

Recycling Behaviour: the Present Focus Brain and a Framework to Understand Personal Differences in Recycling

Antonis Mavropoulos, EPEM SA

Contact

141B Acharnon str.
10446 Athens, Greece
E-mail: amavrop@epem.gr
Blog: <http://mavropoulos.blogspot.com/>

Executive Summary

As the move towards recycling societies seems to be a more or less global trend, there is a need for a better understanding of success and failures factors for recycling activities. Big differences between recycling programs within a country, even within a city, highlight the importance of local conditions and appropriate design and logistics of recycling activities. But although recycling seems a favorable as well as trendy activity in most developed countries, the actual participation of population and even more the achieved diversion rates are at least not satisfactory.

The existing gap between people's preference and public support for recycling activities and their actual participation during daily home routine indicates that there is need for further research regarding recycling policies and personal behavior.

The aim of this paper is to outline the major issues and questions that are related with the failure and success of recycling programs in the framework of personal behavior and lifestyle, using evolutionary psychology concepts as they have been delivered by selected publications. By that way, the waste management community would better design and take-care the recycling activities in order to make them more efficient and more oriented to results.

The evolutionary emerging structure of human personality and its impacts to decision-making will be described. The importance of human temporal and spatial scale will be discussed as well. The importance of present-focus brain will be highlighted in relation with recycling activities and the famous NIMBY syndrome.

Then the difference between recycling in developed and developing countries will be emphasized in order to outline the different motivations that do exist to recycling. Those differences provide a useful tool to understand the "moral" against the "survival" recycling and drive to helpful remarks regarding informal sector recycling.

Then the already proposed frame of situational conditions – social and environmental values - personal attitudes will be discussed as a mean to understand the actual personal recycling performance.

Major findings regarding social- demographic characteristics and their link to recycling will be summarized. The link between life-style and recycling performance will be assessed through literature review and the effect of neighborhood will be presented. Specific social research outcomes will be presented and comments will be made regarding the correlations between different approaches and views to individual's recycling performance.

The major conclusions are:

- The human personality provides a barrier for recycling due to species characteristic understanding of temporal scale.
- Recycling success is a different story in developed and developing countries. In developed countries it is linked with moral values and social responsibility, where in developing countries it is usually linked with

survival and daily income. Thus, recycling in developing countries should be faced as a major challenge for global achievements

- Recycling behavior is framed by situational conditions, social- environmental values and personal attitudes. The later determines the intention to recycle while the first the possibility to actually contribute
- Recycling activities should be carefully designed according local conditions and situation, taking into account social-demographic characteristics, architecture, finding the starting point and creating clusters
- Social and collective behavior as a mean to handle the present focus brain barrier will be addressed.

1. Introduction

Recycling activities are gradually increasing their importance in waste management globally. Resource scarcity, the global fight against climate change and the emerging recycling industry are the main global drivers that push to more and better organized recycling programs. Although during the recent financial meltdown recycling business faced major problems ^[1], the long-term perspectives of the industry have not changed and substantial growth is still expected.

Especially in Europe, the recently adopted Waste Framework Directive ^[2] is expected to further stimulate the already expanded recycling activities because a. it clarifies the definition of recycling and reuse b. it obliges Member States to higher recycling targets and c. it pushes to source separation of organic fraction of waste, as well.

Although recycling is already a main stream trend in EU and a wide-spread pro-recycling attitude has been repeatedly reported ^[3,4], it has been proved ^[5,6] that there is a gap between people's preference and public support for recycling activities and the actual participation of individuals during daily home routine. The relative inefficiency of recycling campaigns and the strong dependence of their results with the time passed from them is another indication for that gap. There is a growing concern that communication campaigns, with few exceptions, may increase recycling popularity but they do not create the required behavioral change.

As a result, positive attitudes against recycling do not necessary provide a sound basis for actual participation to it. This is why a behavioral change approach has been increasingly used ^[7,8,9] in order to outline factors and conditions that favor recycling activities on an individual basis.

It is widely recognized ^[10] that in order to approach more successfully to the desired recycling results there is a need to understand in depth the source of barriers that impede different categories of recyclers or non-recyclers of developing a recycling habit ^[11]. Literature on barriers that people face when recycling at home is poor ^[11,12,13] in comparison to the needs for establishing modern practices. It is obvious that there is necessity to move towards a more sophisticated research in order to set up efficient recycling strategies.

Evolutionary psychology provides a framework to understand the personal behavior. It has been argued ^[14] that the emerging paradigm of evolutionary psychology has a lot to offer especially in order to approach how a more long-term recycling behavior may be resulted through the current social conditions. Although the debate about the structure of the human personality is still going, evolutionary psychology suggests ^[15] that the way people think, feel, and behave today can be understood by considering which thoughts, feelings and behaviors increased the relative survival and reproduction of our ancestors.

The aim of this paper is to outline the major issues and questions that are related with the failure and success of recycling programs in the framework of personal behavior and lifestyle, using evolutionary psychology concepts as they have been delivered by selected publications. By that way, the waste management community would better design and take-care the recycling activities in order to make them more efficient and more oriented to results.

The evolutionary emerging structure of human personality and its impacts to decision-making will be described. The importance of human temporal and spatial scale will be discussed as well. The importance of present-focus brain will be highlighted in relation with recycling activities and the famous NIMBY syndrome. The difference in recycling activities between developed and developing countries will be discussed from the same view.

Lifestyle, demography, architecture, social values, personal attitudes and logistics against actual participation to recycling will be discussed as a mean to understand the individual recycling performance. The importance of present focus brain for repair and reuse patterns will also be presented

Finally, some conclusions will be presented that should be taken into consideration for the design and implementation of recycling programs and campaigns.

The Present Focus Brain Concept

According to the evolutionary psychology context, natural selection is recognized as the origin of the many special-purpose and domain-specific cognitive decision rules (psychological mechanisms) that define human psychology and behavior. The key concept is that the process “evolution by natural selection” continues for thousands of years and generations, such that today there are patterns for thoughts, feelings, and behaviors that are guided by particular psychological mechanisms which can be described by “survival patterns” and are species-typical.

Although it seems a kind of “genetic determinism” [14], evolutionary psychology supports that the complex architecture of species-typical, domain-specific psychological mechanisms allows for the tremendous context-dependent flexibility to human behavior. Thus, a major architectural unit of our personality is the evolved psychological mechanism, which of course does not operate in a vacuum. The mechanisms are dependent for their activities on the contextual input to which they have evolved sensitivity [14,15].

For hundreds of thousands of generations, ancestral humans lived their lives being focused on the very present time scale. Food, safety, a warm place to sleep were daily activities and cares, while the most “long-term” issues for our ancestors were to find a mate for reproduction and a friendly clan to join. As it has been mentioned [14], conspecific competition, scarce resources, and the ever-present threat of predation weeded out of the human population those individuals that did not successfully resolve the present-focus problems. In other terms, those who failed to face the hard pressure for present-focus solutions simply are not our evolutionary ancestors. Rather, current human psychology is now comprised of the numerous, evolved, species-specific and universal psychological mechanisms that guided our ancestors to successful survival and reproduction. And one of the most important mechanisms, which largely predetermine our response to our environment, is the Present Focus Brain.

This is a very important issue for all the major environmental challenges. The evolved way of thinking and understanding time scale responses is more or less in contrast with the long-term approaches that are required in order to face environmental problems. Time scale for the plans against Climate Change is at least in the order of 100 - 200 years. Time horizon for a landfill is around 70-150 years. An effective master plan against the lack of water and desertification will take at least 20-40 years of coordinated actions. And the benefits from recycling are understood only under a long-term view of the planet’s resource management. The structure of the human brain, the way the human personality has been shaped through natural selection and evolution, is principally incapable to consider sound and effective solutions to problems that definitely extend for hundreds or thousands of years into the future.

The so-called Human Temporal Scale, which allows us to survive and evolve, is not suitable to handle the environmental challenges of our era. There is also a Human Spatial Scale, also evolved through natural selection. This is also relatively limited in terms of the space that human beings do understand as their crucial space, for which they have to care about. Combination of the previous creates the result which is presented in Figure 1.

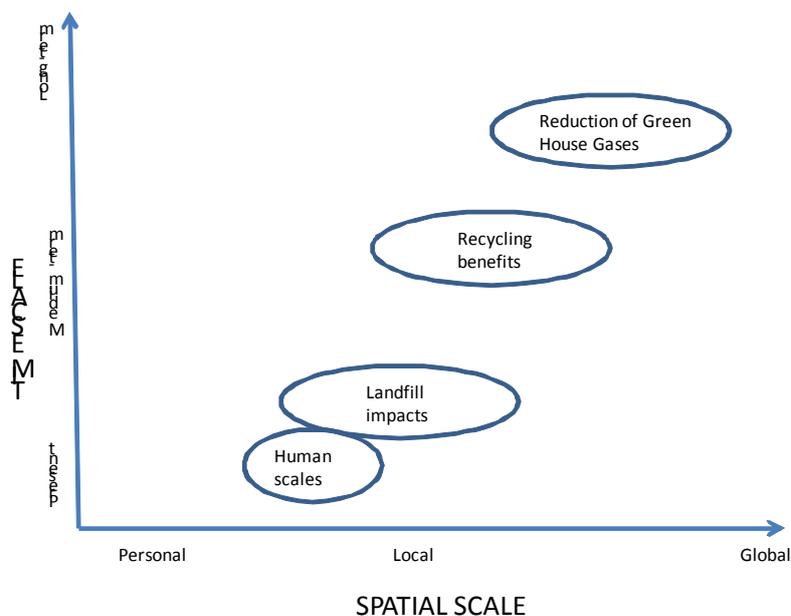


Figure 1: Human temporal and spatial scales compared to environmental temporal and spatial scales

From Figure 1, several remarks are obvious. The most important one, at least about recycling activities is that understanding of recycling benefits and behaving correspondingly is finally something that can be achieved only if human beings can break through their natural Temporal and Spatial Scale. And this should be considered as a major barrier to recycling that has to be overlapped.

On the other hand, Figure 1 can be used to understand how NIMBY syndrome is quite strong, especially about landfills. The development of a landfill in an area is something that more or less will create certain impacts within the limits of human Temporal and Spatial Scale. If someone takes into account that the human brain is programmed, through the survival adventure, to react rapidly and better to current threats than to future benefits, and then we have the answer to the question “Why we will never have a demonstration to promote recycling as strong as the ones that fight against a landfill?”

Even if we assume that all logistics of recycling are fine, all the information campaigns are good enough and demonstrate both the benefits of recycling and the details to do it successfully, there will always be the barrier of natural Human Temporal and Spatial Scale that must be overlapped. Consequently, a recycling campaign that cannot penetrate human Temporal and Spatial Scale, will never be successful, no matter how important information or how clever slogans it will have.

Recycling in developed and developing countries

Having an idea of the different drivers for recycling in developed and developing countries is very helpful for a better understanding of human behavior.

For developed countries, there are a lot of efforts to shape the recyclers’ or the non-recyclers’ profiles. A lot of research has been implemented in order to understand social, demographic and lifestyle conditions that favor or prohibit further recycling. A lot of different tools are used as well in order to promote a behavioral change of the citizens. Those tools include ^[9]:

- Enablers, e.g. infrastructure, education and information and removal of barriers.
- Encouragement, e.g. taxes, penalties, rewards and league tables.
- Engagement, e.g. communication, feedback, consultation, community involvement and ‘bottom up’ policies.
- Exemplify, e.g. leading by example.

Another interesting effort to outline personal recycling behavior ^[8] is outlined in Figure 2.

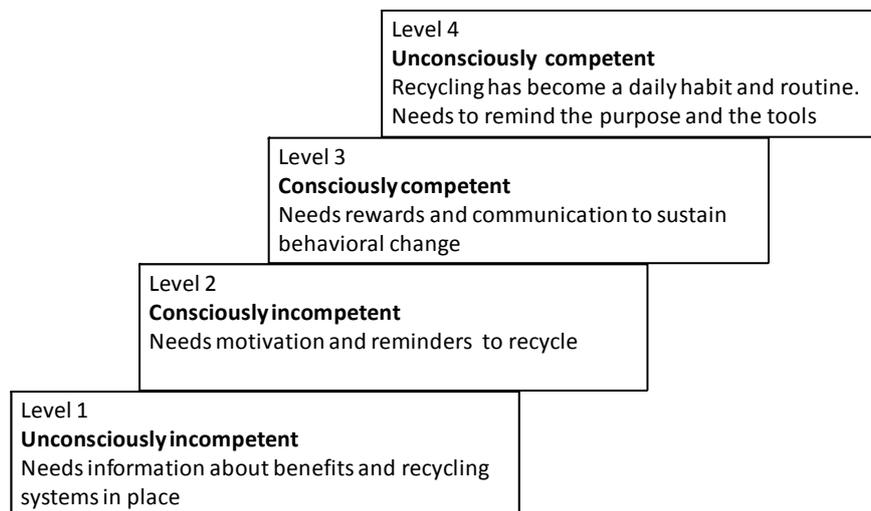


Figure 2: The recycler’s ladder

According Figure 2, improvements in recycling it’s like improving competence in a desired behavior generally. This method aims at giving people the chance to move from “unconsciously incompetents” (not aware of recycling, don’t care) to reaching “unconscious competent” (make recycling an embedded systematic routine that can be carried out without conscious effort). So the bet to improve recycling finds a certain path that facilitates relevant campaigns from being developed in helping individuals find their ranking into the procedure and try, through given and specific tools, to reach a greater level of competence. The target then for authorities is to moderate their campaigns adequately in order to find the most suitable means to help civilians bypassing barriers and move towards being “complete recyclers”.

There is all of evidence that both economic concerns and moral obligations influence recycling outcomes at the household level in developed countries ^[16,17]. The empirical findings ^[16] also show that moral norm activation is important in explaining household recycling efforts. The felt moral obligation for the issue, the beliefs about others' behavior, the perceived positive external effects from recycling, and the extent to which recycling generates environmental public goods are all factors that contribute to our understanding of household recycling activities ^[16,17]. Combined packages of policy that will include both appropriate methods of economic motivation and activation of moral mechanisms have been considered as a key-issue for successful recycling programs.

While in developed countries efforts like the previous mentioned and enormous resources are driven to find ways to enhance recycling behavior, in developing countries things are completely different. According a recent study ^[18], in developing countries the informal sector (consisting of street and dump pickers, informal service providers etc.) is the real driver of recycling efforts and contributes the vast majority of the recovery results. Table 1 shows the relevant data.

Table 1: Formal and informal sector contribution to material recovery ^[18]

CITY	Informal sector recycling	Formal sector recycling	Total recovery rate	Livelihood of informal sector	Informal sector earning / minimum wage
Cairo	10%	63%	73%	40,000	400%*
Cluj	5%	8%	13%	3,226	140%
Lima	0.3%	19%	19.3%	17,643	110%
Lusaka	4%	2%	6%	390	280%
Pune	0%	22%	22%	8,955	240%

*: In Egypt there is no minimum wage, thus the ratio produced by using average salary of unskilled labor in industry.

The main field of activity of the solid waste informal sector is recycling and recovery of materials. This activity diverts a lot of materials from disposal, and supports livelihoods for thousands of poor people. Informal sector activities are completely within the private sector. As such, they contribute to moderating the overall (public) costs of management of solid waste and recyclables at no or negligible cost to local authorities; informal actors lower remarkably the quantities of wastes to be handled and reduce the cost burden to solid waste authorities. What can be concluded from Table 1 is that in developing countries recycling is a "survival activity" for hundreds of thousands of people, an activity that has no need of behavior change programs, special motivation etc. It is an activity for living, which in some cases provides people an income by far better than the minimum one. Table 2 summarizes differences in recycling activities between developed and developing countries from the view of the Present Focus Brain Concept.

Table 2: Recycling activities from the view of the Present Focus Brain Concept in developed and developing countries

PRESENT FOCUS BRAIN CONCEPT	<i>Recycling in developed countries</i>	<i>Recycling in developing countries</i>
Human Temporal Scale	Recycling is an activity with long-term benefits that takes time and effort daily	Recycling is a job with certain earnings
Human Spatial Scale	Recycling results have no positive impact in Human Spatial Scale, instead in some cases recycling stocks may be a problem especially in small houses	Recyclers are usually living within their stocks of recyclables which are a measure of their success and a constant pressure to find market for them
Benefits	Long-term and global	Direct and more local - personal
Economic Motivation	In some cases, with appropriate municipal initiatives	Survival
Moral Motivation	Environmental protection	Survival
Present Focus Brain is...	A Barrier to overlap	A Driver to strengthen

Life style, demography and architecture Vs participation

Several studies have been made in order to investigate the relation between life-style and recycling performance of individuals. Although there are still a lot of questions to be answered (like how environmental behavior in home is related with behavior at work and/ or holidays or how different social value systems actually contribute to recycling performance) there are some general remarks that should be considered as safe ones.

Holistic behavior Although the most of the research completed is sectorized into dealing with specific issues of the environmental behavior, there is evidence ^[11] that environmental behavior transcends these somewhat compartmentalized boundaries and should be placed in a holistic context which recognizes links between specific modes of behavior.

More specifically ^[10,11] it has been demonstrated that environmental action may be defined by three types of behavior. These can be characterized as purchase related activities, such as various forms of green consumption, which cover a wide variety of actions, including the purchase of fairly traded produce, organic foods, environmentally benign products and energy saving appliances. The next behavioral type reflects habitual activities, undertaken within the home as part of a daily routine. Such behaviors do not generally reflect major shifts in behavior, but rather adjustments to lifestyles. Finally, recycling behavior constitutes a highly structured and mechanized behavior, with individuals sorting and cleaning materials for recycling collection. These fundamental differences in daily environmental practices emphasize the ways in which sectorized approaches do not transcend the lived experiences of individuals and thus may not engage fully with the means by which individuals can change behavior.

Social Values Although there is a lot of published data about how differences in behavioral groupings are related to a number of values, especially to wealth, social power, unity and citizenship, there is no straight forward evidence about a clear link between social values and environmental action. As a trend, it can be mentioned that social values, and particularly environmental values, are clearly different according to behavioral category, with committed environmentalists more likely to hold values that encapsulate an emphasis on unity (social cohesion and order) with less emphasis on personal wealth. On the other hand it has been clearly shown ^[11] that biospheric and ecocentric values were held by those who were committed environmentalists, with anthropocentric and technocentric values held by non-environmentalists. This finding ^[19] provides a useful means by which to summarize the impact of environmental values, which for those least interested in environmental behavior, are dominated by a belief that humans are dominant over nature and that technological solutions are the key to resolving environmental dilemmas.

Personal attitudes About attitudes ^[19,20,21], the environmentalist clearly has a positive and responsible attitude towards environmental protection. Environmentalists are conscious of the effects of environmental problems and thus feel morally obliged to participate in behaviors that they believe will have a tangible effect on the global and local environment. This supports considerable research suggesting that social-psychological constructs such as moral obligation, responsibility, social desirability and response efficacy are significant motivators for environmental action. There is also a tendency for full recyclers to believe that they can influence matters most, while non-recyclers perceive themselves as less influential ^[10]. Those findings might suggest that people who believe themselves less influential also believe themselves, less responsible.

Personalization of the environmental problem and a genuine moral obligation to act personally is a motivator for environmental action ^[11]. A further theme to emerge relates to logistical factors and the ease with which individuals felt they could be pro-environmental. A belief that helping the environment takes less effort and is worthy of a time commitment is evidently significant. In addition, there is the perceived social acceptance of the behavior, enabling individuals to take part with minimal personal sacrifice to their self-presentation.

Logistics and convenience Regarding the logistics of recycling, especially the collection scheme, it has been shown ^[10] that both the time schedule and the way it is organized (position of bins, door to door etc.) play a very important role to actual participation. As a good practice, it has been suggested to prepare the collection scheme after having a thorough analysis of the local social- demographic conditions.

The aspects of storage space availability and practical convenience in recycling have also been discussed, as a possible barrier to recycling. Five factors associated with convenience in recycling at home were rated ^[10]: storing, sorting, rinsing, de-labelling and time taken. The non-recyclers rated storing and sorting waste as fairly inconvenient, much more so than the recyclers, suggesting that they live in smaller properties with less storage space.

Demography Full recyclers are more likely ^[10,11] to come from retired households and those in higher income areas, while non-recyclers are more likely to come from lower income areas. Full recyclers are more likely to live in semi-detached and detached properties; households with young childless occupants and families with children are more likely to be non-recyclers. There is a trend for recycling participation to increase with household social-grade. These findings concur broadly with those from the literature, i.e. recyclers are more likely to be affluent and retired, while non-recyclers tend to be less affluent and/or have children, reflecting, in part perhaps, the storage space and time available to these households.

Architecture and neighbor effect It has been demonstrated ^[12] that the social impacts of householders in groups, as determined through assessment of nearest neighbor interactions, varied according to both street architecture (cul-de-sac or linear) and the size of the block in which households are situated. It is also mentioned that a desired modification of behavior within a group will be best achieved if their potential responses to interventions can be understood and

predicted. Interventions could take the form of (1) structural or facilitative means, or (2) attempts to modify attitudes by addressing social interactions and norms. Thus, the impacts of invoking social influences will likely depend on street architecture and the length of contiguous blocks of houses. In practice, the distribution of street types may well be biased towards the longer and linear rather than cul-de-sacs. Linear configurations of houses do not appear associated with strong social impacts between nearest neighbors and the potential to enhance recycling participation by fostering social interactions may consequently be limited. At the same time, longer streets are often segmented into shorter contiguous blocks by road intersections and other discontinuities. Overall, it can be concluded ^[12] that observed distributions of recycling households are sufficiently clustered to infer that householders are influenced by the recycling actions of their nearest neighbors. Such influences appear to diminish with increasing length of contiguous blocks of houses and are more common for cul-de-sacs than for linear blocks of houses.

Table 3 summarizes the previous findings from the view of the Present Focus Brain Concept

Table 3: Major findings regarding participation in recycling from the view of the Present Focus Brain Concept

PARTICIPATION ISSUES	<i>Major findings</i>	<i>Present Focus Brain View</i>
Lifestyle	Environmental behavior should be placed in a holistic context. There are different levels of commitment to recycling.	The Human Temporal Scale affects the whole behavior, not just recycling
Social Values	Committed environmentalists more likely to hold values that encapsulate an emphasis on unity (social cohesion and order) with less emphasis on personal wealth. Those least interested in environmental behavior, are dominated by a belief that humans are dominant over nature and that technological solutions are the key to resolving environmental dilemmas	There are social values that provide a network against the inertia of the Present Focus Brain and can assist human efforts to behave according Long Term issues
Personal attitudes	Full recyclers believe that they can influence matters most, while non-recyclers perceive themselves as less influential. A belief that helping the environment takes less effort and is worthy of a time commitment is evidently significant. The perceived social acceptance of the behavior, enabling individuals to take part with minimal personal sacrifice to their self-presentation.	The social acceptance of the behavior can trigger a pro-recycling activity against the Human Temporal Scale. The last becomes important when the time needed for recycling is estimated by individuals
Logistics and convenience	Collection scheme must be tailored to the area characteristics. Space availability in home and practical convenience are important	Both the Human Temporal Scale and the Human Spatial Scale have an important role to actual participation
Demography	Recyclers are more likely to be affluent and retired, while non-recyclers tend to be less affluent and/or have children, reflecting, in part perhaps, the storage space and time available to these households.	Again the availability of time and space are directly related with Human Temporal and Spatial Scale
Architecture	Recycling participation seems to be clustered and not randomly distributed. Householders are influenced by the recycling actions of their nearest neighbors. Such influences appear to diminish with increasing length of contiguous blocks of houses and are more common for cul-de-sacs than for linear blocks of houses.	Social influence and pressure are a key-issue to fight the inertia of the Present Focus Brain.

Reuse-repair and the Present Focus Brain

In order to outline the importance of the Present Focus Brain Concept in waste management activities, it is really useful to consider the differences that have been evolved in typical western developed societies for the last 100-150 years. Which differences? The ones related with repair-reuse behavior.

It is widely known that moving up to waste management hierarchy means that extensive reuse and consequently repair of used items must be implemented and considerable changes to supply-chain dynamics will be resulted. But it should

be mentioned that repair and reuse of used items was a dominating trend just 50 or 100 years ago, to most of the current developed societies. So, what has been changed and how the Present Focus Brain Concept can help us to highlight key-issues to enhance recycling reuse and repair?

Table 4 summarizes the differences that affect reuse and repair activities from the view of the Present Focus Brain Concept in typical western developed societies. Differences are considered in an almost 100 years interval.

Table 4: Repair and reuse activities from the view of the Present Focus Brain Concept in typical western developed societies now and 10 years before

CHARACTERISTICS	TYPICAL WESTERN SOCIETIES 100 YEARS AGO	TYPICAL WESTERN SOCIETIES NOW
It is good to...	Conserve whatever could be conserved	Spend money and buy new items
Product design	Most products were designed to last and be repaired a lot of times – reuse was a necessity in most of the cases	Most products have a built-in obsolescence – repair is not always possible and reuse is not trendy
Food culture	Most of the food was cooked in home, using usually fresh and owned products – it was an offense to throw food in the waste	In big cities most of the food is bought ready and a large amount is driven to waste
Throw-away culture	Throwing away of waste was not an easy and “clean” task – a lot of homes had their own small landfill	The growing waste management industry has made throwing away of waste an easy task with no impacts to citizens
Human Temporal Scale	Keeping things for repair and reuse had direct benefits and resulted in less cost (comparing to buy a new item)	In most cases, repair and reuse do not seem to have an impact unless long-term benefits for the earth
Human Spatial Scale	Some space was worth to be filled with future use old items in order to have economic benefits	Extensive stock of things for repair and reuse is in contrast with the living conditions of the vast majority of people in big cities
Benefits from repair-reuse	Short to medium-term, personal	Long-term and global
Economic motivation from repair- reuse	Certainly	Rarely
Moral motivation	Conservation culture	Environmental Protection
Present Focus Brain is...	A Driver for repair-reuse	A Barrier for repair- reuse

Concluding remarks

The Present Focus Brain Concept provides a framework to understand both structural barriers for recycling on a personal basis and the ways that they can be overlapped. The human personality provides a barrier for recycling due to species characteristic understanding of temporal scale. Our brain is too much present – focus in order to understand and act according long-term impacts. Information campaigns are not enough to change cultural patterns and understanding the problem is important but not enough to change human behaviour. Consequently, a recycling campaign that cannot penetrate Human Temporal and Spatial Scale, will never be successful, no matter how important information or how clever slogans it will have.

Comparing recycling activities in developed and developing countries is very useful. In developed countries recycling is more or less a moral obligation with Long-Term and Global benefits (thus typically out of the Human Temporal and Spatial scale) while in developing countries is an actual way of survival for thousands of people that provides them substantial resources for living (thus affecting directly their Human Temporal and Spatial scale). Thus recycling in developing countries must be considered as a more promising practice for short-term results globally, while recycling in developed countries is the key-issue for long-term reliefs of waste management.

Recycling behavior is framed by situational conditions, social- environmental values and personal attitudes. The later determines the intention to recycle while the first the possibility to actually contribute. Architecture and demography

paly a crucial role and recycling in households seems to be clustered. The major findings support the idea that the main way to fight the human evolutionary inertia (the Present Focus Brain) is the development of strong social pressure and interaction patterns.

Combined packages of policy that will include both appropriate methods of economic motivation and activation of moral mechanisms have been considered as a key-issue for successful recycling programs.

For all those reasons, when designing and implementing recycling programs, the local conditions (architecture, demography, culture, social values etc.) must be carefully taken into consideration. Recycling activities should not appear in the form of ready packages but in the form of tailored schemes, according local conditions. For every succesful recycling solution, there is an ocean of inppropriate, unsuitable or even completely wrong alternatives which may be avoided only by careful design and gradual development of the activities.

Finally, the Present Focus Brain Concept has a substantial role in order to enhance reuse-repair activities and thus, the promotion of the waste management hierarchy should be combined with efforts to trigger the direct benefits on a social as well as on a personal basis.

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