



THE RALEIGH SCOOP:

ATTITUDES AND BEHAVIORS IN DOG WASTE REMOVAL

ABSTRACT

Raleigh's growing density is generating increased use of city infrastructure by dogs and their caregivers. The objectives of this study were to investigate attitudes and behaviors related to dog waste removal, and to identify effective components in waste removal appeals. Results show that insufficient resources are the main impediment to picking up, and that respondents are most compelled by positive appeals that reference personal responsibility and community inclusion. Threat and sanction messaging is most effective when it is specific, and clarity of text and image are key to successful reception.

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Background

Raleigh has over 60,000 households with dogs¹. With an ongoing influx of people, the city is experiencing increased density, and apartment and condo living are becoming more prevalent. Living arrangements that forfeit yard spaces result in increased dependence on city infrastructure for residents to exercise and relieve their pets. Waste-bag dispensers are provided in some places, but even so, caregivers do not always pick up the leavings of their canine companions, causing aggravation when waste litters yards, streets, or parks; or worse, when it is unintentionally stepped in.

In some cases, discord about dog feces has caused significant strife between neighbors and led to contention over access to city spaces. More seriously, verbal abuse and threats have been levied, and physical efforts have even been taken to restrict dogs from park areas. The issue of dog waste removal has therefore become a serious communication concern for communities and the city.

The goal of this study was to gain a better understanding of Raleighite's attitudes and behaviors regarding dog waste removal. A second, and equally important, objective was to identify practical messaging applications that might persuade those currently not picking up to do so. Research objectives were therefore three-fold: (1) find out how citizens perceive their own and others' responsibility for picking up dog waste, (2) investigate dynamics of persuasion most likely to encourage waste removal, and (3) identify messaging strategies and designs most likely to result in increased waste removal.

¹ American Veterinary Medical Association, 2012, City of Raleigh, 2013.

Literature Review

To better understand potential attitudinal and behavioral dynamics and identify strategies for encouraging waste removal, it is helpful to look to theory in the areas of compliance gaining and persuasion. Questions that present themselves are: *why do people obey laws in the first place?* and *what factors influence people's engagement in a given civic behavior?*

Compliance Gaining

In a very general sense, the objective of laws and regulations is to gain cooperation; in this case, the cooperation of picking up after a dog. Economic or instrumental explanations of why people obey laws posit that people act in their own self-interest and that they obey rules to avoid sanctions or punishment². Sociological explanations argue that irrespective of sanctions, people also obey laws because they perceive them to be legitimate³. Tyler⁴ carries this normative argument further by placing compliance decisions in a two-component framework: (1) the individual's personal moral standard and (2) their sense that the demand is legitimate. Adding a social component, McAdams⁵ suggests that expectations of how others will behave also guides compliance by providing a focal point around which individuals coordinate their behavior.

Persuasion

As with theories of legal compliance, communication theories of persuasion identify processes within the individual, the connection to their social reality, and the message itself as significant predictors of behavior. Emotional triggers of guilt and pride, esteem and disapproval,

² Hamilton, 1991

³ Jackson et al., 2012

⁴ 1990

⁵ 2000

and shame are suggested as factors that motivate people to comply with social norms⁶. Asjen and Fishbein⁷ discuss the relationship between attitudes and intended behavior, and point to a process of weighted interaction between a person's attitude toward performing a particular act, how they perceive others are likely to act, and their ability to perform the action⁸. Other research identifies reciprocity, scarcity, consistency/commitment, authority, and similarity/liking as principles that govern why people comply with requests⁹, and Brown and Levinson¹⁰ maintain that people act in ways that seek approval (positive face) and try to avoid disapproval (negative face).

Message

Petty and Cacioppo¹¹ identify two mental paths a message might take that increase or decrease persuasion: a central route, constituted through examination and rational argument; or a peripheral route of emotional responses to story, color, music, and similar affective triggers. This theory maintains that individuals differ in how thoroughly they think about a message and how motivated they are to think about it depending on its perceived personal relevance, their responsibility for processing the message, individual characteristics, time, context and other variables. Central processing tends to be more lasting and more resistant to change, but an individual must have motivation and ability to use it. Supplying adequate access to waste bags and trash bins provides opportunity for waste removal behavior. Motivation can be enhanced by appropriate communication. The next step then is to investigate what kinds of messages are most effective in soliciting the use of those resources.

⁶ McAdams & Rasmusen, 2007

⁷ 1980

⁸ Asjen, 2012

⁹ Cialdini, 2001

¹⁰1987

¹¹1986

In discussing the persuasive effectiveness of narrative versus statistical evidence, Allen and Preiss¹² maintain that statistical proof has a slight edge over narrative proof, but encourage a combination of both. Narratives also scaffold messages to be salient with receivers¹³. Different appeals can be framed within narratives, of which the most applicable here are guilt- and humor appeals. Guilt appeals come readily to mind in the discussion of people not performing an action when they know they should. Guilt appeals persuade, but are most effective when delivered in conjunction with reminders of positive self-feelings that come from ‘doing the right thing’¹⁴. Humor tends to function as an indirect means of influence and can facilitate persuasion by capturing the receivers’ attention, serving as a distraction to inhibit counter-arguing, increasing liking for the message source, and functioning as social proof (everyone else is laughing, so it must be okay)¹⁵. How an individual defines their locus of responsibility is also important, and whether they connect picking up with an obligation to the community, their own integrity, or not at all will impact their behavior.

Research Questions

Behavior and Attitude

An individual’s perception of a waste removal rule’s legitimacy and what factors might affect their self-interest and behavior can be teased out by identifying underlying attitudes toward picking up the waste. A first investigative point is therefore:

¹² 1998

¹³ Fisher, 1984; Adaval & Wyer, 1998

¹⁴ Gass & Seiter, 2007

¹⁵ Gass & Seiter, 2007

RQ1: What reasons do people give for picking up or not picking up after their dog?

The schools of thought discussed above all point to the centrality of societal cues in people's behavior and how likely they are to follow rules, leading to the next question:

RQ2: How does the thought of others affect people's attitude and behavior of picking up?

While RQ2 seems a far-reaching question, its aim is to uncover whether people might behave differently when being watched by others or imagine they are being watched by others, and their likelihood to conform when thinking of a generalized other.

An additional point of interest is how the framing of socially-centered messages affects successful appeals for waste removal. The next items for consideration are therefore:

RQ3: Do people respond more favorably toward picking up waste when they receive appeals to guilt, shame, or disapproval (negative social reactions) or pride, esteem, and cooperation (positive social reactions)?

RQ4: Do comparison (everyone else in your community is doing this) or individually-centered (be the responsible one/don't be the one who lets everyone down) appeals resonate more with people?

Message

Some innovative approaches to dog waste delinquency can be seen around the world: Spain identifies non-compliant caregivers and sends their pup's poop back by mail, Mexico gives

free Wi-Fi use by feces weight¹⁶, and some communities use DNA analysis to identify culprits¹⁷. Despite these novel approaches however, most waste removal urging is currently conducted the old-fashioned way: through signage.

Ordinance signs are not usually approachable or engaging public documents. Referencing legal statutes, messages often appear in authoritarian “thou shalt not” or “it is forbidden” forms, communication tactics that are unlikely to engage all citizens. A major communication objective is therefore to understand what type of signage messages and design are most effective in encouraging waste pick-up. It also makes sense to investigate whether an appeal to cooperation or a threat of punishment for non-compliance is more motivating.

RQ5: What type of narrative frame (guilt vs. humor, social vs. personal obligation, threat vs. cooperation) is most effective in achieving waste removal?

Language provides an additional variable in persuasive effects. Its intensity; how emotionally, forcefully, and evaluatively a message is worded can play a role in signaling meaning and response¹⁸. Although it has not been conclusively supported, Nisbett and Ross¹⁹ also argue that vivid language is more memorable and influences attitude change more favorably than pallid or sterile language.

Adaval & Wyer²⁰ found that the effects of a narrative information presentation were enhanced when pictures accompanied text, and recent research on infographics points to

¹⁶ Weiss-Roessler, 2014

¹⁷ Heller, 2014

¹⁸ Hamilton & Hunter, 1998

¹⁹ 1980

²⁰ 1998

increased central processing of images over text alone²¹. Based on this research, the final question is:

RQ6: What language and images are most persuasive in encouraging dog waste pick-up?

While the scope of this study did not allow an in-depth look at the multi-faceted questions RQ6 poses, it was helpful in gathering preliminary data and observations to both provide a bigger picture here and lay the groundwork for future message investigation.

Methods

Data Collection

Data was collected by means of an online survey that focused on three types of questions: (1) respondents' attitudes toward dog waste removal, (2) waste removal behavior, and (3) persuasive messages about waste removal. For the three areas, respondents were asked about their own attitudes, behaviors, and motivation; and also how they perceived those of others.

Content.

The survey included Likert Scale questions, open ended questions, and comparative samples of language and graphic signs. Questions first focused on demographics to determine age, gender and area of residency, followed by questions about dog waste removal attitudes and behaviors. Finally, respondents were asked to choose preferred waste removal signs in four sets

²¹ Lazard & Atkinson, 2015

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of images that referenced personal responsibility, community responsibility, punishment (fine), and health or environmental threat.

Distribution.

The survey was initially distributed to 20 neighborhoods in and around downtown Raleigh through the Nextdoor neighborhood listserv site. Subsequently, it was forwarded to a number of other distribution lists by individuals who received it. A local news station reported on the survey and provided access to it through the reporter's Facebook page, further increasing distribution reach. After being available online for two weeks, 939 surveys were completed.

Data Analysis

Data analysis was conducted statistically based on numerical preferences of individual respondents. Responses to open-ended questions were ordered through open and axial coding to identify themes and then ordered by category (motivators, deterrents, perceived personal and social obligations, and any other factors that emerged). Data was confirmed through an inter-coder reliability check.

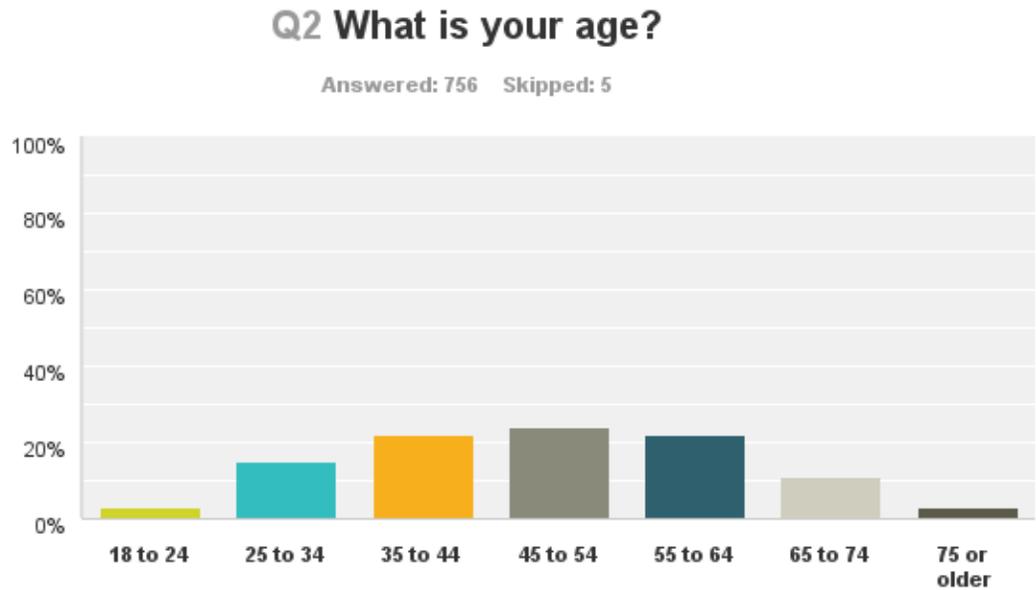
Results

Demographics

A total of 939 respondents returned the survey. 182 surveys showed mostly incomplete data and were excluded, leaving a sample total of 757.

Seventy five percent of respondents identified as female and twenty five percent as male.

The age of adult respondents was relatively evenly distributed on a bell curve:

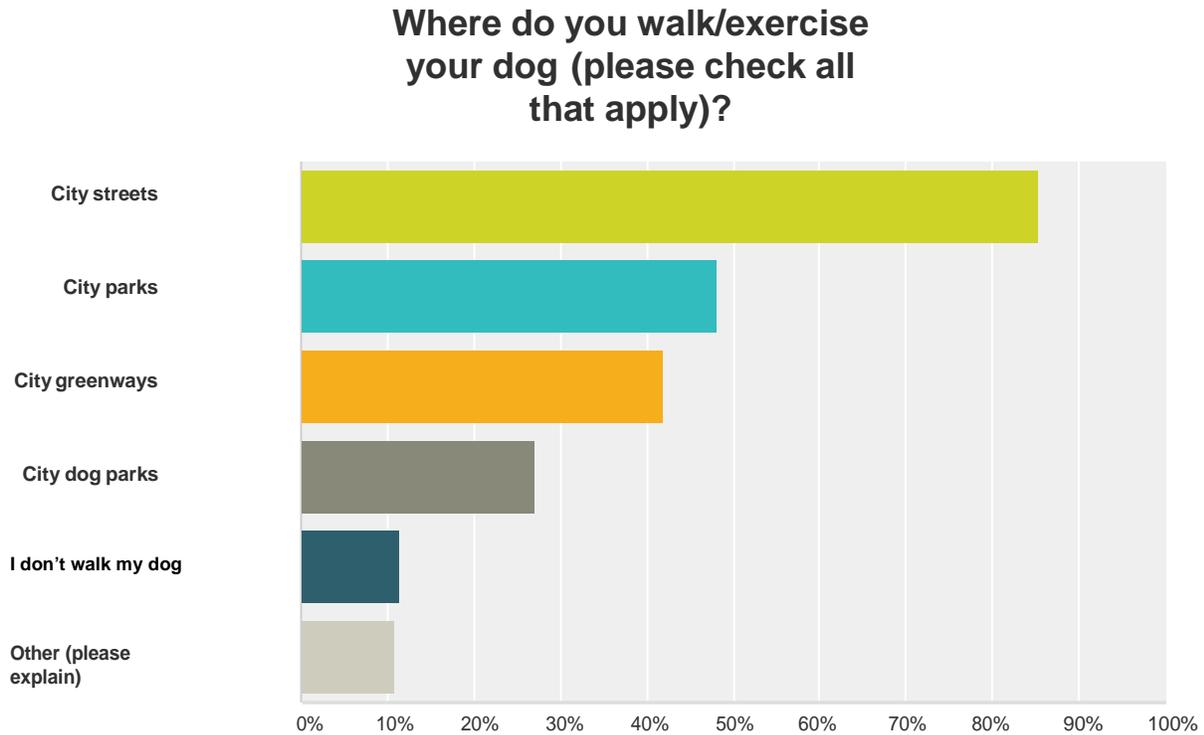


Respondents were asked to indicate the area in which they live by identifying their Raleigh Citizen Advisory Council district on a map. While all regions of the city were represented in responses, sixty percent of respondents indicated that they lived in downtown and surrounding neighborhoods (Glenwood, Five Points, Wade, Mordecai, and Hillsborough)²². This may have been due to particular interest in those areas, but it may also have been due to the distribution process, since the survey originated and was shared from Wade CAC neighborhoods.

Eighty-two percent of respondents reported living in a single family house or townhouse, fifteen percent in an apartment or condo, and three percent in a duplex.

²² Crosstab analysis of differences between individual neighborhood, type of dwelling, age range, etc. was not conducted for this initial study, but can be further analyzed for municipal planning going forward.

The chart below illustrates where respondents with dogs currently walk them. Respondents in the “other” category reported that they exercised their dogs on their own property.



Attitudes

Ninety-six percent of respondents indicated that they thought it was important to pick up after a dog who defecates, while four percent did not. Ninety-two percent also reported that it bothered them when people didn't pick up, while six percent did not, and two percent didn't know. Respondents indicated that the reasons the behavior bothered them most was others' rudeness or inconsiderateness (63%), messy streets and parks (19%), and unhygienic conditions (9%). An additional nine percent indicated that other reasons were most salient to them: the

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largest major theme in this category was an “all of the above” answer, followed by not wanting to step in waste. Danger of children stepping in or touching the waste was also indicated by four respondents.

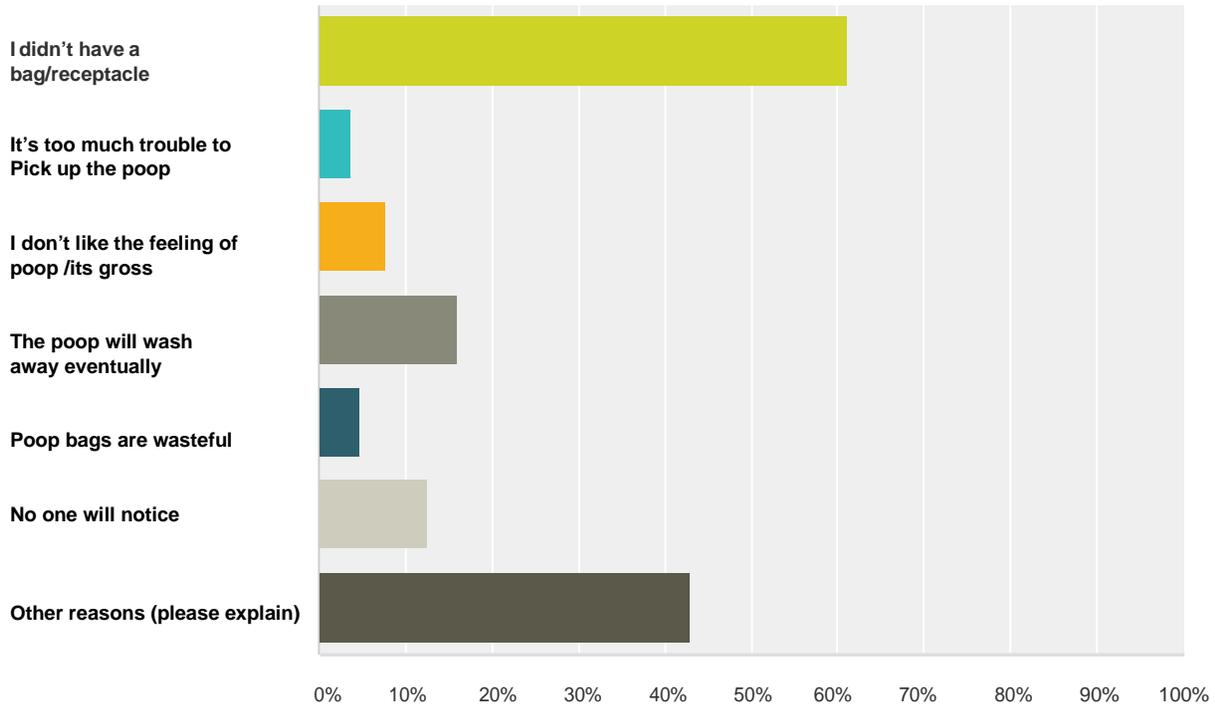
The table below shows the reasons respondents gave for picking up waste in order of importance:

	Very important	Important	Somewhat important	Not important	Total	Weighted Average
It is courteous to other people to pick up dog waste	84.47% 609	11.93% 86	2.64% 19	0.97% 7	721	1.20
Dog waste can cause disease	46.23% 331	26.12% 187	19.55% 140	8.10% 58	716	1.90
People may step in the dog waste	78.36% 565	17.34% 125	3.61% 26	0.69% 5	721	1.27
Other dogs may eat the waste and get sick	41.41% 294	23.66% 168	22.68% 161	12.25% 87	710	2.06
You can be fined for not picking up dog waste	23.42% 167	22.16% 158	31.14% 222	23.28% 166	713	2.54
Dog waste can contaminate streams and storm water	52.24% 373	24.09% 172	17.79% 127	5.88% 42	714	1.77
Everyone should follow laws for the good of all	52.16% 374	28.45% 204	14.78% 106	4.60% 33	717	1.72

Self-Reported Behaviors

Of those who claimed a dog, sixty percent reported that they always pick up their pets’ waste, twenty-nine percent said that they did most of the time, three percent often, three percent sometimes, two percent seldom, and three percent never.

The chart below tallies the reasons respondents may not have picked up in the past:



134 respondents indicated “other” reasons for not picking up, from which three major themes emerged: (1) the largest number of respondents indicated that they did not pick up if the dog defecated in natural areas, i.e. in the woods, off trail, in ivy or tall grass, or other general areas they didn’t think people would walk. As one respondent noted: ”He drops one in the ivy, it stays in the ivy.” (2) The second largest additional reason named for not picking up was if the dog had loose stool or diarrhea, and (3) rain or darkness were cited as the third most common deterrent.

Asked whether they were more likely to pick up after their dog when others were watching, seventy-three percent indicated that it made no difference whether others were

watching²³, twenty-three percent said they were more likely to pick up if they thought they had an audience, and five percent said they were not more likely to pick up with others watching.

Behavior of Others

How people perceive others' waste removal patterns was of interest in this study for its implications for both attitudes and behavior. Social proof research tells us that people are more likely to conform to behaviors they consider the norm, and will more probably follow suit if they perceive their reference group as engaging in a given behavior. Additionally, attribution of motivation is important here, as a perception of others not conforming may cause contagion in the manner of 'well, they don't care, why should I?.' Another important item of interest is whether people perceive generalized others' behavior as similar to their own, and whether they ascribe them similar or different motivations.

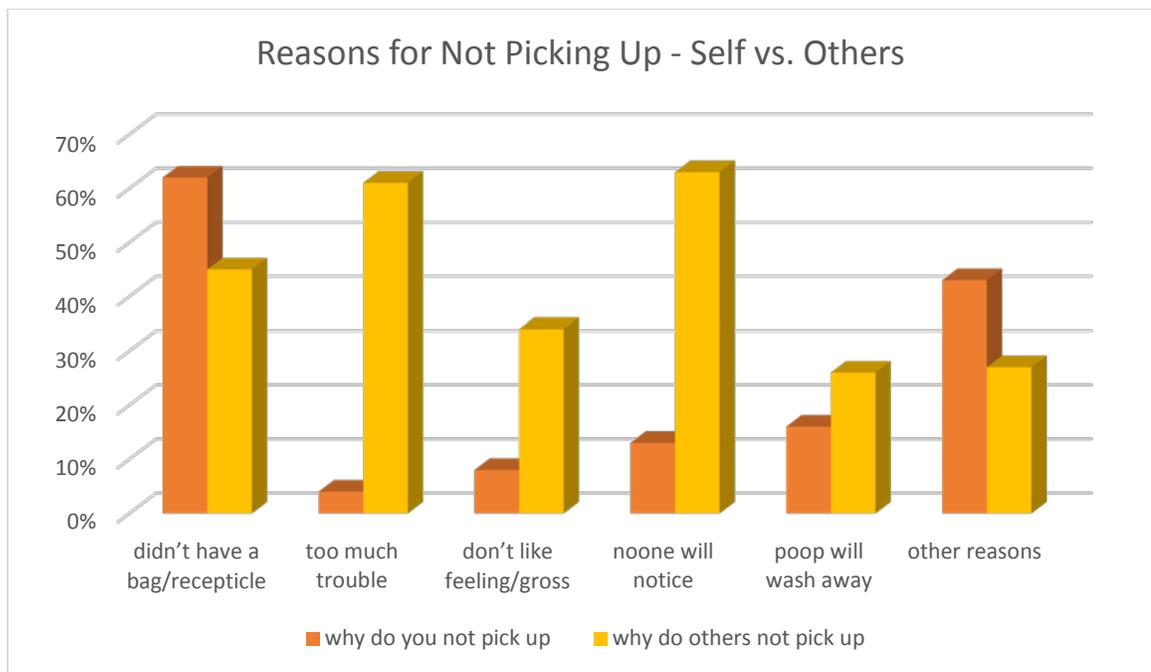
Given identical answer choices as when they were asked why they hadn't picked up after their dog in the past, respondents were asked why they thought others might not pick up. Responses between the two attribution categories were significantly different. Sixty-three percent of people indicated that they believed others did not pick up because they thought no one would notice (in comparison to only thirteen percent who chose that answer for their own behavior). Similarly, sixty-one percent thought others did not pick up because they considered it too much trouble (compared to four percent who accounted for their own behavior in that way). 202 people commented under the "other reason" category. With the exception of one comment that older people are not accustomed to picking up and two comments about waste being natural

²³ It is of import to note that this response may be skewed by social desirability bias.

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fertilizer, all other answers cited laziness, rudeness, not caring, inconsiderateness, self-centeredness, and lack of respect as the motivating factors for others not picking up their dogs' waste. This finding is consistent with the fundamental attribution error²⁴, whereby people are more likely to attribute external or situational causation for undesirable traits or behavior in themselves, but attribute internal or character-related causation to others.

The chart below shows the side by side comparison of self-versus-other attributions:



²⁴ Ross, 1977

Motivation

The final piece of the survey centered on what types of messages were most likely to compel respondents to pick up waste. Sign images were gathered from various online sources, and sign sets were selected to gain a picture of whether respondents viewed personal responsibility, community obligation, punishment, or environmental factors (contamination, disease) as most compelling to their own pick-up behavior and to that of others. Additionally, it was of interest whether guilt or humor appeals were perceived as more effective. As much as was feasible, signs similar in color and type of image were offered for comparison in each set, so choices would be made based on message rather than design.

Set 1.

The first set of signs contrasted four message appealing respectively to community spirit (A), personal responsibility (B), punishment/fine (C), and indication of direct offense to others (D). In addition, B included a humorous play on words and D also referenced humor.



Set 2.

Sign set two featured two cartoon signs with direct appeals to personal responsibility that contrasted a “do the right thing”(A) message with one indicating “there is no poop fairy” and a negative punishment/consequences appeal by mentioning that waste attracts rats and transmits disease (B).



A



B

Set 3.

Set three compared signs meant to incite guilt for non-compliance. The appeals reference personal responsibility to behavior outside of social observation (A), direct appeal to community spirit (B), and a more direct interpersonal appeal (C).



A



B



C

Set 4.

The fourth and final sign comparison contrasted a threat and punishment appeal (A) and a responsibility appeal (B) to two humorous appeals that referenced responsibility to others (C) and humorous punishment (D) respectively.



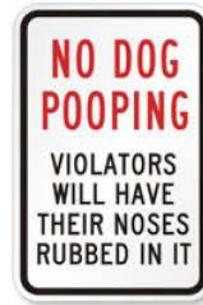
A



B



C



D

Personal Responsibility and Social Integration

Analysis of selections and comments on each sign set revealed that appeals to personal responsibility and community integration were the most salient motivators across the board. In Sets 1 and 3, central comment themes emerged referencing the importance of connection to and consideration of the community. The desire to “be a good neighbor” in particular was often cited here. Overall, individual responsibility and social conscience were given as driving forces for self-reference motivation throughout all sets.

Attribution to Others

Consistent with the fundamental attribution error referenced earlier, fear of punishment was often selected in attributing motivation to others. The prohibitive and quantifying nature of fines and losing money were overriding themes in comments on how others would be most compelled. In Set 2 the most common ‘others’ theme was the explanatory nature of sign B that respondents thought would “help them understand why it’s important.” Overall however, responses to self and others’ motivations shared many attribution similarities across the sets, and community spirit and personal responsibility were frequently chosen as motivators for others as well as for self. A number of comments cited the need to remind people that they are part of a community and/or that they carry personal responsibility for their pets.

Being Observed by Others

The idea that picking up is important “even when no one sees you” was a central theme in preferences for Set 3, and a number of respondents noted that being observed is a common reason they and others don’t pick up. Two other, less common comment themes here were the integrity of doing the right thing regardless of the presence of others and a tendency to feel watched once that possibility is mentioned or implied, as in Sets 3 and 4.

Threat and Punishment

While punishment or negative consequences were rated lower than positive motivators of community and responsibility in self-reference, their selection was slightly higher when applied to others. A significant number of comments referencing sanctions indicated a preference for specificity when they were cited. For instance, Set 1 respondents who reported being most

compelled by sign C all referenced the \$250 fine itself and/or its high amount. Similarly, responses to Set 2 noted reference to disease and especially rats (sign B) as most compelling, and the particularity of the information was mentioned as a motivational factor. In Set 4, proponents of sign A quoted its appeal to the law and reference to disease as central motivators.

Design, Narrative Frame, and Language

Design preferences centered most notably on the clarity of signs. Simplicity and a straightforward message were cited often as preferable features. In Set 4 for instance, comment themes for both self- and other motivation focused on the clearness and legibility of sign B. That sets comments also mentioned that signs A and C were “busy” and difficult to read quickly because of the amount of information they contained.

In Set 3, a number of respondents liked sign C’s colorful picture, and “cuteness” was most often mentioned in its favor, but while a relatively large number of respondents indicated cuteness and humor as attractive in the Set 2 signs, some indicated that the cartoonish nature of the design would not compel them to comply.

While humor was presented in various sets, it did not play a compelling role overall. Humor as motivator was referenced by only a few respondents, and selection of humorous signs was well below those appealing to other factors, such as social and personal responsibility and legality. In some signs humor was also coupled with other messages, such as personal responsibility (e.g. Set 1, signs B and D), so complete attribution was difficult to pinpoint. Overall, humor does not seem to be a highly motivational message design.

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Guilt-inducing messages, such as Set 1, sign D, Set 3, sign C, and Set 4, sign C were rated low across the board for both self and others. This seems to suggest that guilt is less effective than positive emotional messages.

Courteous language appeared as a motivational factor in Sets 3 and 4, as respondents noted that they liked the use of “thank you” (Set 3, sign C) and the use of positive language (Set 4, sign B).

One respondent to Set 3 asked “can we just combine A, B, and C” indicating that an appeal referencing personal responsibility with neighborliness and a polite approach may be most compelling. This indeed seems to be one of the conclusions to draw from these results: that a combination of messages and frames will be most effective in gaining cooperation and compliance.

Discussion

The aims of this study were to identify the reasons people give for picking up or not picking up after their dog, and how the thought of others might affect their attitudes and behavior in that regard. An additional objective was to find out what narrative frames are most likely to gain pick-up compliance, and we asked whether community- or individual-centered, guilt or humor, and cooperation or punishment frames are most effective. Additionally, the language and images most helpful in waste removal appeals were of interest. Survey responses have given good insights into all these questions and the data gained from this study will be helpful in creating messaging and appeals to improve dog waste removal going forward.

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The majority of those who completed the survey reported picking up their dog's waste on a regular basis. Respondents indicated different drivers for what motivates them to pick up, but taken in combination, a collection of reasons can be identified. Consideration of others, commitment to community, and individual responsibility were rated by far the highest motivators for picking up, while adherence to the law was also mentioned as an important reason. The most common reason identified for individuals not picking up was a lack (or perceived lack) of bags or receptacles for the waste. This is a significant insight for municipalities and neighborhoods wishing to reduce waste, and provision of adequate facilities and corresponding information may be utilized as a first step toward curtailing waste problems. A second central insight is that many respondents seemed unaware of how waste can affect public health and the environment. A number of respondents referred to dog waste as fertilizer or noted that it is "all natural" and would "take care of itself." Since dog waste can spread disease in humans and other animals and impact storm water, a second take-away for those wishing to address the problem is the potential benefit of education on risks and consequences of not picking up. The research also found that that specificity is a positive motivator in threat messaging. Message detail was mentioned in particular in reference to rats (Set 2, sign B) and the fine (Set 1, sign C), so it may be prudent to be specific about illnesses or sanctions rather than general "it's the law" or "waste carries disease" messages.

A number of respondents indicated they were more likely to pick up if others were watching or if they perceived they might be observed. For this reason, references to others watching might be useful to include in messaging. Referencing obligation to others in the community or neighborhood also serves to remind individuals of their part in keeping shared spaces clean and pleasant.

The discrepancy in how respondents perceived their own behaviors and motivation in contrast to others was striking. Respondents credited themselves with external failings (no bag) and others with internal failings (don't care) across the board. It may be partially true that 'others' are less likely to care about community if those who do care were primarily the ones to answer the survey. It is unlikely however, that all others are uncaring, lazy, and disrespectful. The difference in self-reporting and attribution of others is noted here because of its striking consistency. This disconnect has important implications in that creators of appeal messages may favor threat or punishment messages for a generalized other when in fact appeals to personal and community responsibility and inclusion may be more effective.

As noted, individual responsibility and community appeals were both highly effective, with guilt and humor appearing less so, at least in the signs presented. Humor is also quite individualistic, and should be used carefully. Overall, respondents reported feeling more motivated by messages appealing to pride, esteem, and cooperation; however, many found mention of a significant fine compelling. The number of comments that singled out the terms "neighborliness" and "thank you" were noteworthy, indicating that a civil appeal to a geographically close community may be the most effective of the community motivators. Amalgamation of the motivational appeal data suggests that messages that reference close communities (neighborliness) in a polite, inclusionary way while implying observation by others and penalty for non-compliance will be most effective. This much information can present practical challenges in design considerations, however, especially since clear and direct messaging also emerged as motivators for respondents. How components are presented is therefore key. To include all appeal components while allowing for efficient processing, items may need to be separated into different but connected messages. Another option can be

consideration of *how* items are presented, i.e. how text and images are utilized. Tapping into the Elaboration Likelihood Model's concept of peripheral and central processing, messages crafted to appeal both cognitively and affectively through design could be most effective here. An example of this may be, for instance, a pair of eyes depicted on a sign rather than verbally spelling out "someone may be watching"²⁵.

Clarity, color, and the avoidance of age or group-specific images emerged as additional themes for consideration in general design. While a number of respondents indicated cuteness as attractive in signs, some indicated that a cartoonish design would not compel them. For this reason it is important to have a more generic concept, or if possible, create tailored appeals for different target groups. Segmentation should be considered in educational and informational campaigns also. As noted in study results above, further crosstab and chi square analysis of survey data will be helpful in teasing out appropriate appeal components and target group-specific appeals and platforms.

Limitations and Future Directions

The primary drawback of surveys is that data is self-reported, rather than more objectively observed. This can lead to information that reflects how people think they should act or wish they acted rather than how they actually do behave. Questions may also be answered based on what the respondent thinks is socially desirable, rather than what they actually think. Additionally, this survey was self-selecting, i.e. those who already care about picking up dog waste may have been more likely to participate than those who don't, and these two groups may

²⁵ See Bateson et al., 2006

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differ in behavior. Since the survey was anonymous and the high number of respondents provides sound statistical footing, however, it can be hoped that self-reporting and self-selection effects were minimal.

The *How Does Raleigh Scoop?* survey gathered a lot of useful data on people's attitudes and behaviors and how they believe others are motivated. It also compared sign and message samples to test their effectiveness. The next steps in the formulation of a comprehensive campaign include a three-pronged approach of (1) resource development, (2) educational outreach, and (3) message design integration.

Resource Development.

- Identification of waste problem areas
- Creation of programs to provide bags and receptacles

As a majority of respondents indicated that they do not pick up waste when they lack the resources to do so, a first step is to identify areas of the city where waste is a problem. The next question would be whether adequate facilities (bag dispensers and receptacles) are actually lacking or whether communication of their existence might be improved. Programs and partnerships can then be developed with municipalities, businesses, neighborhoods, and/or other stakeholders to provide those resources. Examples of such partnerships may be local business logo displays in return for equipment funding, neighborhood bag station filling cooperatives, or similar incentives.

Educational Outreach.

- Appeal to community inclusion
- Appeal to community safety and health
- Appeal to personal integrity
- Dissemination of information about the detriments and dangers of waste
- Specific description of dangers and sanctions

Messages that point to consideration as a foundation of neighborliness and the unsightliness and social undesirability of leaving waste can be communicated by an informational campaign. Additionally, survey data indicated that many respondents are unaware of the health and environmental effects dog waste can have. Given this insight, it can be assumed that more awareness of these factors will lead to a more favorable attitude toward picking up and increased pick-up behavior. Educational outreach could be conducted through a number of channels such as city websites, mailings, park notices, neighborhood messages, veterinary offices, and other platforms. The main objective here would be to inform in an engaging way of the specific effects waste pick-up behavior has on the community and the dangers dog waste can pose to public health and the environment.

Message Design Integration.

- Cross-tabulation by demographic factors
- Use of platforms and messages based on survey insights and segmentation
- Testing and use

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Message design integration involves the creation and testing of designs that incorporate this survey's conclusions. The second stage of data collection would then involve segmentation of audience groups, crafting messages that incorporate effective appeal components, testing of individual messages by survey or focus group, and putting those adjusted results to field tests. Based on these findings, final appeals may also be created.

Conclusion

People love their dogs and their neighborhoods. With the tremendous growth Raleigh is experiencing, more citizens are sharing resources and infrastructure within their areas of residence. While most responsibly clean up after their pets, some do not, causing aggravation and dissent in communities and creating unpleasant conditions for neighbors and neighborhoods. The data collected here provides a better understanding of How Raleigh Scoops and how we may best appeal to those who don't yet scoop. It is the author's hope that these insights may enhance understanding, help change behavior, and improve community relations going forward.

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