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## Factors influencing recycling habits among youth in Asia: A comprehensive review

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### Abstract

The matters concerning youth's perception about the act and the discursive factors affecting recycling practices in the Asian region are discussed in this review paper using current literature and past papers. It enunciates primary factors like ecological sensitivity; social and cultural factors; economic factors; intervention by policies; technology and social sites. Also, the review considers the importance of the early education of the environment in influencing sustainable recycling behaviours. The factors regarding Asian youth that has to be taken into account for better strategies towards recycling are as follows, which can help in working towards sustainability of environment at large.

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## 1. Introduction

The recycling constitutes a crucial factor in ADM as a consequence of the Waste Hierarchy, as the continent of Asia equivalent to 60% of the global population, is experiencing a faster rate in industrialization, urbanization, and population increment which leads to increased waste generation. Since young people are among the most active and influential groups in today's society, they have the responsibility of accepting and propagating the culture of recycling. However, they are composed in response and indexed by a number of factors influencing the recycling behaviour of people who are in Asia but in different cultures, different economies and differently absorbed societies. The purpose of this review is to build an understanding of Asian youths' motivation and barriers to recycling by identifying the research gaps regarding this population in a systematic way. Although there are many papers that discuss the general topic, this paper reviews literature within the last five years in addition to the conventional papers in order to present the general findings together with the recent ones.

## 2. Literature Review

### 2.1. Environmental Awareness and Education

Another key component of research on the environmental awareness of young people is recycling. Different researches have indicated that when environmental education is taught at an early age, it has a positive effect on attitudinal change and subsequent behaviour in the approaches of life regarding issues like recycling and the rest. In Lee and Lim (2020) <sup>[5]</sup>, the authors pointed at the need for environmental education to sustainably promote recycling among students in South Korea, which brought several topics related to the environment in schools, leading to a noted increase in the frequency of students' use of recycling facilities. Likewise, Rizwan *et al.* (2021) <sup>[10]</sup> noted that the young people exercising higher levels of consciousness about the environment and consequent recycling in Pakistan that this consciousness was acquired through education and social media.

## 2.2. Early Education on Nurturing Recycling Habits in Asian Countries

Environmental awareness and recycling behaviour among the young learners is profoundly influenced by early childhood education and especially in the culturally and socially rich Asia. Many authors claim that introducing the subject of environment at a young age affects the student's values and practices of sustainable behaviors, including recycling many years later.

**Japan:** Japanese educational strategies in environmentalism start with accession at the primary level where children have to participate in sorting of wastes and recycling as some of their day-to-day processes. It is very important and familiar to Japanese, and the word *mottainai*, which implies regret over the waste, children are taught at school. Added to education, this cultural value has ensured that the Japanese recycled at high rates and have a positive green culture of the youth.

**South Korea:** In South Korea, environmental education forms part of school curriculum; with main focus been accorded on recycling and disposal of wastes. The government supplements these educational efforts and with informational campaigns and convenient infrastructure for recycling, which are aimed at students.

**Singapore:** In Singapore, the government launched the Green Plan that encompasses special educational programs that begin with primary school such as recycling and the need to protect the environment. It is common for schools to implement a recycling theme with activities such as a recycling drive as a way of educating students on the correct way of disposing waste and at the same time engaging them in the recycling process. Such an approach can also be attributed to the effectiveness of Singapore in recycling and raising awareness of the citizens towards the environment.

**China:** On this regard, the government of China has recently emphasized on environmental education as a component of the country's strategy for combating pollution and waste management. For instance, more schools in some of the large provinces including Beijing and Shanghai have incorporated programs that educate the students on recycling and involve them in cleaning of the environment.

**India:** This paper focuses on Environmental Education at the school level in India since the government of India has included it as a measure towards achieving its sustainability crusade. But here, the level of its implementation differs from one area to another. In big cities however, there are some schools with elaborate curriculum that incorporates issues to do with recycling and disposal of wastes. For instance, schools in Bangalore and Mumbai have cultural relationships with NGO's where they organize series of programs that teach recycling.

## 2.3. Socio-Cultural Influences

Many young people across Asiatic nations openly reflect their socio-culture image since family, peer pressure, and cultural trends play a tremendous role in influencing the youth's ability to recycle. Wong and Chan (2019) <sup>[13]</sup> also described that contextual factors significantly affect young peoples' recycling in Hong Kong, such as families and peers. This finding supports previous works done and stated that in collectivist cultures, people's attitudes towards waste and recycling can be strongly affected by the communal values. However, it is also worthy of attention that socio-cultural factors can delay the development of recycling. For example,

although environmental consciousness is perceived to be high among young people in the Indian population, cultural taboos about the disposal of wastes prove anti-recycling sentiments among youngsters. This would imply the need to change the cultural beliefs concerning disposal of wastes and recycling processes in order to gain positive perception towards recycling.

## 2.4. Economic Incentives and Behavioral Economics

Economic incentives are discussed as potential tools applied in order to promote the recycling activities among youths. Chen and Lin (2021) <sup>[2]</sup> focused on the applicability of deposit-refund schemes in Taiwan and concluded that even though such bonuses do affect the level of recycling and even increase it during the period of their usage, the effect disappears as soon as the stimulation is ceased. This observation is concurrent with prior authors who have raised concerns over the ability of financial incentives to sustain people's recycling habits.

On the other hand, Abdullah *et al.* (2022) <sup>[1]</sup> in Malaysia focused on non-financial motivation techniques that include public appreciation and social reinforcements. They concluded that their incentives and specifically, when used in tandem with educational elements, were significantly more successful in maintaining consistent recycling amongst youths in the long-term. This implies that one may require a blend of the economic and social persuasion in a bid to create sustainable plastic recycling behaviours.

## 2.5. Policy Interventions and Infrastructure

Based on the survey results, it can be concluded that government policies and systems play critical roles in encouraging people's recycling behaviours. In analyzing the literature related to the influence of government policies on students' recycling behavior in universities in China, Liu and Zhang (2021) <sup>[7]</sup> concluded that the availability of mandatory recycling laws and effective recycling facilities drastically rose university students' recycling intensity. However, this is a fact that the effectiveness of these policies solely relies on the strict adherence to these policies by the public as well as by the law enforcement agencies.

Other form of collection that have been widely encouraged to increase recycling also enable young people to participate in recycling. Nguyen *et al.* (2020) <sup>[8]</sup> noted that programs which incorporated young people in decision-making processes and implementation of recycling projects were more effective in encouraging young people in responsibility, hence enhanced participation. These findings support prior studies that prescribed policy modification as a sure way of enhancing recycling behaviour.

## 2.6. Technology and Social Media Influence

One of the emerging phenomena in recent research is the impact of technology and, particularly, social media on the recycling behavior. Japanese research by Saito *et al.* (2022) <sup>[11]</sup> stressed that social networks are also useful when it comes to sharing information about recycling and changing the behavior of young people. The research also indicated that the groups in the online social media especially those advocating for sustainable activities affect the recycling behavior of the youths.

In the same vein, Zhang and Li (2023) <sup>[14]</sup> assessed the impact of few specially developed recycling mobile apps in China. It

was discovered that applications providing information on the availability of bins for recycling, incentives, and social media connectivity helped to enhance many young people's recycling manners among users of advanced technology. This is in line with the general that has been witnessed in the advancement in technology where firms tap online platforms to encourage environmentally conscious behaviors.

### 3. Discussion

Looking at the case of young people from the Asian region, it can be seen that the various influences toward their recycling behavior are complex and are all dependent on each other. Thus, environmental awareness, being an essential requirement in the struggle for sustainability, has to be backed up by early education, socio-cultural acceptance, economic incentives, sound policies, advanced technology and social media influences. Due to the specified socio-cultural factors and according to the type of the culture as either collectivist or individualist, the use of the recycling bin and the involvement of people in the practice is either enhanced or hampered.

Although monetary rebates for recycling program appears to be effective in the short term, the strategies must be well developed to ensure the durable alteration of consumers' behavior. This paper argues that, non-financial incentives, including public acknowledgement may be a better solution. Recycling can only occur if policies such as law and regulation, infrastructure among others are put in place but the important thing to note is that such policies must be implemented and backed by education.

Modern techniques, especially through the use of technology and the social media, can offer better chances in getting the youth to recycle. Technology supports the extension of educational campaigns increases the formation of communities of practice, and offers practical solutions for recycling. However, the effects of these technologies depend on the availability and the digital competency of the section or audience meant for the escalated technologies.

However, it is well understood that facilities of early education play a significant part in inculcating right habits of recycling. This includes the concepts of the environment at this age creates the ability to develop environmental principles, which in turn helps develop positive habits for recycling after growing up. The positive impact of environmental education has also been proved in such countries as Japan and South Korea where environmental education is well implemented into the school curriculum. There are problems that endure, especially in the poorer areas, in the cultures that are different and in the sections that are not committed to the necessary practices consistently.

### 4. Conclusion

Recognising and interpreting the dimensions of the impact on recycling habits among the young people in Asia is very important as it informs the formulation of suitable intervention and policies. From this review, the early education, socio-cultural factors, environmental education, economic factors and policy measures, and advanced technology as well as social media influences on the disposal has been noted. The ecological education, and especially the initial stage, acquires a significant value in the development of proper recycling attitudes. There is a need to conduct further research with the aim to detect the effects of the established variables in the long term as well as investigate

continuing functions of digital platforms in the promotion of sustainable recycling.

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