may not be able to accurately rate the level of cleanliness in that space. The 2017 PCSS was recalculated to reflect this new method for calculating public satisfaction in this report. The differences in percentage between the two methods is however minimal.

Table 1: Public Cleanliness Satisfaction Index

Domains / Spaces	Proportion Satisfied %	Overall Satisfaction % [Public Cleanliness Satisfaction Index]
<p><b>Transport</b> (roads, bus stops, bus interchanges, MRT/LRT stations)</p>	<p><b>Slight increase</b></p> <ul style="list-style-type: none"> <li>• 2018: 94.9% ↑</li> <li>• 2017: 93.4%</li> </ul>	<p><b>2018: 84%</b> <b>2017: 82%</b></p>
<p><b>Leisure</b> (parks/park connectors, shopping malls in housing estates, playgrounds)</p>	<p><b>Constant</b></p> <ul style="list-style-type: none"> <li>• 2018: 89.4% ↑</li> <li>• 2017: 88.9%</li> </ul>	
<p><b>Food Outlets</b> (coffee shops, air-conditioned food courts, hawker centres, wet markets)</p>	<p><b>Significant increase</b></p> <ul style="list-style-type: none"> <li>• 2018: 71.4% ↑</li> <li>• 2017: 68.9%</li> </ul> <p><i>Wet markets improved most, to 73.2% (+9%)</i></p>	
<p><b>Neighbourhood</b> (HDB town centres, void decks, corridors, lifts and lift lobbies)</p>	<p><b>Constant</b></p> <ul style="list-style-type: none"> <li>• 2018: 79.3% ↑</li> <li>• 2017: 78.8%</li> </ul>	
<p><b>Commuter Paths</b> (pavements, walkways, overhead bridges, foot bridges, underpasses, roadside drains, grass patches next to pavements)</p>	<p><b>Slight increase</b></p> <ul style="list-style-type: none"> <li>• 2018: 84.8% ↑</li> <li>• 2017: 82.6%</li> </ul>	
<p><b>After Public Events</b> (public spaces after events such as National Day Parade (NDP), concerts, marathons etc)</p>	<p><b>Greatest increase</b></p> <ul style="list-style-type: none"> <li>• 2018: 74.3% ↑</li> <li>• 2017: 62.6%</li> </ul>	

Respondents were asked to rate their satisfaction with the cleanliness of 20 public spaces they frequented in their everyday lives, on a scale of “1” (not satisfied at all) to “4” (very satisfied). To construct the Index, we used a weighted average<sup>5</sup> of our respondents’ responses regarding the satisfaction with cleanliness in the 20 public spaces.

### *Transport*

Respondents were most satisfied with the level of cleanliness at transport spaces such as roads, bus stops, bus interchanges and MRT/LRT stations. An average of 95% of respondents reported that they were satisfied or very satisfied with the levels of cleanliness in transport spaces, up from 93% in 2017. In particular, there were significantly more respondents (92% compared to 88% in 2017) who were satisfied or very satisfied with cleanliness at bus stops.

### *Commuter Paths*

Regarding the cleanliness of commuter paths such as pavements/walkways, overhead bridges/foot bridges, underpasses, roadside drains and grass patches next to pavements, the levels of satisfaction had increased across the different spaces. For example, 78% were satisfied or very satisfied with the cleanliness of roadside drains in 2017, a significant increase of 7% from that in 2017 while underpasses saw a 4% increase in satisfaction levels, from 84% to 88%.

### *Neighbourhoods*

Satisfaction with cleanliness of neighbourhood spaces such as HDB Town Centres, void decks/corridors/lift lobbies and lifts to their homes stayed relatively constant at 79%. As seen in 2017, respondents were generally more satisfied with cleanliness at HDB Town Centres (90%) than in spaces closer to their homes, such as the void decks, corridors, and lift lobbies (74%).

### *Public Events and Leisure*

Significantly more respondents (11% increase) reported satisfaction with the level of satisfaction of cleanliness after public events (e.g. National Day Parade, Concerts, Sporting events etc.). Seventy five percent reported their satisfaction with cleanliness after public events compared to 63% in 2017.

Levels of satisfaction with the cleanliness of leisure spaces such as parks, playgrounds and shopping malls in housing estates remained constant - an average of 89% of the respondents reported that they were satisfied or very satisfied with the cleanliness of such spaces. Similar to trends in 2017, there were more respondents who reported that they were satisfied with the cleanliness of shopping malls in housing estates (95%) compared to cleanliness at playgrounds (83%).

---

<sup>5</sup> A weighted average takes into account that some indicators may not have the same weight. In the case of the PCSS, a substantial portion of respondents have no experience of some public spaces. We did not include a respondent’s opinion about a public space if s(he) stated that s(he) had never been to that space.

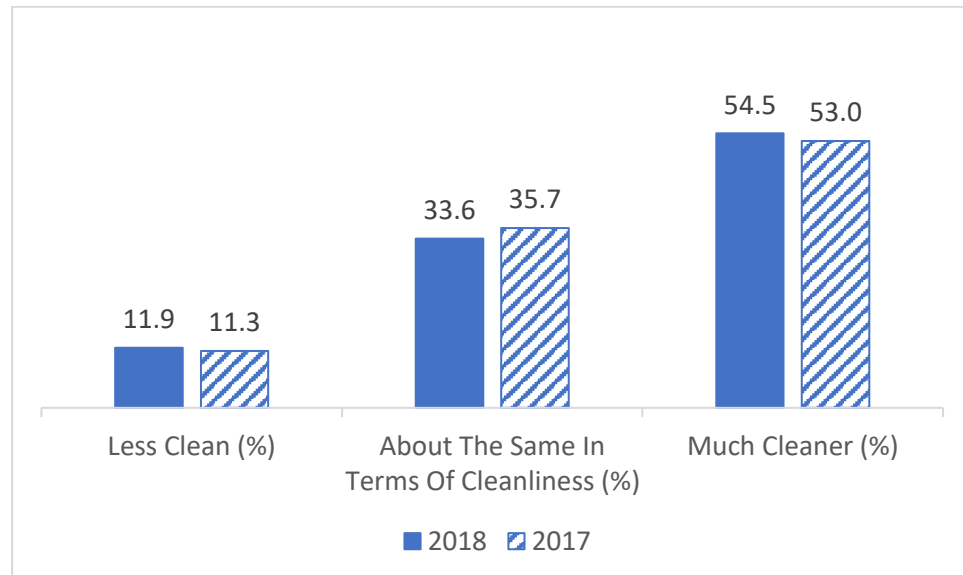
## Food Outlets

Regarding the levels of satisfaction with the cleanliness of food outlets including coffee shops, hawker centres, food courts (air-conditioned) and wet markets, an average of about 71% reported that they were satisfied or very satisfied with levels of cleanliness in this domain, a 2% increase from that of 2017. Wet markets improved most, 73% of respondents reported satisfaction with cleanliness in this space, up from 65%.

### Perceptions of cleanliness now as compared to 5 years ago

When respondents were asked to compare the cleanliness levels now compared to 5 years ago, slightly more respondents as compared to 2017 felt that Singapore was much cleaner (55% vs 53%). The proportion of those who felt that Singapore was less clean as compared to before stayed relatively constant at around 11% (refer to [figure 1](#)). Older persons were more likely to report that Singapore was cleaner now compared to those who were younger. This might be due to the different reference points they used - the younger respondents had grown up at a time when Singapore had already made its mark as a clean city and as such it was harder for them to notice significant improvements in public cleanliness. Older respondents are more likely to have lived in Singapore at a time when cleanliness standards were much lower.

**Figure 1: Perceptions of cleanliness now as compared to 5 years ago**



### Public's Satisfaction Regarding Public Cleaning Services

When comparing the levels of satisfaction of cleaning services across various public spaces such as common areas in their neighbourhood, hawker centres and coffee shops, and along public pavements/walkways, slight improvements were seen in most spaces. As with 2017, there were more respondents who were satisfied with the thoroughness of cleaning at MRT/LRT stations (97%) than hawker centres and coffee shops (57%). Bus-stops saw the

largest increase in public satisfaction with 88% of respondent indicating satisfaction with the thoroughness of cleaning there compared to the 83% reported in 2017 (see [graph 1](#) for details).

For each of the public spaces, respondents were asked what they were specifically satisfied or not satisfied with regarding public cleaning services. They were allowed to rate their satisfaction on the thoroughness of cleaning, number of trash bins, time taken for follow-up action following cleanliness feedback and the amount of enforcement against those who litter.

Across the different public spaces, satisfaction ratings increased for all aspects of the cleaning services specified. Notably, 77% reported satisfaction with the amount of enforcement against those who litter, 4% more than in 2017. Seventy four percent of respondents also said that they were satisfied with the number of trash bins, up from 70% in 2017 (See [table 2](#) for details).

**Graph 1: Satisfaction for thoroughness of cleaning at different spaces**

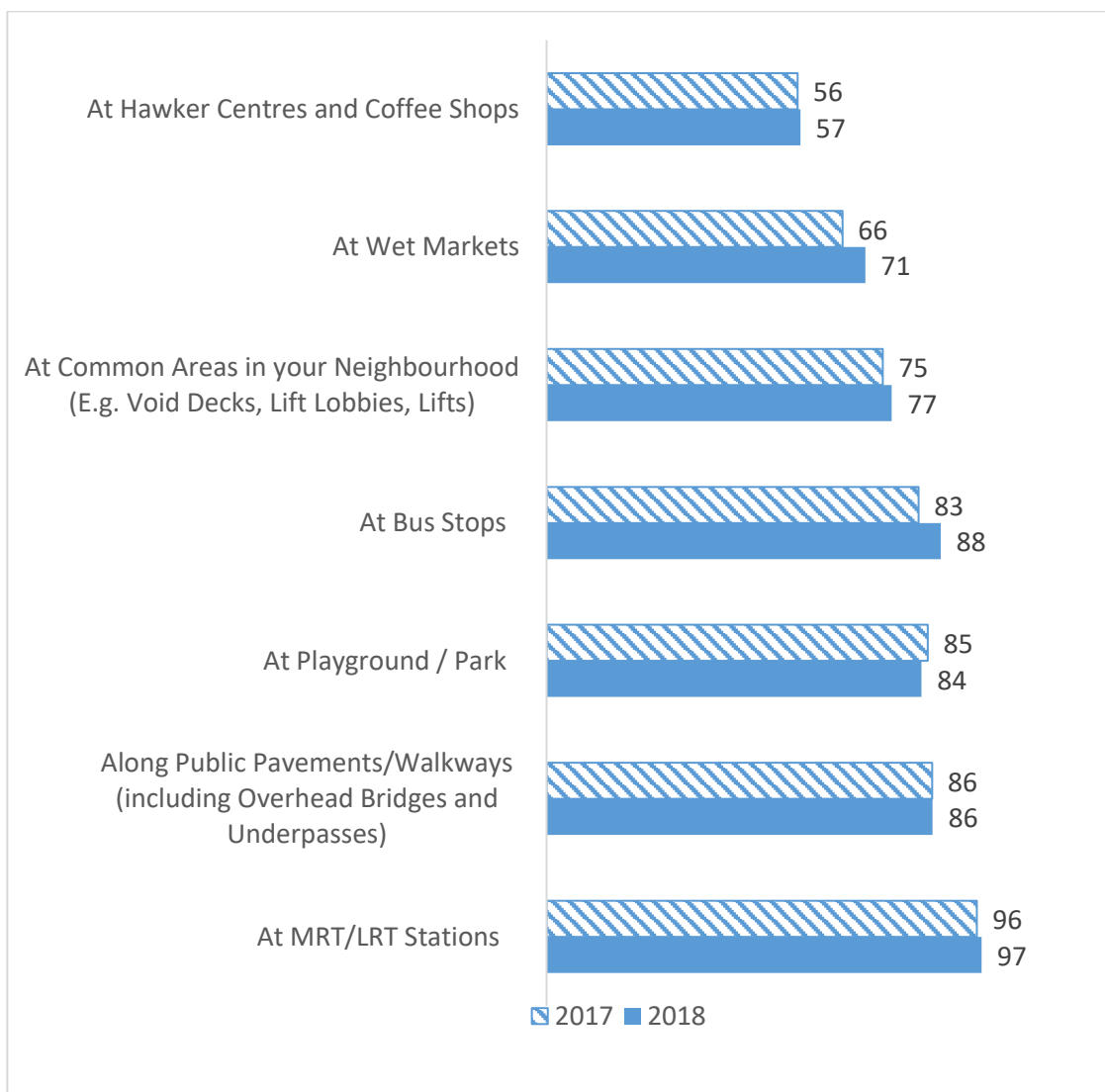


Table 2: Satisfaction with Aspects of Cleaning Services Across Public Spaces

Domain	Average Proportion Satisfied	Component With Highest Satisfaction	Component With Lowest Satisfaction
Thoroughness of cleaning	2018: 79.1% ↑ 2017: 77.9%	At MRT/LRT Stations (96.8) ↑ by 1% from 2017	At Hawker Centres and Coffee Shops (57.1) ↑ by 1% from 2017
Time taken for follow-up action following cleanliness feedback	2018: 79.5% ↑ 2017: 77.4%	At MRT/LRT Stations (94.4) ↑ by 2% from 2017	At Hawker Centres and Coffee Shops (64.1) ↑ by 2% from 2017
The frequency of cleaning	2018: 78.8% ↑ 2017: 76.4%	At MRT/LRT Stations (95.8) ↑ by 2% from 2017	At Hawker Centres and Coffee Shops (60.9) ↑ by 4% from 2017
Amount of enforcement against those who litter	2018: 76.9% ↑ 2017: 73.4%	At MRT/LRT Stations (92.2) ↑ by 3% from 2017	At Hawker Centres and Coffee Shops (61.7) Similar to 2017
Number of trash bins	2018: 73.8% ↑ 2017: 70.4%	At Bus Stops (85.5) ↑ by 3% from 2017	At Hawker Centres and Coffee Shops (59.9) 2017 – Wet Market (57%)

### **Type of Dirt Encountered in Different Spaces**

Respondents were asked about the types of dirt they encounter in six areas (i.e. playgrounds, neighbourhoods, bus stops, food centres, wet market, public pavements/walkways). Compared to the 2017 PCSS, fewer respondents report encountering “dirt” in different spaces especially food centres. Across areas, there was between 7 to 12% reduction in the proportion of those who reported seeing cigarette butts and used tissue paper most or all the time.

Hawker centres and coffee shops were the sites where more respondents report encountering dirt. However when the two waves of the survey were compared, these were also the sites where the greatest reduction of dirt was noticed. For instance between the



two waves, there was a reduction of 12% of those who had seen used tissue paper and 9% of stains/graffiti at these food places most or all the time (see Table 3 for details).

Table 3: Types of Dirt Encountered Most or all the Time Across Public Spaces

<b>Space/Dirt</b>	<b>Proportion who notice this type of dirt most or all of the time at these spaces</b>
<b>Playgrounds</b>	
Fallen Branches	(50.8) 48.5
Cigarette Butts	(39.2) 28.9
Used tissue paper	(33.2) 24.8
<b>Neighbourhoods</b>	
Cigarette Butts	(37.5) 27.1
Used tissue paper	(32.5) 23.8
Disposable items	(28.6) 21.9
Bulky items	(27.9) 18.4
Dirt/Stain/Graffiti	(25.1) 22.1
Leftover food	(26.6) 21.4
<b>Bus Stops</b>	
Cigarette Butts	(32.8) 21.5
Used tissue paper	(27.3) 16.2
Disposable items	(19.9) 12.8

*(table continues to next page)*

<b>Space/Dirt (continued from pg 8, Table 3)</b>	<b>Proportion who notice this type of dirt most or all of the time at these spaces</b>
<b>Food Centres (Hawker Centres &amp; Coffee Shops)</b>	
Leftover food	(67.7) 57.2
Used tissue paper	(59.4) 47.8
Disposable items	(44.9) 38.9
Cigarette Butts	(41.8) 31.1
Dirt/Stain/Graffiti	(40.1) 31.4
<b>Wet Markets</b>	
Dirt/Stain/Graffiti	(31.6) 22.1
Used tissue paper	(30.9) 24.0
Disposable items	(29.6) 20.6
Cigarette Butts	(25.7) 16.3
Leftover food	(24.5) 18.9
<b>Public Pavements/Walkways</b>	
Fallen leaves/branches	(38.7) 35.6
Cigarette Butts	(33.7) 25.0
Used tissue paper	(26.6) 18.1
Disposable items	(20.8) 16.5

*Figures in parenthesis refer to proportions from the 2017 wave of PCSS.*

## Opinion on the State of Cleanliness in Singapore

Similar to results in the 2017 wave of the PCSS, most respondents held the opinion that Singapore is a clean city with 94% of them stating so (see Table 4). Eighty-seven percent agreed or strongly agreed that Singapore was a clean city because of the efficiency of its cleaning services, slightly more than the 85% of respondents who reported this in 2017. The majority (96%) also felt that visitors who came to Singapore admire how clean the city is, 2% more than 2017. However, there were fewer as compared to the first wave in 2017 who felt that visitors who come to Singapore have kept Singapore clean (68% vs 70%).

**Table 4: Proportion of respondents agreeing to statements on Singapore cleanliness identity**

	<b>Strongly Disagree (%)</b>	<b>Disagree (%)</b>	<b>Agree (%)</b>	<b>Strongly Agree (%)</b>	<b>Agree/ Strongly Agree (%)</b>
I take pride in keeping Singapore clean	0.5 (0.6)	2.3 (1.1)	52.6 (58.0)	44.6 (40.2)	97.2 (98.2)
Visitors who come to Singapore admire how clean the city is	0.9 (1.3)	2.8 (4.6)	55.2 (57.8)	41.1 (36.2)	96.3 (94.0)
Singapore is a clean city	0.9 (1.0)	4.7 (5.1)	54.7 (62.4)	39.7 (31.5)	94.4 (93.9)
Singaporeans take pride in keeping Singapore clean	1.3 (1.5)	10.0 (11.0)	55.1 (59.4)	33.6 (28.1)	88.7 (87.5)
Singapore is clean only because of the efficiency of its cleaning services	1.6 (1.5)	10.9 (13.3)	54.8 (54.5)	32.6 (30.7)	87.4 (85.2)
Visitors who come to Singapore have kept Singapore clean	4.7 (4.7)	27.1 (25.2)	49.0 (53.4)	19.2 (16.7)	68.2 (70.1)

*Figures in parenthesis refer to proportions from the 2017 wave of PCSS.*

## Observations of Undesirable Social Behaviour Related to Cleanliness

The top 3 undesirable social behaviours related to cleanliness in public spaces remained as littering, observing others spitting on the ground, someone not picking up his/her pets' poo. However, there was a marked reduction in the proportion of respondents who reported such behaviour when the waves were compared. While 90% of respondents in 2017 reported observing at least sometimes, someone littering, only 84% reported so in the 2018 wave. In 2017, 87% of respondents observed others spitting on the ground, whereas only 76% did so in 2018. Also, only 64% of respondents in the 2018 wave observed someone not picking up his/her pets' poo, 7% fewer than in 2017 (see [table 5](#) for details).

Table 5: Observations of undesirable social behaviours related to cleanliness

<b>How often have you noticed people doing the following actions:</b>	<b>Never (%)</b>	<b>Sometimes (%)</b>	<b>Most Of The Time (%)</b>	<b>All The Time (%)</b>
Someone littering	16.0 (9.5)	67.2 (62.9)	13.9 (22.4)	2.9 (5.2)
Someone spitting on the ground	24.0 (13.2)	58.5 (56.9)	14.2 (22.7)	3.3 (7.3)
Someone urinating and/or defecating in public	67.9 (60.8)	28.2 (32.7)	2.8 (4.0)	1.1 (2.5)
Someone not picking up his/her pets' poo	35.6 (28.8)	52.1 (56.8)	10.5 (10.9)	1.8 (3.5)

*Figures in parenthesis refer to proportions from the 2017 wave of PCSS.*

### **Social Behaviour Related to Public Cleanliness**

Singaporeans are slowly adopting prosocial behaviours related to public cleanliness such as picking up and properly disposing of garbage or litter at a public area and clearing up their food utensils at hawker centres. While 66% of our respondents had never reminded a stranger to not litter when they noticed this, a similar finding in 2017, respondents were, however, more open to reminding family and friends about not littering. Around 54% of respondents reported that they did this most or all of the time when it came to a family member, 9% more than in 2017. Thirty-six percent of respondents compared to 31% in 2017 reported reminding their friends not to litter. For the 2018 wave we also noted that nearly 72% of respondents reported that they held on to litter until they were able to find a litter bin most or all the time (see [table 6](#) for details).

About 49% of respondents compared to 35% in 2017 said that they had cleared up their food utensils at hawker centres most of the time or all the time. Only 7% admitted that they had never cleared their own food utensils at hawker centres, a significant 10% drop from 2017. Similar to 2017, about 28% of respondents reported never picking up and properly disposing garbage or litter at a public area.

Table 6: Participation in Cleanliness Related Behaviour

How often have you done the following actions:	Never (%)	Sometimes (%)	Most Of The Time (%)	All The Time (%)	Most Of The Time/ All The Time (%)
Held on to your litter when there is no rubbish bin in sight, until you find a rubbish bin to dispose it	7.3	21.0	29.6	42.0	2018: 71.6 2017: NA
Reminded a family member to not litter when you noticed them doing so	12.3 (20.4)	33.5 (33.8)	31.9 (28.2)	22.4 (17.5)	2018: 54.3 2017: 45.7
Cleared up your own food utensils at hawker centres	6.6 (16.3)	44.7 (48.7)	35.7 (27.2)	13.0 (7.8)	2018: 48.7 2017: 35.0
Reminded a friend to not litter when you noticed them doing so	20.3 (28.5)	43.6 (40.3)	24.2 (22.2)	11.9 (9.0)	2018: 36.1 2017: 31.2
Picked up and properly disposed garbage or litter at a public area	28.4 (28.0)	42.9 (46.8)	17.7 (16.3)	11.1 (8.8)	2018: 28.8 2017: 25.1
Reminded a stranger to not litter when you noticed them doing so	65.8 (65.1)	28.3 (28.6)	4.5 (5.1)	1.5 (1.3)	2018: 6.0 2017: 6.4
Disposed of garbage/litter inappropriately*	62.0 (55.3)	28.6 (32.9)	6.4 (7.9)	3.1 (3.8)	2018: 9.5 2017:11.8

Figures in parenthesis refer to proportions from the 2017 wave of PCSS.

\* refers to an undesirable behaviour

### Norms with regard to littering

In this 2018 wave of the PCSS, a series of scenarios were used to assess respondents' perceptions of what constituted littering. There was much consensus that leaving behind trash, no matter how small it was, constituted littering. However, respondents probably assessed the intentionality of actions in evaluating what constituted littering behaviors. For instance, 91% of respondents reported the behaviors of not picking up wrappers on the pretext that the litter bin was too far away, or knowing that cleaners will take care of trash (despite being able to clean up themselves) as littering behaviors (Table 7). On the other hand, only a little over a half of respondents (55%) considered the behavior of leaving behind litter acceptable when it is due to external uncontrollable factors such as the litter bin being full.

The survey also showed that there was substantial support for enforcement efforts to ensure Singapore’s cleanliness. Three quarters of respondents (76%) said that the government should put more focus on having persistent litterers pick up litter through Corrective Work Orders while 65% of respondents called for more enforcement officers on the ground.

Table 7: Respondents’ Assessment Of Littering Behaviours In Common Situations

Situation	Yes (%)	No (%)
The litter bin is full so John leaves his empty coke bottle by the side of the bin	55.2	44.8
The public concert venue is very dirty, and trash is everywhere. Jane throws her used plastic bottle on the ground	89.3	10.7
John leaves his empty coke bottle on the bus-stop bench and runs off to catch the bus	89.9	10.1
As Jane is at the hawker centre, the fan blows her stack of napkins on the floor. She does not pick them up	83.8	16.2
John throws his cigarette butt in the flowerpot by the side of the road	89.9	10.1
John and Jane are having a snack break during the National Day Parade performance and leave a small piece of food wrapper behind because the bin is too far away	90.7	9.3
Jane is visiting the shopping centre with her son and he drops a sweet wrapper on the floor. She does not pick them up	91.0	9.0
John and his friends are having some drinks and snacks at the HDB void deck. They leave their trash on the table because they know the cleaners will take care of it	90.5	9.5

## Conclusion

The survey findings show that there has been increased satisfaction in public cleanliness in Singapore. Credit must go to all the stakeholders involved – public agencies, cleaning contractors and residents who have worked towards improving cleanliness standards. While there has been improvement, a significant minority of Singaporeans continue to be dissatisfied with the cleanliness of some public spaces particularly hawker centres and coffee shops. Relying only on cleaning services to achieve higher levels of cleanliness in these areas is not sustainable in the longer term. This calls for more concerted efforts where

Singaporeans, public agencies and food outlets co-create a culture of cleanliness in these spaces.

Singapore residents are also becoming more pro-active about public cleanliness as reflected in higher numbers reporting that they cleared up their food utensils at hawker centres and more reporting that they remind family members not to litter. However, there continues to be a sizeable portion of residents who have yet to imbibe pro-social public cleanliness behaviours. We suggest greater efforts in public education efforts to encourage such pro social behaviour especially in reminding others, including those who are visitors to Singapore, about established cleanliness norms here.

In Singapore's journey from third world to first world, cleanliness norms have become entrenched as can be seen in the consensus around what constitutes littering. There is also substantial consensus on methods to keep Singapore clean – through public education and also through enforcement. Additionally, Singaporeans can also help improve public cleanliness by using less disposables. This action reduces waste at its source, and consequently may result in less litter. Together, everyone can help to make Singapore a clean and environmentally friendly society.

## Methodology

This study received clearance from the Singapore Management University Institutional Review Board (IRB). The survey sample was obtained using a Department of Statistics (DOS) listings of households. The identified households were approached by interviewers from a market research company, Nexus Link Pte. Ltd. with a survey. The survey carried a Singapore Management University Participant Information Sheet, which assured prospective participants of the confidentiality and anonymity of their responses.

Those who agreed to participate in the study completed the survey on their own except for those who were illiterate in any official language. Upon completion, interviewers would pick up the completed surveys from the respondents. In total, there were 2,005 completed responses. This provided an overall response rate of approximately 70% of eligible households. The survey sample is representative of the demographics of the Singapore resident population. Details are provided in Table 1A.

Table 1A: Profile of Respondents

<b>Sample Characteristics</b>	<b>2017 (%)</b>	<b>2018 (%)</b>
<b>Age</b>		
21-34 years old	27	25
35-49 years old	30	29
50-64 years old	28	28
65 > years old	16	17
<b>Gender</b>		
Male	49	50
Female	52	50
<b>Ethnicity/Race</b>		
Chinese	76	76
Malay	12	13
Indian	9	9
Others	3	3
<b>Educational Attainment</b>		
Secondary and below	43	41
Diploma/'A'-Levels/post sec	33	32
Degree & Prof qualification	23	25
<b>Housing Type</b>		
3 room or smaller	27	23
4 room or bigger HDB	66	59
Private	7	19



## Details of Public Cleanliness Satisfaction index

Table 2A: Public Cleanliness Satisfaction Index

Domains / Spaces		Proportion Satisfied % in 2018 (% in 2017)	Proportion Satisfied with Domain %	Overall Proportion Satisfied across all Spaces % [Public Cleanliness Satisfaction Index]
<b>Transport</b>	Roads	95 (95)	2018: 95 2017: 93	<b>2018: 84 2017: 82</b>
	Bus Stop	92 (88)		
	Bus Interchange	95 (94)		
	MRT/LRT Station	98 (97)		
<b>Leisure</b>	Parks/Park Connectors	88 (89)	2018: 89 2017: 89	
	Shopping Malls in Housing Estates	95 (93)		
	Playgrounds	83 (82)		
<b>Food Outlets</b>	Coffeeshops	65 (65)	2018: 71 2017: 69	
	Hawker Centres	62 (60)		
	Food Courts (Air-Conditioned)	87 (86)		
	Wet Markets	73 (65)		
<b>Neighbourhood</b>	HDB Town Centre	90 (89)	2018: 79 2017: 79	
	Void decks /Corridors /Lift lobbies	74 (73)		
	Lift to your home	79 (79)		
<b>Commuter Paths</b>	Pavements / Walkways	87 (87)	2018: 85 2017: 83	
	Overhead Bridges /Foot Bridges	91 (90)		
	Underpasses	88 (84)		
	Roadside Drains	78 (71)		
	Grass Patches next to Pavements	82 (81)		
<b>Public Events</b>	After Public Events (e.g. NDP, Concerts, Sporting events, etc.)	74 (63)	2018: 74 2017: 63	