

Cultural Influences that Affect the Acceptance of Compost Toilets: Psychology, Religion and Gender

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Abstract

The social aspects of psychology, religion, and gender are examined to identify cultural criteria that influence the acceptance of compost toilets. Attitudes toward handling excreta vary worldwide, but there is no direct cause-effect relationship between attitude and behavior. Likewise, the Muslim, Hindu and Judeo-Christian heritages vary in their doctrines regarding the handling of human excreta, which suggests that waterless toilets would be inappropriate where religion mandates water-based purification. In addition, gender-specific concerns associated with multi-family toilets and public conveniences are noted.

Introduction

The science of treating human excrement deals primarily with technology and degradation processes. It is not surprising, therefore, that the open literature is dominated by topics in the physical and natural sciences. What is surprising: the subject is not directly approached in the social sciences, e.g. cultural anthropology, human geography and behavioral psychology. This is unusual when one considers that the success of a treatment system depends on all the system components working together: device, process, nature, and society (Fig 1).

The understanding of social issues is paramount if one intends to introduce an alternative sanitation system. Although treating excreta is a universal aspect of human existence, akin to food consumption, the topic has not been rigorously investigated by social scientists. The following report identifies three cultural influences that affect the acceptance (or rejection) of an alternative sanitation system: psychology, religion and gender.

Psychological Issues The psychological aspects of treating human excrement are not well known. Although there is a universal consensus that body wastes are sordid, our elimination behavior and our feelings about it are all learned from our experiences, and evolve and change over time (Kira, 1995). As a result, there is no absolute right or wrong behavior or attitude, except within a cultural context. In Western cultures, for example, the scale of excrement treatment stimulates different public reactions. Mention a pit privy or compost toilet, and the giggle-factor often creeps into the expression. Mention a central sewage system or the health-related statistics and the general response is far from humorous.

With the exception of toilet training, the core of psychological literature is limited primarily to attitudes about human waste. Technically speaking, “attitude” includes three elements of behavior: cognition, perception and a tendency to act. Prof. Templer California School of Professional Psychology, notes that “the subject is an important aspect to human existence and is as taboo as sex was in the time of Freud and Kinsey” (Adams Templer 1998).

Fifteen years ago Templer developed the Body Elimination Attitude Scale to measure an individual’s level of disgust toward human waste. The attitude scale has been applied to various groups, such as occupations, and used as the basis for several doctoral dissertations (Corgiat et al.1984, Templer et al., 1986). Although the scale does not predict behavior towards a particular toilet system, it does reveal that groups of people vary in their tolerance towards human excrement. For example, food service personnel and bank employees indicate

a higher level of disgust than nurses and sewage workers. To the layman, these results are not surprising; for one would expect those exposed to excreta would be more tolerant of – and prepared to cope with -- its undesirable characteristics. These findings have direct implications toward the development and implementation of treatment systems that require handling of excreta products. For instance, those who design compost toilets probably have a more favorable disposition towards handling excreta than potential users.

In concept, the bridge between attitude and behavior appears obvious. In reality, the relationship is complex and somewhat unpredictable. For example, McCarthy and Shrum (1994) found that personal values about recycling solid wastes did not have a direct relationship with recycling behavior. Values did, however, influence attitudes; and attitudes about the inconveniences of recycling influenced recycling behavior. Although these findings are consistent with previous work on values and health food purchases, the McCarthy and Shrum (1994) study did not include excrement in their attitude-behavior study.

Even if the relationship between attitude and behavior were known, one could not draw a universal conclusion about man's reaction to a new toilet or waste treatment system. An explanation is in order. Psychological investigations follow scientific principles of fair sampling, which implies the results from a study pertain only to the sample population. One cannot deduce, therefore, that a Western attitude would be valid in an Eastern culture. Likewise, one cannot expect Western behavior in the East.

If one applies these psychological considerations to the subject of alternative waste treatment, one can understand the general skepticism towards compost toilets. To begin with, potential users are often unfamiliar with alternative disposal systems. Probably the most unfamiliar aspect of these sanitation options is that treatment requires some handling, at the household level, of the products. The cultural acceptability of handling human waste varies throughout the world. Although some cultures do not mind handling human excreta (faecophilic cultures), and others find it abhorrent (faecophobic cultures), most cultures are somewhere in between these two extremes. But these attitudes are not fixed. Experts in ecological sanitation note that when people see for themselves how a well-managed system works, most of their reservations about handling human waste disappear (Winblad 1998). A second cultural issue is whether waterless toilets will be accepted in cultures where washing after defecation is mandated by tradition and religion.

Religious Issues

Attitudes toward human waste are somewhat akin to attitudes toward diet. The mental dispositions towards both physical necessities are the result of cultural norms. And one of the dominant universal influences of social behavior is religion. Religious doctrine both restricts diet (e.g. Islam prohibits pork) and promotes diet (e.g. Catholicism encourages fish on Friday). Although the influence of religion on waste behavior appears less obvious, it does exist.

Concepts of clean and dirty, pure and polluting, are well developed in the major world religions. Although most religious doctrines lack modern medical explanations of disease, they have a ritual and spiritual significance. Running water, for instance, may be acceptable for drinking because it is exposed to sunlight; considered to be “alive” and therefore “pure”, while water in wells (which does have these attributes) is deemed suitable only for washing (Franceys et al. 1992). Thus, when people are told that a new treatment method will make their environment “cleaner”, it is often their own spiritual interpretation of “cleaner” that will be used.

The world's largest major religion is Islam. Moslem doctrine prescribes strict procedures to limit contact with fecal material. Only the left hand can be used for cleansing after elimination; the right is used for eating. Moreover, the use of water for cleansing is specified. That is, a Muslim is obligated to use water to cleanse parts of the body through which impurities pass (Hooi and Hamzah, 1995). This obligation has direct implications for planning toilet facilities. For example, the Malaysian Cabinet has directed local authorities to incorporate the water requirements of Muslims in the design of public toilets. Although Hooi and Hamzah (1995) state that these additional requirements have not presented problems to non-Muslim users, one cannot assume all theocratic directives are benign. It is understandable why Muslims would be hesitant to use a waterless toilet, and why government directives might prohibit them.

There are, however, Islamic cultures using waterless toilets. In Yemen and Zanzibar, where waterless systems have been traditional, the users wash themselves away from the toilet opening. Since this has not posed a problem for traditional waterless systems, it might be an acceptable solution in other washing cultures. In fact, an example from India shows a dry toilet system was successfully introduced to a washing, Hindu culture (Winblad 1998).

Hinduism is the principle religion for the Indian sub-continent, which has a population reaching one billion. The principle Hindu text that details codes of conduct for rituals, the Atharva Veda, clearly specifies the use of water for sanitation. Van der Ryan (1978, p.17) writes: Observant Hindus... carry a brass vessel filled with water to a secluded spot away from running water, public roads, or temples. New garments are not worn, conversation is avoided. The feet were washed before elimination and anal region is cleansed with water afterwards. Ending the ritual is symbolized by rinsing the mouth eight times with water. Although it is difficult to imagine entire urban populations following these rituals, one can see the impact of religion on water usage as well as class distinction. Followers of the Atharva Veda are primarily Brahmins, consequently upper-caste Hindus consume more water for sanitary purposes than lower-caste Hindus (the Untouchables, who traditionally carry away "nightsoil"). The implications for personal treatment of human waste are far reaching: a waterless toilet accepted by one caste might be rejected by another caste.

In the Judeo-Christian heritage, the use of water is not specified. Orthodox theologians might even argue that the order of waste management was waterless compost. For Moses said, according to the King James version of Deuteronomy: "Thou shalt have a place also without camp... and it shall be when thou wilt ease thyself, thou shalt dig therewith, and thou shalt turn back and cover that which cometh from thee" (Van der Ryan 1978). In other words, find a place away from camp to ease thyself, and bury it. Although the use of water is specified in Judeo-Christian purification rituals (e.g. preparation of kosher meats and baptism), it is apparently absent in reference to treating human excrement

Aside from these major religions, there are countless others that influence waste treatment behavior. In some cultures, religion is not a separate element of society, rather an integral focal point. It is, therefore, difficult to determine if a particular behavior is the result of religious doctrine or merely a learned behavior. For example, the burying of feces is widely practiced to ward off evil spirits; separate facilities are sometimes provided for particular social groups; and contact with fecal matter is often unacceptable to certain individuals in society (Franceys et al. 1992).

Considering some developing countries are theocratic, the influence of religion should not be overlooked. Religious doctrine can become state law over night. With the rise of fundamentalism, voluntary behavior often becomes compulsory. Enforceable personal behavior is quite evident in Islamic theocracies, particularly with regards to women. The

influence of theocracy on the design of both public and private toilets could be a reality if, for example, religious doctrine was interpreted to prohibit women from the workplace, restrict public toilets to men only, or mandate that men and women use separate toilets -- even in privacy of home.

Gender issues

If one considers demographics alone, worldwide the majority of toilet users are women. Gender issues are primarily a concern when toilet facilities are multi-family or public. And although compost toilets are associated with private households, they have been used for public facilities. For example, the Republic of Palau (in the Pacific Islands) installed seven compost toilet comfort stations for tourists (Del Porto 1998).

Toilet provision is essential to make public areas accessible, whether they are cities or villages. Greed (1995) notes that women generally have fewer facilities than men, and the lack of provision particularly affects women because they are more likely to be the ones out in public places in the daytime either shopping, travelling on public transport (for essential food gathering) or making care-related trips.

The gender problems stem from several causes. But a principle explanation is that decision-making, regarding public toilet provision, has been dominated by men (Greed 1994, Kira 1995). The worlds of plumbing, services engineering, and building technology are particularly male dominated, especially at senior level (Greed, 1994, p. 194). Consequently, most public toilets and associated codes fail to recognize the needs of women.

A particular gender issue that is frequently overlooked by public facility planners is that women use public toilets for reasons other than waste disposal: e.g., relief during pregnancy, periods and cystitis, breast feeding and child care, and to escape from a man. The Centre for Accessible Environments (CAE 1992) notes that many women are uneasy about the fact that public conveniences tend to be located in pairs with men and women facilities directly alongside, typically with badly lit entrances, or hidden by trees which block visibility. In addition, many women are concerned about the narrowness of cubicles and often carry their own toilet paper with them. Other surveys suggest a majority of women would prefer to "hover" than sit on a toilet seat (Cunningham Norton, 1993).

Apart from the above considerations, there are two startling facts about women and public toilets. First, women have fewer facilities than men do. Several recent studies show that in many instances, women's toilets have only half as many fixtures as men's (Kira, 1995). In most extreme instances, there are no women's toilets at all. Kira (1995) cites an example of a female journalist in Saudi Arabia, where she painfully discovered no government building had any women's toilets. This inequity is compounded by the second fact: medical research shows that women tend to urinate more frequently than men do due to gynaecological factors (Office of Research on Women's Health (ORWH), 1991). In addition, women take twice as long to urinate as men, which is a consequence of anatomical differences and clothing (Kira, 1995). These gender-specific considerations might result in male and female compost toilets performing differently.

The net result is that women tend to use public toilets for more reasons, more frequently, and for longer duration than men -- and yet they have fewer facilities, many of which fail to meet their needs.

The above generalization, however, does not apply everywhere. For example, a study of public toilet use in Hong Kong showed the ratio of male users to female users was the opposite, about 2:1 (Lam, 1995). The study also revealed that 75% of the women washed their

hands after usage (46% used hand dryer) whereas only 56% of the men washed (and 28% dried), which supports a common belief that women prefer water-based system more than men do.

The ideal design of a woman's toilet does not appear universal, because cultural differences vary. Consider privacy, for example. Greed (1998) notes that Islamic women specifically have problems with conventional western style public toilets, because toilet stalls with a gap between the floor and wall for ventilation may make them feel too immodest to use the facility. Kira (1995) states that some Japanese women share uni-sex toilets with men, and do not seem to be offended by seeing them; however, they tend to flush the toilet constantly to mask their personal elimination sounds. The importance of privacy appears quite diverse when one considers that in Japan toilet stalls are always complete rooms with floor to ceiling partitions and doors, whilst in other parts of Asia stalls are only a meter high with no doors at all.

Another gender issue is sexually transmitted diseases (STDs). A recent study in Zimbabwe showed that teenagers knowledge about STDs was very low, and that a large number thought one can contract HIV/AIDS by sharing a toilet seat (Kasule et al. 1997). This belief, which is held by many worldwide, might influence attitude and modify behavior regarding public toilets. That is, non-contact toilet facilities would be preferred over traditional sitting-type toilets. This implications appears to weigh heavier on women than men, simply because men do not sit down in public toilets as frequently as women do.

Conclusions

It is worth noting that these three topics (psychology, religion, and gender) also play important roles in the cultural aspect of diet. This might explain why modifying a cultural waste treatment system is as difficult as modifying a cultural diet. Similar to eating habits, characteristics about waste treatment define a culture. We openly recognize habits of food consumption – i.e. how, where and when people eat – to the point that cultures are typically characterized by their eating habits. To introduce a foreign food or a foreign way to prepare food is one thing. To expect a culture to readily accept it is another. Imagine a food program – introduced from abroad -- that eliminates water from the diet or from food preparation. If one would expect the recipients to be hesitant, skeptical or simply reject the food program, should one expect different reactions toward a sanitation program that promotes the same water-saving concept?

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