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Egocentrism Among Generation Z: The Influence on Sustainable Behavior

Brîndușa Mariana BEJAN
Babeș-Bolyai University Cluj-Napoca, Faculty of Economics and Business Administration
brandusa.bejan@econ.ubbcluj.ro

Ciprian Marcel POP
Babeș-Bolyai University Cluj-Napoca, Faculty of Economics and Business Administration
marcel.pop@econ.ubbcluj.ro

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Abstract
Generation Z is among the youngest cohorts defined by specialists. Thus, the research questions for this study are 'How does egocentrism influence the behavior of Generation Z?', respectively 'What other factors dictate the sustainable behavior of this generation?'. As the methodology, we built an egocentrism index (aggregate variable) to measure individuals' egocentrism. Also, we looked at whether the expressed/materialized behavior is influenced by individuals' concern for their person and their role in society. Thus, we conducted a quantitative research among the young people who make up Generation Z, the sampling method being convenience sampling. The results obtained from this research showed us that the value of the egocentrism index is lower for the young people of Generation Z compared to other cohorts (for example, Generation X). At the same time, within this scientific approach, we could observe that care for the environment, the desire for involvement and to change unpleasant aspects in the community are not influenced, in a significant way, by the value of the egocentrism index. For our work, the research novelty is represented by the analysis of the influence that the egocentrism index has on sustainable behavior.

Keywords: Generation Z, egocentrism index, sustainable behavior, Theory of Planned Behavior, recycling.

JEL classification: Q01, Q56, M31.

Introduction

Now, pollution is a phenomenon that individuals face more and more frequently. Starting from throwing away clothes to the waste of food, natural resources, energy, or water and continuing with the packaging of the products we use every day, individuals contribute, through the behavior they adopt, to the pollution of the environment and the reduction of available resources for future generations. In recent years, companies have been trying to combat these behaviors by educating consumers, implementing sustainable principles in production processes, and running programs to help consumers in the process of recycling and reusing products they no longer need.

In carrying out this study, we followed the analysis of consumers' recycling behavior regarding aluminum cans and plastic packaging resulting from consumption and daily activities. For example, recent studies (McCarthy, 2020) show that, currently, worldwide, consumers in China generate the largest amount of waste (8.8 million metric tons of mismanaged plastic waste), with 3.53 million metric tons of it ending up in the ocean (McCarthy, 2020). The large amount of waste resulting from daily activities was the main argument based on which we chose this category of packaging.

Starting from the premise that consumers exhibit heterogeneous behavior, the study aims to identify the importance of the rewards they receive as a result of the recycling process. Thus, we aim to find out if the main motivation behind the recycling process is the desire to live in a cleaner environment, to conserve the resources we have at our disposal and preserve them for

future generations, or on the contrary, we only recycle when we are appreciated for our actions. In other words, we look to see if the recycling process undertaken by a consumer is based on extrinsic or intrinsic motivation. In the category of intrinsic motivations, we distinguish rewards such as appreciation from the reference group, the community, or material rewards that customers receive in the form of vouchers or discounts. Based on the assumption that, at a generational level, Baby Bloomers or Generation Z represents the consumer segment that pays the most attention to the environment and engages in actions aimed at protecting and preserving it (Dabija et al., 2019; Lan, 2014), we believe that the study should be based around the analysis of the behavior of the young people of Generation Z.

Similarly, starting from the premise that these young people have a higher level of egocentrism, in this study we aim to identify the link between the recycling intention of young people and how it is influenced by the egocentrism index. Egocentrism indices are measures that assess the extent to which individuals exhibit egocentric thinking in various domains, such as social, moral, or cognitive domains. These measures typically involve presenting participants with hypothetical scenarios and asking them to respond to questions that require considering others' viewpoints (Hart, 1991).

Research has shown that individuals who exhibit higher levels of egocentrism may be less likely to engage in pro-environmental behavior, such as recycling (Klockner, 2013; Vining & Ebreo, 1990). This may be because egocentric individuals are more likely to prioritize their interests over the interests of others, and may not see the benefits of recycling for the broader community and the environment. One study found that individuals who scored higher on a measure of egocentrism were less likely to engage in recycling behavior, even when controlling for other factors such as environmental concern and knowledge (Klockner, 2013). This suggests that egocentrism may be an important factor to consider when designing interventions to promote recycling behavior.

Given the negative impact of egocentric thinking on recycling behavior, it is important to develop interventions that take this factor into account. One potential approach is to frame recycling behavior in a way that highlights the personal benefits to individuals, rather than focusing solely on the broader environmental benefits. For example, one study found that emphasizing the personal benefits of recycling, such as saving money or creating a cleaner living environment, was more effective in promoting recycling behavior among individuals who scored high on measures of egocentrism (Moser & Dilling, 2004). This suggests that interventions that appeal to individuals' self-interest may be more effective in promoting recycling behavior among egocentric individuals.

Another potential intervention is to use social norms to promote recycling behavior. Research has shown that individuals are more likely to engage in pro-environmental behavior when they perceive that others are also engaging in that behavior (Schultz et al., 2007). This approach may be particularly effective among egocentric individuals, who may be more influenced by the behavior of others than by broader environmental concerns.

1. Literature review

1.1. The theory of planned behavior in recycling

Recycling is the process of converting waste into reusable materials. Recycling has become an important part of waste management in recent times due to the increasing concerns about environmental pollution and resource depletion. Recycling behavior is the action that an individual takes to recycle waste materials. Recycling behavior is influenced by several factors, including attitude, knowledge, convenience, and social norms. Studies have shown that attitude is a key determinant of recycling behavior (Kaciak & Kushner, 2009; Knussen et al., 2004; Mannetti et al., 2004). Attitude refers to an individual's positive or negative evaluation of

recycling behavior (Kondrotiene et al., 2024). People who have positive attitudes toward recycling are more likely to have strong recycling intentions (Ajzen, 2012) and are more likely to recycle. Knowledge of the benefits of recycling is also an important factor that motivates people to recycle. Therefore, educating people about the environmental, social, and economic benefits of recycling is important.

Under these conditions, we can state that the Theory of Planned Behavior (TPB) provides the theoretical framework that can explain sustainable behavior, particularly recycling, by considering the factors that influence behavioral intentions. Some research (Mehmood et al., 2024) suggests that proper advertising and information can improve recycling intentions, in this case, information acts as a factor that shapes positive attitudes toward recycling. Some studies (Xie & Wang, 2024; Van den Broeck et al., 2016) demonstrate that recycling behavior is directly related to the individual's physiological needs. Once these are satisfied, consumers acquire control over their behavior, an aspect that materializes in intrinsic motivations, which causes the consumer to engage in a certain behavior.

Physiological needs lead the individual to adopt a recycling behavior. Some authors (Xie & Wang, 2024) believe that people with a higher sense of autonomy have a higher level of self-satisfaction. This aspect materializes through a high level of involvement.

Thus, these people believe that the actions they undertake have the possibility of helping the community in which they live and can contribute to protecting the environment. We can also conclude that these individuals are aware of the importance of their actions, and can satisfy their own needs, without compromising the chances of future generations. Practically, for recycling behavior the desire to recycle is seen as a moderating variable (Xie & Wang, 2024), which facilitates the emergence of the analyzed behavior. Depending on the motivation felt and its intensity, the individual can act to satisfy that desire and implicitly, in adopting the recycling behavior.

Recycling intentions are also an important predictor of recycling behavior. Recycling intentions refer to the degree to which individuals plan to recycle in the future (Vijayan et al., 2023). Understanding recycling intentions can provide insights into how to promote and sustain recycling behavior.

Studies consider that recycling intentions represent the direction to follow to adopt sustainable resource management (Knickmeyer, 2020), their role becoming more important with the development of the circular economy (Taouahria, 2024). The intention to recycle reflects the desire of individuals to extend the life of materials and to reduce the excessive consumption of exhaustible resources. Subjective norms refer to the degree to which an individual perceives social pressure to engage in a behavior (Anderson, 2023), in this case in a recycling behavior. People who perceive that their social group or community values recycling are more likely to have strong recycling intentions (Ajzen & Fishbein, 2005).

As a part of the Planned Behavior Theory (TPB), the subjective norms reflect the individual beliefs about the surrounding environment, providing directions to comply with these rules (Wahyuniet al., 2019). Recent studies (Wang et al., 2023; Zhou et al., 2024) demonstrate that social pressures and expectations can accelerate the adoption of sustainable practices, not only influencing behavioral intentions but also contributing to the creation of a favorable framework for the development of environmentally friendly behavior on a broader scale.

Perceived behavioral control refers to an individual's perceived ability to engage in recycling behavior. People who perceive they have control over their recycling behavior are likelier to have strong recycling intentions (Ajzen, 2012). The lack of access to recycling infrastructure can lead to a reduction in perceived control while facilitating access increases the likelihood of participation in the recycling process (Panda et al., 2024).

Environmental concern refers to an individual's concern for the environment. People who are more environmentally concerned are more likely to have strong recycling intentions (Bolderdijk et al., 2013). Convenience is another important factor that influences recycling behavior. People are more likely to recycle if the recycling process is easy and convenient (Soon, 2024). Therefore, it is important to provide convenient recycling facilities such as recycling bins in public places and homes.

Social norms also play a role in shaping recycling behavior. People are more likely to recycle if they perceive that recycling is the norm in their social group or community (Thomas & Sharp, 2013). Therefore, it is important to promote recycling as a social norm by highlighting the benefits of recycling and encouraging people to recycle.

1.2. Recycling packaging

Packaging is an essential component of our daily lives, and it plays a critical role in protecting and preserving the products we use. However, the negative environmental impacts of packaging waste cannot be ignored. In recent years, there has been a growing concern about the disposal of packaging waste and its impact on the environment. Recycling is the responsibility of individuals, being an eco-friendly attitude (Roger-Loppacher et al., 2022) and can be a successful process only to the extent that they are aware of the negative impact that packaging has on the environment (Ding & Zhu, 2023).

Packaging waste is a significant environmental problem, with millions of tons of packaging waste generated annually around the world. The disposal of packaging waste in landfills and incinerators contributes to greenhouse gas emissions, water pollution, and other negative environmental impacts (OECD, 2022). Additionally, the production of new packaging materials requires energy and natural resources, further contributing to environmental degradation (Kirwan, 2011).

Currently, it has been shown that the most attractive material that can be recycled is aluminum. It is a material that, after recycling, does not lose its properties, by running this process achieving a 95% reduction in energy consumption when manufacturing new products. At the same time, aluminum is a material used in numerous packaging, so consumers are familiar with it (Roger-Loppacher et al., 2022).

However, according to its universal character, since the 1940s, plastic has occupied an increasing share of packaging materials. Of course, the expansion was also supported by the low cost required to procure plastic packaging (Gritsch, et al., 2024). However, in recent years, consumer perception towards these packaging has changed, registering a negative outlook. Consumers are becoming increasingly aware of the harmful effects that plastic can have both on the items for which the packaging is made, and on the environment, since it has a long life, and individuals have not yet learned the habit of recycling. Some studies state that paper currently accounts for 36% of packaging materials, followed by plastic (34%) (Gritsch et al., 2024).

Recycling plays a critical role in reducing the negative impacts of packaging waste. Recycling allows for the recovery of materials from packaging waste, reducing the need for new materials and conserving natural resources (Kirwan, 2011). Recycling also creates jobs and supports the economy, contributing to sustainable development (Ellen MacArthur Foundation, 2017).

Despite the benefits of recycling, the current state of packaging recycling is not satisfactory. In many parts of the world, the recycling of packaging materials is limited, and the amount of packaging waste sent to landfills and incinerators remains high (Kirwan, 2011). Additionally, the quality of recycled packaging materials can be compromised by contamination and other factors, reducing their usefulness and value (OECD, 2022).

The recycling rate of municipal waste in the European Union was 48% in 2020. According to the latest analyses carried out, the EU member states do not meet the target imposed at the community group level, aiming to reach a threshold of 60% by 2030 (Figure 1).

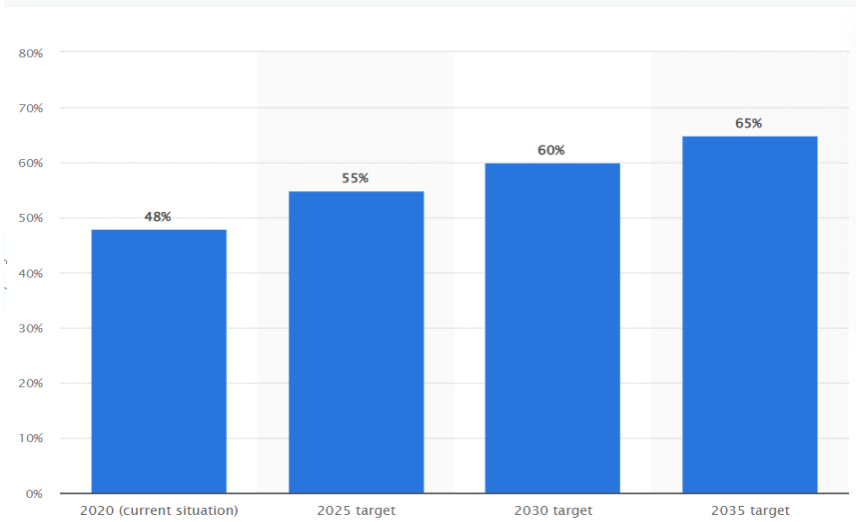

Figure 1: Municipal waste recycling targets in the European Union
Source: (Tiseo, 2023a)

Also, at the level of the European Union, the targets that we must reach are set according to the materials from which the packaging is made (Figure no. 2).

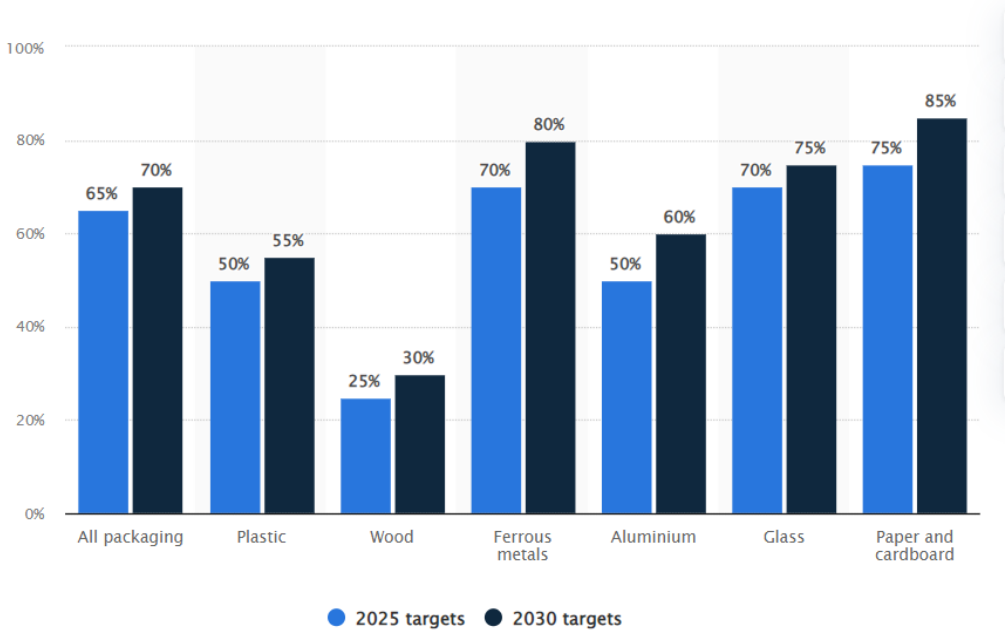

Figure 2: Packaging recycling targets by type
Source: (Tiseo, 2023b)

In our country, the waste collection industry increased by 153,2 million euros in 2020 in comparison to the previous year. Analyzing these data, we can say that citizens are increasingly concerned about protecting the environment and want to get involved more and more in actions aimed at collecting packaging. Regarding the opinion of the members of Generation Z, a study conducted in 2021 shows us that the usage of sustainable methods and materials for the production of goods by companies was cited as highly important to Romanian Gen Z

representatives; to compare, the promotion of sustainable products had no relevance to eight percent of the survey participants.

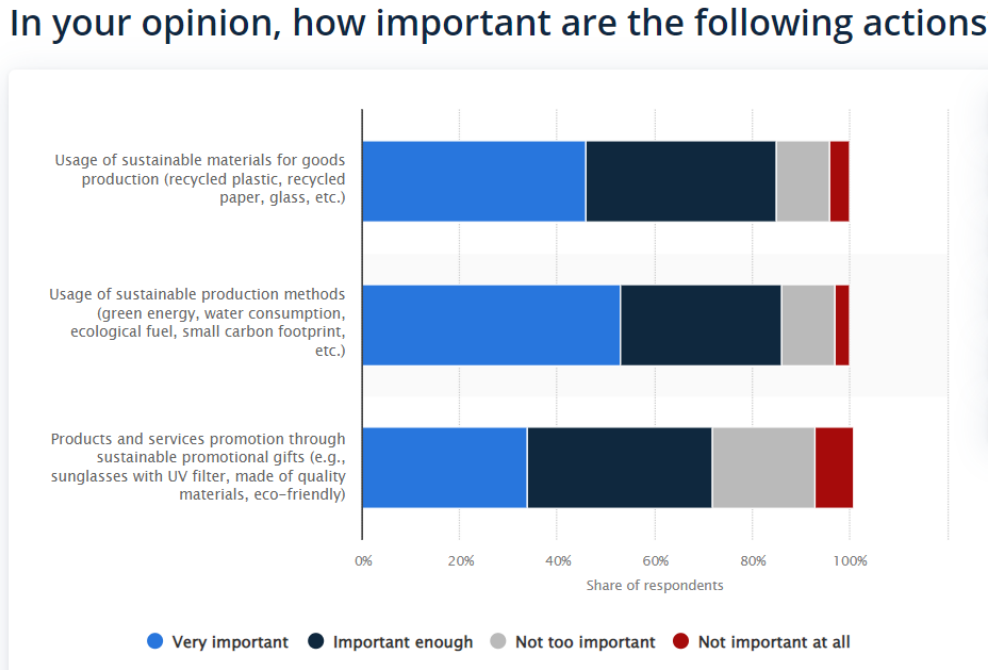

Figure 3: The importance of some sustainable actions
Source: (Statista Research Department, 2022)

One of the solutions identified over time that has the possibility of increasing the recycling rate is represented by educating consumers, especially those from the urban environment (Hou et al., 2020; Yang et al., 2024). They represent a target segment both from the perspective of high product consumption and access to recycling infrastructure. In analyzing recycling behavior, we must also consider the cost of packaging. Many consumers indicate that they are willing to pay more for products that use eco-friendly packaging and to participate in recycling it, being aware of the role they need to play in the recycling process (Lin & Wang, 2023).

1.3. Egocentrism index

Consumer behavior is influenced by various psychological factors, including individual differences in personality traits, motivations, and attitudes (Efrat & Zait, 2024). One such factor is egocentrism, a tendency to view oneself as the center of attention (Tajmirriyahiet al., 2020). Thus, people with a high level of egocentrism tend to see themselves only in a favorable manner (Burrus & Mattern, 2010). Egocentrism can influence consumer behavior by affecting how individuals process information about products and brands (Todd & Tamir, 2024).

For example, Hwang and Kandampully (2012) used the egocentrism index to investigate how self-referential processing influences brand loyalty. They found that individuals with higher egocentrism index scores were more likely to exhibit brand loyalty, suggesting that self-referential processing plays a role in brand attachment. In another study, Nguyen et al. (2017) used the egocentrism index to examine how self-referential processing influences the evaluation of luxury products. They found that individuals with higher egocentrism index scores had a more positive attitude toward luxury products, suggesting that self-referential processing plays a role in the perception of luxury products.

The egocentrism index has also been used to investigate the influence of self-concept on consumer behavior. For example, Wang, Yeh, and Liao (2013) used the egocentrism index to

study how self-concept affects online purchase intentions. They found that individuals with higher egocentrism index scores were more likely to make online purchases, suggesting that self-referential processing plays a role in online purchase intentions.

Given the existing differences between individuals, egocentrism can represent an explanation for social conflicts, differences of opinion, or attitudes that they display (Campbell et al., 2000). Over time, some researchers have associated egocentrism with the idea of narcissism, which is used to measure the degree of egocentrism of people (Campbell et al., 2000; Smith et al., 2019; Robbins & Patton, 1985). Of course, the definition of egocentrism can be different depending on the population we are referring to. For example, among adolescents and young people, egocentrism is seen as the failure to distinguish self from non-self (Cohn, 1988). The argument consists in the fact that, during adolescence, the personality of young people is not defined in a definitive way, an aspect that leads to taking over certain traits and behaviors from the people around them (Shende & Kadam, 2024; Wang et al., 2024).

Despite its usefulness as a measure of self-referential processing, the egocentrism index has some limitations in consumer behavior research. One limitation is that it assumes that self-referential processing is the only factor that influences consumer behavior. Other factors such as social influence, situational factors, and individual differences may also affect consumer behavior. Another limitation is that the egocentrism index only provides a relative measure of self-referential processing, rather than an absolute measure.

2. Methodology

Starting from the theory of planned behavior, we analyzed the impact of subjective norms, environmental concern, and perceived behavioral control on recycling intention and consumer recycling behavior (figure no. 4). Also, we analyzed the impact of the egocentrism index on behavioral attitudes and behavioral intentions. For this research, we added a new component to the Theory of Planned Behavior.

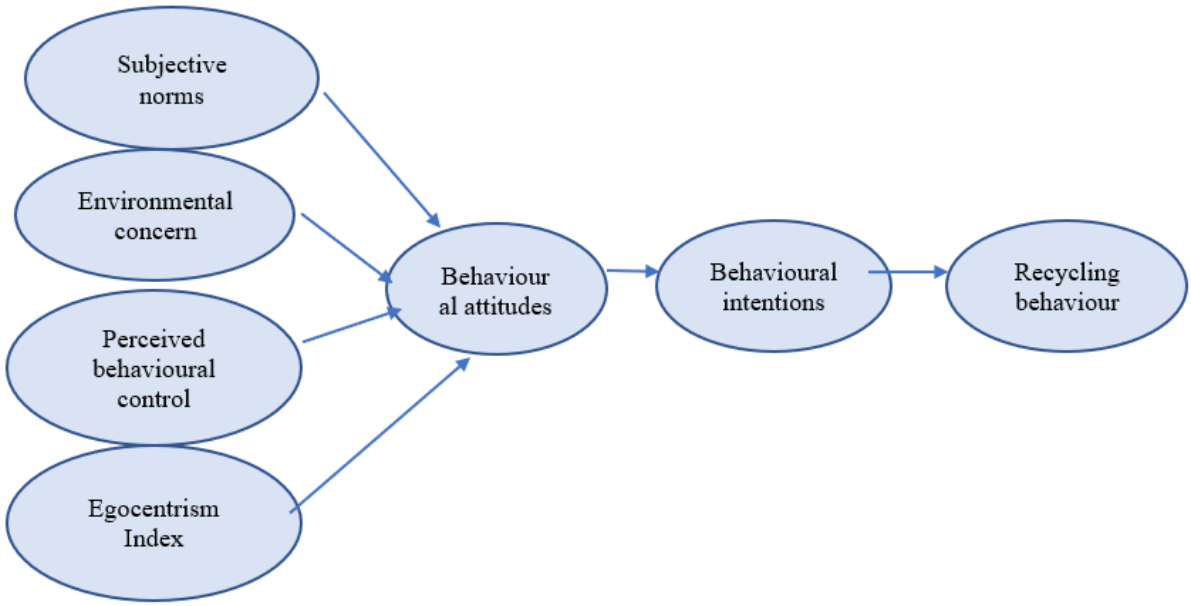

Figure 4: The proposed conceptual model
Source: made by the authors

For this conceptual model, we used the theory of planned behavior (TPB). TPB posits that behavior is determined by three factors: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). For this study, quantitative research was carried out using a questionnaire to measure the constructs of TPB, as well as demographic information such as

gender, education level, and income. The TPB constructs will be measured using established scales, including attitudes toward sustainable behaviors, subjective norms, and perceived behavioral control (Ajzen, 1991). In addition, the questionnaire will include questions about past behavior, current behavior, and intentions to engage in sustainable behaviors in the future.

Regarding the egocentrism index, it was measured using the scale developed by Tajmirriyahi et al. in 2020. I chose this scale because it puts more emphasis on personality traits, emphasizing, through statements, the individuals' perspective, without taking into account the possibility that they shape their behavior taking into account the opinions of the people around them. The measurement scale included 14 statements related to individuals' perceptions and personality traits.

For this research, the sample consists of young people from Generation Z, also known as the iGeneration. Generation Z is the first cohort to grow up entirely in the digital age, and as such, they are digital natives who are comfortable with technology and social media (Madden et al., 2013). They are also the most diverse generation in history, with a higher proportion of racial and ethnic minorities and greater acceptance of LGBTQ+ individuals (Parker et al., 2019). Generation Z is also socially conscious and more likely to support social justice causes and environmental sustainability (Ozkan, 2017).

Despite their unique characteristics, Generation Z faces several challenges, including economic uncertainty, political polarization, and mental health issues (Twenge, 2019). Additionally, the COVID-19 pandemic has further exacerbated these challenges, with many Zoomers experiencing disrupted education and job prospects (United Nations, 2020). However, Generation Z also has several opportunities, including their digital savvy, diversity, and social consciousness, which can be leveraged to drive positive change in society.

The research was conducted during this spring (March – April 2024), and the sample consisted of approximately 600 individuals from Generation Z. The questionnaire was administered online, using the convenience sampling method.

3. Results

Starting from the 14 statements included in the egocentrism measurement scale, we created an aggregate variable - the egocentrism index. Thus, based on this, we were able to appreciate the level of egocentrism of the individuals: low, medium, and high. In the analysis of the behavior of the individuals, we took into account the level of the egocentrism index and the behavior shown by the individuals.

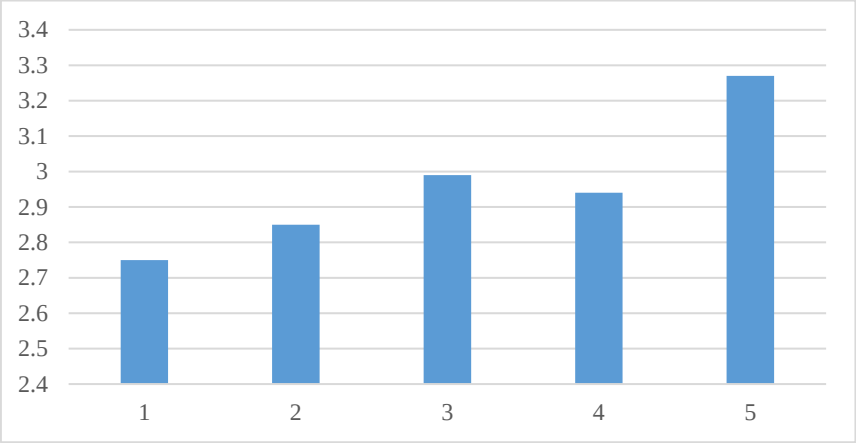

Figure 5: Opinion on the responsibility of recycling packaging
Source: made by the authors

According to Figure No. 5, people who have a high level of the egocentrism index believe that sorting the packaging is the responsibility of the sanitation people. They believe that a disclaimer is required. Theoretical research has demonstrated that individuals from Generation Z are more engaged in environmental protection and recycling processes. However, the level of egocentrism index alters the factors that can explain this behavior, emphasizing individuals' self-image (social self).

Since October 2023, Romania has implemented the Guarantee-Return System (GRS), under which consumers pay a fee of 0.50 RON for each product with plastic or aluminum packaging. This fee can be reimbursed by recycling the packaging at special machines placed by retailers in their stores. Of course, the benefits of this program have been significant, the most important being the removal of plastic and aluminum packaging from the environment.

However, some consumers may perceive the collection of packaging and travel to recycling machines as inconvenient, fearing that they might be judged by others. As a result, individuals with a high egocentrism index may feel that such actions are incompatible with the self-image they wish to project in society, leading them to view recycling as a responsibility for sanitation workers. Also, most of these individuals think that waste sorting is a task that must be done by other family members (Figure no. 6). Thus, people with a high level of egocentrism index decline responsibility, especially towards other family members.

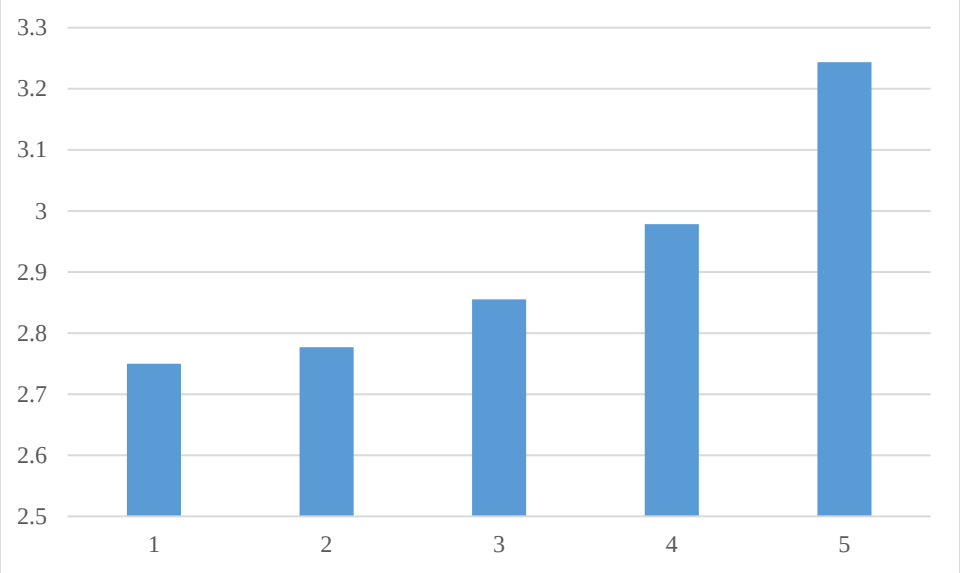

Figure 6: Waste sorting by other family members
Source: made by the authors

Of course, one aspect that may justify this opinion is the age of the respondents. Generation Z is represented by young individuals who have not yet developed full independence from their parents, with some still sharing the same household. This allows them to shift responsibilities related to household management onto others. Suppose in terms of recycling attitudes and responsibility, a clear differentiation is evident between people according to the level of the egocentrism index. In that case, the distinction is more difficult to achieve about recycling behavior.

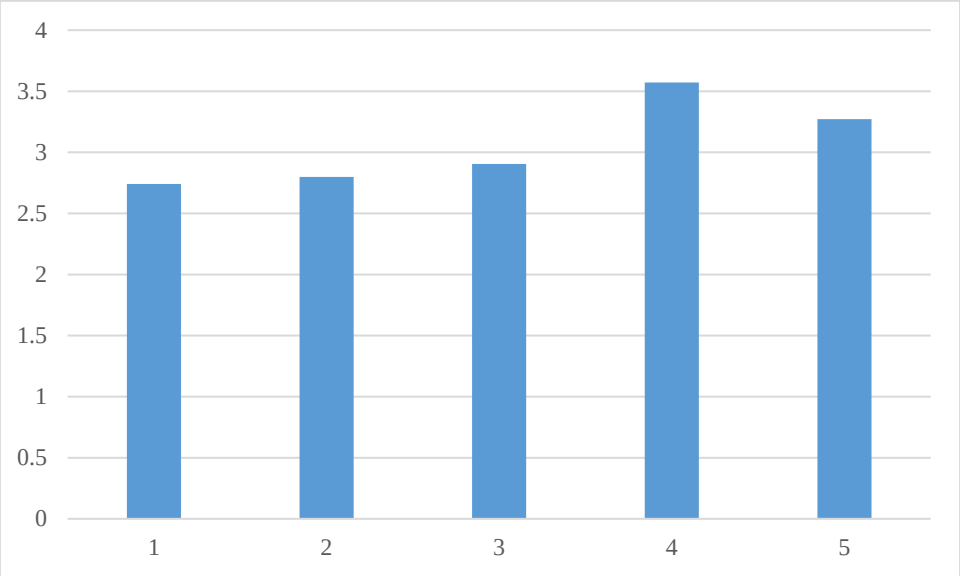

Figure 7: Reuse behavior according to the egocentrism index
Source: made by the authors

People with a medium to high level of self-centeredness do not buy drinks in plastic packaging. Thus, in aspects that reflect both personal comfort and protecting the environment, people with a high level of egocentrism index continue to be involved. Starting from the premise that people with a high level of egocentrism are more concerned about themselves, the results obtained from the research showed that they think that environmental problems are not so serious, and in the medium term, things will balance (Figure no. 8).

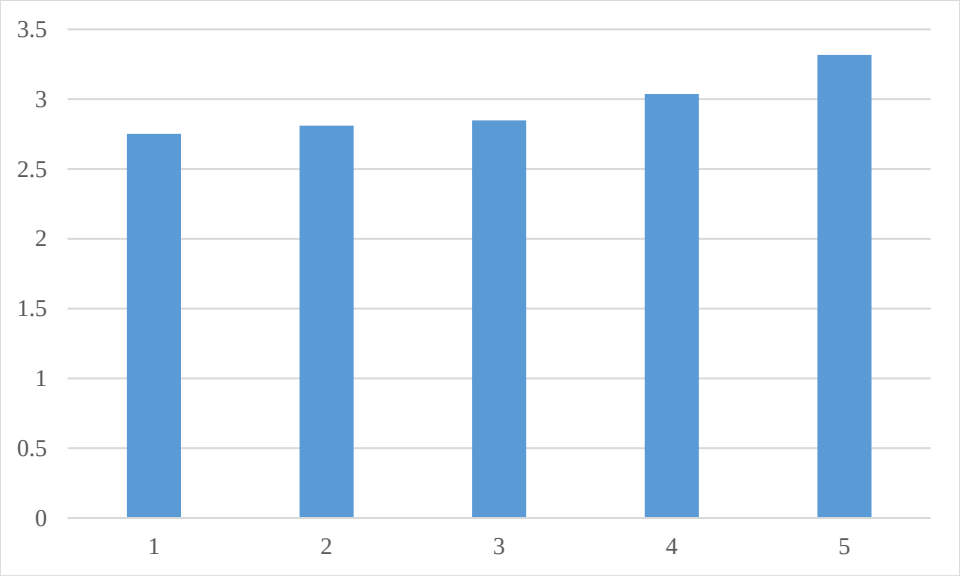

Figure no. 8: Care for the environment according to the egocentrism index
Source: made by the authors

Being more self-focused, these individuals tend to downplay issues related to pollution, considering them to be brought to public attention through advertising without a real basis. Thus, they believe that, if environmental problems do exist, they are at a much lower level and do not have a tangible impact on their lives. Of course, during the scientific inquiry, we asked ourselves how companies could reach consumers with a high egocentrism index. How could they be persuaded to recycle?

One of the results obtained from the quantitative research shows that rewards are significant for these individuals (Figure no. 9).

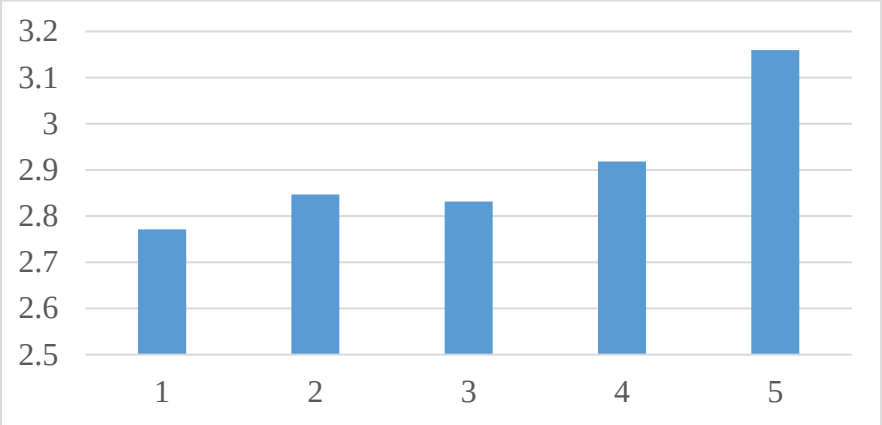

Figure no. 9: Consumers recycle for economic reasons (rewards, coupons, vouchers)
Source: made by the authors

Individuals who choose to recycle are primarily motivated by the rewards they receive. However, there is a discrepancy compared to the initial findings. If these young people are motivated by financial rewards, why don't they make greater use of guarantee-return systems?

A possible explanation could be the way these systems are positioned and promoted. It is likely that if the rewards take the form of gifts, young people might be more receptive. The refund provided in major stores after recycling is often perceived by many as a right, given that the cost was already incurred at the time of purchasing the product.

4. Conclusions

Egocentric thinking can harm individuals' willingness to engage in pro-environmental behavior such as recycling. However, interventions that appeal to individuals' self-interest or use social norms to promote recycling behavior may be effective in overcoming this barrier. People with a high level of egocentrism index believe that the responsibility for recycling should be declined by the people around them (family members, sanitation workers). Also, following the conducted research, it was observed that these individuals do not show a strong concern regarding environmental issues, having a passive rather than active or proactive attitude.

People with a high level of egocentrism index do not consider environmental problems to be very serious, believing that the passage of time can solve the incidents that have arisen. Recycling is an important aspect of waste management that has several environmental, social, and economic benefits. Recycling behavior is influenced by several factors, including attitude, knowledge, convenience, and social norms. Therefore, promoting recycling behavior requires a multi-faceted approach that involves education, incentives, convenient facilities, and social norms.

5. Limitations of the research and future research directions

The first limitation of this study is represented by the nature of the research conducted. Since we only conducted quantitative research, we have a static view of the current situation regarding recycling and how it is perceived by young people from Generation Z, depending on their level of egocentrism index. By conducting qualitative research (semi-structured interviews), we would have more opportunities to analyze the behavior of young people. First, we would have the possibility to identify the factors that contributed to the formation of a different level of the egocentrism index. Practically, we could investigate why young people,

despite being raised in similar conditions by parents with similar traits, have different levels of egocentrism.

Secondly, conducting qualitative research could help us explore the motivations behind the decisions young people make: why they choose to act in a certain way at a particular moment. Therefore, while quantitative research shows an effect on the issue, qualitative research could provide the answer for identifying the causes. From a managerial perspective, company representatives could identify the best communication actions regarding the initiatives they undertake and the positioning they attribute to their products.

Regarding future research directions, since sustainability continues to be a widely debated topic today, the first aspect we aim to explore is conducting qualitative research among young people from Generation Z. Additionally, we would like to conduct similar research among members of Generation X. We have chosen this cohort because, in most cases, the parents of Generation Z youth belong to this group. Thus, we want to see if the level of egocentrism among young people is a cause of its existence among their parents, or if it is a consequence of the environment in which young people live.

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