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# How Can Governmental Incentives Inspire Youth to Be More Engaged in Environmental Protection?

## An Analysis of Factors Affecting Djiboutian Young People's Engagement Toward the Environment

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**Abstract:** During the past years, environmental protection and adopting countermeasures against climate change have been on the agenda of many East African countries, as well as western nations, although a common challenge confronted by policymakers is directing young people's interest toward the environment. Therefore, the purpose of this paper is to explore the impact of certain factors that can be adopted by government bodies as a strategy to make youth more engaged in environmental activities. An electronic questionnaire was completed by Djiboutian young people from February 2022 to late June 2022. We retrieved 440 out of 500 questionnaires; a structural equation model was subsequently employed to assess the effects of government rewards, interactions, capacity building and favourable policies on youth engagement. According to the results, all the factors demonstrated a positive impact on youth engagement; consequently, we conclude that young people have tendencies to engage in activities that revolve around environmental issues when there is a reward system in place. Likewise, establishing an interactive platform that accommodates young people's opinions while the government provides reasonable feedback will stimulate engagement. Reasonably, embracing policies in favour of the environment will depict the government as an effective, responsible leader, retroactively influencing young people's perceptions. On the other hand, allowing youths to participate in the process of policies formulation will guarantee a long-term societal engagement, since, pragmatically speaking, these adopted policies will eventually influence their future; at the same time, we conclude that providing proper training and building young people's capacity will provide them with fundamental personal skills, while simultaneously enhancing their sustainable attitude to respond adequately to environmental challenges consequently assisting the national government with their environmental endeavours. Finally, the following paper contributes to the relevant existing body of literature, by providing empirical evidence on different types of government initiatives that could make young people more engaged and inclined in environmental issues.

**Keywords:** youth engagement, environmental protection, Djibouti, public governance, sustainability, SEM approach

## 1. Introduction

Djibouti's national environment law (Law n°51/AN/09/6èm)<sup>1</sup> clearly says: "The environment of Djibouti is a national heritage, an integral part of the world heritage. Its preservation is therefore of primary interest at the local, national, regional, and international levels in order to guarantee the needs of current and future generations." Supported by Article 3 of the same law, "the preservation of the environment constitutes a major interest of the nation, and it is the responsibility of each citizen residing in the Republic of Djibouti to engage and participate in the development of environmental policy". Looking closely at these two articles, it gives the perception that the national environment is protected to its utmost. Yet, in 2016, the global metrics of the environmental index classified the Republic of Djibouti as 164<sup>th</sup> out of 178 countries, scoring 45.29 respectively, just above Burkina Faso and below Ethiopia (EPI, 2016). Although, in the following years until now, the country's performance has been improving; for instance, it ranked 135<sup>th</sup> in ecosystem vitality and 148<sup>th</sup> in environmental health, and it was among the top 10 among middle and low-income countries for adopting policies in favour of the environment. However, despite reaching an acceptable index on environmental policies, Djibouti's performance was limited to habitat protection, marine protected areas, and policy formulation without fully significantly implementing them. This implies the government is still struggling to keep the effectiveness of the domestic environment in areas such as water treatment, waste management, recycling and tree cutting. As a result, there is a need to employ a mechanism that will help the government manage and protect the national environment more effectively.

It is well documented in the literature that threats to the environment primarily come from the harmful behaviour of certain people (Kormos & Gifford, 2014; Kazdin, 2009), hence there is an ongoing need for strategies to alter individual actions for people to be more positively engaged in environmental activities (recycling, energy conservation, efficient travel behaviour) and simultaneously assist the government in its endeavours (Bamberg, 2006). Here comes the concept of youth engagement in environmental protection. Indeed, young people have more potential to create an impact at global and local levels nowadays, and their meaningful engagement in climate decisions and actions can increase the possibilities of a sustainable future achievement (Talwar et al., 2011). And certainly, the government recognises the fact that young people's ideas, energy and vision are essential for societal development, as they can also influence their peers and communities to engage in sustainable projects (Shaharir, 2012), nevertheless, directing young people toward environmental issues has been a challenge for the Djiboutian Government. Despite the country's youth being estimated to comprise 60% of the population, their apathy for political and environmental activities is transparent by their lack of active involvement.

Scholars of public administration and civic engagement characterised young people as an asset and resource (Varney, 2007; Watts & Flanagan, 2007; Wheeler & Edlebeck, 2006); therefore, providing adequate capacity building and opportunities will foster their participation (Carlson 2006). Additionally, other researchers consider inviting young

<sup>1</sup> Loi n°51/AN/09/6ème L portant Code de l'Environnement.

people to public work that has real consequences will change their perception (Perri, 2007; Meadowcroft, 2007; Zilans, 2013); likewise, Chawla and Cushing (2007) mentioned that participation in environmental organisations and witnessing pollution and environmental destruction can be an additional motivating factor to stay engaged. In the same vein, Watts & Flanagan (2007) suggested the use of multiple paths to engage young people, such as: while they are a member of a religious organisation, community college, or military school. Similarly, Arnold et al. (2009) proposed a framework based on educational programmes that promote caring for the environment. Furthermore, Onuoha et al. (2018) and He et al. (2018), have investigated the effectiveness of establishing a reward system on citizen engagement; interestingly, their positive evidence was in contradiction with Timlett & Williams (2008), who found almost non-existent evidence of engagement from a reward system. However, these articles were focused mostly on developed countries with more concentration on the community than the young people themselves, whereas they explore the impact of these factors (reward and capacity building) separately.

Hence, there is an active call for further investigating youth engagement in environmental issues. Although recent papers have examined the role of financial reward on environmental protection (Kaiser et al., 2020; Dardanoni & Guerriero, 2021), perceived environmental risk in stimulating youth engagement (Shafiei & Maleksaeidi, 2020) and the influence of personal moral norms (Ru et al., 2019; Wallis & Loy, 2021), however, no paper, to the author's knowledge examined motivator factors infusing youth engagement in environmental preservation while juxtaposing government incentives to materialise such sustainable behaviour. Therefore, the current paper adopts several neglected factors such as governmental reward, favourable policies, interaction and capacity building on youth environmental involvement, hoping it will assist the Djiboutian Government in better responding, managing and directing young people toward environmental activities more effectively. A structural equation model was employed to catch the effect level of each of these factors on youth engagement, considering the fact that this study is one of the first to apply an SEM approach to capture the effectiveness of youth programmes in further stimulating collective sustainable participation in a low-middle income African country, while overcoming the sample gap in the literature (Wallis & Loy, 2021).

## **2. A brief collection of previous studies**

### **2.1. Youth engagement**

Studies of public engagement define youth engagement as an authentic process where youths engage actively in an event or a programme about which they are motivated and excited (Bråten et al., 2009; Kotzé, 2006). This is supported by Browne et al. (2011), who considers youth engagement a positive mechanism that leads youths to develop their personal skills, particularly when the activity in which they have been engaged makes them feel effective and provides opportunities for skill building. Although, some authors utilise the term youth engagement and youth participation in an interchangeable

manner (Hart, 2013), while others associate youth engagement with youth development (Maynard, 2008). Albeit variations in definition, the core of these terms has the same significance in the context of acknowledging the value of young people in society as civic actors (Bryson et al., 2010). For instance, Stewart (2010) states that young people influence democratic society by cooperating with the government and other stakeholders by becoming active participants; as a consequence, they evolve their civic ability and habits. In a similar vein, Arnold et al. (2009) argue that engagement is not about gathering a mass collective and directing them to a particular issue (political issues, social action, fundraising); in contrast, it has to include several programmes that enhance people's knowledge and understanding of the issues at hand and subsequently empowering them.

Similarly, engagement is not about the quantity, such as the number of youths who are involved, but instead about the quality of engagement and participation, and to what extent their endeavours influence the policy-making process and contribute to national environment betterment (Nyoni, 2009). Interestingly, Lorenzoni et al. (2007) accentuated an approach that is based on emphasising the cognitive, affective and active components. According to their approach, engaging in environmental protection and preservation has to rely on a personal state of connection, establishing a link between climate issues and cognitive engagement, instead of an engagement driven by mere public participation in policy-making: in other words, it is not totally sufficient to know about climate change in order to be involved; rather, people need to find a connection with climate issues, to care about and be motivated thereafter so they can take the necessary measures. Barber (2009) also suggested that listening to the voices of youth and creating a bidirectional consultation based on reciprocity is fundamentally required, whereas, recognising youth as a salient stakeholder in the decision-making process will stimulate their engagement, as these policies will have a direct effect on their future lives.

Some authors proposed several instruments (religious, moral values and perceived benefits of the engagement) to motivate youth in order to become more engaged. For instance, Pancer & Pratt's (1999) motivation model was how the volunteering experience will help with landing jobs, enrich university applications, project socially acceptable behaviour, etc. On the other hand, Rose-Krasnor (2009) noted that establishing sustaining factors that incorporate individuals in ecological footprint mitigation will eventually lessen authorities' unilateral burden; nonetheless, authorities should first take into consideration how to facilitate collective participation and ease barriers for such engagement in order to infuse a sustainable, healthy society based on all-of-society approach. In a similar study, O'Neill (2007) investigated Canadian youths' engagement in politics and, according to their conclusions, education and income explained much of the youth backdrop and apathy towards political and other local participatory activities. Whereas, other potential studies found that youth engagement is influenced by their milieu and surroundings, especially when they observe someone who is close (a family member) volunteering and projecting positive socially acceptable behaviour (Bouman et al., 2020). Keeping in line with the terms of behaviour, youths who were previously part of, and engaged in environmental activities are more prone to maintain a sustainable attitude (Pancer & Pratt, 1999; Chawla & Cushing, 2007). Despite previous literature noting that youths have little to

contribute to policy drafting by manifesting noticeable apathy towards government activities, recent studies revealed how to motivate youths to engage in certain activities. Harris et al. (2010) and O'Brien et al. (2018) suggested the adverse argument, by confirming that young people have more considerable interest in social movements and social activities. Yet, essential efforts are required in order to generate collective engagement, although they noted that these efforts may vary depending on the mainstream strategies employed such as via leadership skills, public speaking and meeting with the participants (Erbstein, 2013). Therefore, in the current study, we will examine and illustrate factors that considerably influence Djiboutian youth engagement in the process of environmental preservation.

## **2.2. Governmental reward**

The reward system has been used and underlined by many authors. For instance, Chiang & Birtch (2008) presented the reward as a value that a government, employer or entity is willing to offer to a citizen, employee or civil worker in exchange for their contributions. Cook & Hunsaker (2001) view reward systems as programmes established by organisations to reward employees and encourage them in order to generate productive results. Therefore, the absence of reward will create an unpleasant environment by decreasing the person's efforts and engagement. Kaiser & Wilson (2004) also mentioned that the presence of reward may be a pleasant or good motivator for some people whereas, the lack of it might be perceived as a strong de-motivator. It is worth noting that the reward might be in form of cash incentives (with strict monetary value) or non-cash incentives (gifts, coupons) and both depend on the provider and how the recipient appreciates them (Shaffer & Arkes, 2009).

Clearly, as in any other sector, environmental protection necessitates joint action between the government and young people. However, the provision of public goods is required to achieve the above-mentioned collective action (Chamberlin, 1978). Empirical studies have demonstrated that citizen engagement can contribute to government effectiveness, but tangible or intangible rewards given by the competent authority can be regarded as a motivator and, in the best case, maintain the mainstream of this engagement, and indeed, this particular reciprocity shows how government incentives generate commitment from citizens (Kim & Darnall, 2016; Cropanzano & Mitchell, 2005).

According to Garcés et al. (2002), collective engagement in environmental protection does not always generate personal benefits. In contrast, environmental protection, such as recycling or reducing waste, is more of a universal activity and does not lead to an immediate benefit on an individual level (Carlson, 2001, p. 1242). However, Elster (1989) and Olson (1971) argued that if members (young people, citizens) are rational egotists, neither collective issues nor universal morals will warrant collective action. Nevertheless, if schemes that entail penalties, such as charging fees on the amount of waste disposed of, people will increase recycling. Alternatively, other services, such as rewards by exchanging recycling for goods with a value, will reduce waste disposal. Other scholars also covered government rewards and their effect; Cohen et al. (2017) and He (2018), both illustrated how government financial incentive mechanisms can contribute to more green buildings,

supported by (Onuoha et al., 2018), who stated that monetary green building incentives have a significant effect on green building adoption and development. In a similar study, Chen et al. (2021) looked into the role of government policy in embracing green buildings. Surprisingly, they found that government subsidy is a major factor that leads to opting for and accepting green building technology. Likewise, Li et al. (2020) proved that increasing the income of developers can effectively promote the development of prefabricated buildings. Researching exactly the same theme of reward effect, (Chung & Poon, 1996) found in their survey that respondents showed a willingness to return batteries if there was a refundable deposit. Whereas, Schultz et al. (1995), Williams & Taylor (2004) and Bennett et al. (2008), suggested that economic rewards, such as valuable instruments are strongly effective in boosting community engagement and participation in environmental protection. On the other hand, Allen et al. (1993), investigated the reliability of coupons in stimulating aluminium recycling in the United States and could not find any association. Similarly, Scott (1999) discovered the effect of reward incentives on the recycling intensity in some communities in the Toronto area is relatively non-existent. Another study by Timlett & Williams (2008), demonstrated that only 12% of the households expressed that the reward scheme was the main factor that motivated them to waste recycling. In accordance with scholars' findings, we propose the following hypothesis:

H1: Government rewards have a positive effect in stimulating young people's engagement toward environmental protection.

### 2.3. Interaction

Public authorities and political parties pour hundreds of millions into public communication. However, despite spending a massive amount, dissatisfaction and disengagement are still present (Smelser & Baltes, 2001; Cavaye, 2004; Craig, 2006; Scharlemann et al., 2020). Research reveals that public authorities focus more on distributing their messages than establishing a bidirectional relationship that consists of speaking and listening. Although the government listens, it is often overshadowed by a poor or intermittent interaction led by one party, showing that 95% of communication resources are surrounded by information dissemination and promotion without fully taking public opinion into consideration (Macnamara, 2016). The Brexit referendum vote is an example; according to Macnamara (2017) the lack of listening of the UK government to their citizens, as the authority vehemently put a lot of emphasis on campaigning without guidance from citizens' opinions, demonstrated a severe absence of understanding public concerns; similarly, the U.S. Donald Trump election revealed how the political parties in Washington, D.C. were not active and in touch with public opinion, subsequently losing public support.

Interestingly, among the articles reviewed by Hügel & Davies (2020), on factors hindering climate engagement, three elements can only be considered substantial: incorporating psycho-social and behavioural adaptation to climate change into policy processes, the paradox of involving considerable stakeholders, and the difficulty of governance transition toward a framework that absorbs citizens' demand. And this can ultimately be traced back to a lack of shared understanding of public involvement for climate adaptation across

disciplines; insufficient articulation of processes involving citizen engagement. Alternatively, Thew et al. (2020) investigated how through the years young people's justice claims in the context of climate had been evolved. According to the longitudinal data the author noted several variety claims; 1. youth manifested their future vulnerability; indeed, this reasoning of discomfort from young people can be related to the current unprecedented climate change adaptation backdrop; 2. the second claim captured by the panel data was the poor interaction between civil servants and young people.

However, from another threshold of public interaction, Christensen et al. (2020) hypothesised the significance of cognitive abilities, for better executive functioning. To demonstrate how these little aspects affect interactions with the state, Christensen et al. (2020) used examples of three universal life circumstances: scarcity, health issues and age-related cognitive decline. The findings show that these variables both raise the possibility that people may require state help and impair executive performance, which may amplify the negative impact of burdensome interactions with the state, limiting access to benefits and raising inequality. It is worth noting that the author does not overvalue the cardinal role of state–citizen interaction but warns that a greater dependency would lead to the state's underperformance.

By now it is clear that interaction stimulates community engagement in order to achieve certain considerable sustainable development. But when the case involves young people, it might be quite different, since the mere idea of establishing a smooth interaction and sound communication will be complicated if not challenging. Delli Carpini (2000) studied the cause and root of youth disengagement and concluded that young people are less trusting of their fellow citizens, projecting lower concern and enthusiasm for politics and public affairs, supporting this statement with their empirical finding that only 19% of 18–29-year-olds follow politics. Accordingly, these youths will be unlikely to engage in community organisations due to their inability to feel a sense of identity, pride or obligation. For instance, Stoneman (2002) founder of “Youth Builds” in Somerville, USA, advocates a new leadership development approach, stressing that the skill of listening is how young people respond, believing that citizens need to be considered important, and pinpointed that effective engagement of young people in civic and other sectors requires an interaction based on a solid, good foundation and continuity.

It is well-known that, in order to build a sustainable society, the participation and engagement of every citizen is crucial. They can act as decision-makers, such as expressing their opinion by interacting with the legitimate competent authority. In fact (Yang & Callahan, 2005; Sommerfeldt, 2013; Willis, 2012; Taylor & Kent, 2014; Johnston & Lane, 2019; Piqueiras et al., 2020), mentioned that effective engagement requires constant interactions between the public and community and this can not only contribute to collective engagement but also to mutual trust and reciprocity. Besides, in the field of public administration, researchers discovered that when citizens participate in a discussion forum or join a political group, whether it is a physical or virtual interaction, there is a higher level of engagement in civic action. Therefore, the following hypothesis is proposed:

H2: Interaction positively stimulates youth's engagement in environmental betterment.

## 2.4. Favourable policies

Knoepfel et al. (2007) defined policy as a package of decisions or actions taken and implemented by a competent public authority to address and resolve a public problem (e.g. unemployment, inflation, gender inequality, pollution). The policy is regarded as favourable if it reaches a specific goal or identifies socially acceptable and desirable issues (Moynihan, 2012; Jager et al., 2020). Mettler and Soss (2004) explored how desirable policies influence citizens and recapped in their article that appropriate policies shape citizens' patterns of behaviour and mobilise interest groups by making them more politically engaged and bolstering their level of commitment to that issue; for them, policies are a way of conveying messages to the public about civic engagement. Additionally, Edelman (1964) remarked that policies can intimidate or comfort, foster beliefs or evoke mass collective participation. In a similar spectrum, Feldman & Conover (1983), Kinder & Sears 1985 and Krosnick (1990) investigated the effect of favourable policies on citizens in stimulating votes; according to their summary, government targets the population with policies that it deems relevant to them, and subsequently, citizens acquire a sense that these policies attribute great importance to their cause, thus proceed to vote to the candidate with the most suitable policy.

Scholars in public management have argued that the process of adopting favourable policies appears successful in making citizens (young people) more socially engaged; however, they emphasised the importance of including actors (civil society and citizens) in the process of policy formulation: as a result, this will produce an effective level of public service which is based on a co-produced and co-created framework that is tackling the most serious issues (Alford, 2009). Moreover, collaborative activities between the two parties will motivate each person (young people and government) to achieve sustainable governance and fasten societal transformation; in other words, youths will behave in the given social context with action that contributes to the country's most challenging issues (Phang et al., 2014). Nevertheless, this certainly depends on how promising, appealing and beneficial these policies are in order to infuse an impact on young people. The next hypothesis is proposed:

H3: Favourable policies positively influence young people's engagement in the context of protecting the national environment.

## 2.5. Capacity building

Capacity building is regarded as a vital method of promoting growth, performance and effectiveness. The concept of utilising capacity building includes a variety of activities, such as improving skills and providing training that aspires to enhance and develop the internal and external capacity of a non-profit organisation or people (Doherty & Mayer, 2003). Castelloe et al. (2002) employed capacity building on a grassroots organisation with funds below \$150,000. They noted that this organisation would need an injection of skills, training and support in terms of financing; they added how these steps would assist the grassroots organisation in upgrading their operational skills to provide

compelling services, and subsequently, after they had acquired the necessary support, they could meet the expectations of the community. Indeed, government and community can benefit from young people's involvement in all aspects of the country's development process (Granger, 2010; Narksompong & Limjirakan, 2015); however, to materialise such an engagement, the government needs an approach that consists of providing support and empowering young people, which, in turn, will lead to long-term sustainability. Some prominent researchers suggested activity setting theory as a mechanism to engage young people (Hawe et al., 2009; Case & Hunter, 2012; O'Donnell & Tharp, 2012); their framework embraces establishing development programmes.

Alicea et al. (2012) and Yohalem & Martin (2007) also suggested that competent authorities need to promote a variety of competencies instead of only relying on attracting young people to a special issue. Such authors recommend focusing on developing youths' individual and social systems by providing them with sufficient empowerment to become productive in society. Ultimately, these authors emphasise capacity building, which comprises physical, emotional, personal and intellectual development rather than a pathological focus. Hence, investing in youth resources and their potential skills will generate the desired outcome (Geldhof et al., 2013; Pereira & Freire, 2021). Equally, Schusler & Krasny (2010) and Johnson et al. (2009), studied the engagement of indigenous youths<sup>2</sup> in environmental sustainability, and they concluded that engagement in environmental activities depends on teaching them, so that later, when they accumulate sufficient education incorporating environmental awareness, climate change and ecological footprint impacts, they can ultimately serve as pillars who promote and engage in environmental sustainability, consequently contributing to community development. In a similar context, Latulippe & Klenk (2020) emphasised the distinction between knowledge and governance and conveys the impression that knowledge co-production aids in the governance of global environmental change. However, using indigenous knowledge to guide environmental decisions implies that indigenous peoples are participants in opposition to self-governing countries with rights and obligations, therefore, respecting their knowledge systems and territory is rather a prerequisite. Yet in most cases, indigenous sovereignty is typically not persevered when knowledge is only used as information for group decision-making. The author also underlined the significance of integrating co-production with indigenous knowledge in environmental governance, while also urging public administration scholars to work to better "integrate" indigenous knowledge into western science and pave the way for indigenous research leadership.

In another situation, in 1986, the Nigerian government introduced a programme to encourage and attract youths to the agriculture sector so that the country could secure and ensure a stable food supply. The programme was based on providing vocational training for young people; surprisingly it later created job opportunities (Latopa & Abd Rashid 2015). Miklosi (2007) also investigated three factors (*respecting, listening, and empowering*) that increase American teenagers' civic engagement, the paper concluded

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<sup>2</sup> In general, compared to other groups, indigenous peoples in most parts of Africa, South America and Central Asia tend to have less access and relatively limited quality of education. Therefore, it is important to make efforts to guarantee that indigenous peoples have access to culturally and linguistically appropriate education that does not promote or lead to unintentional assimilation.

that when young people participate in extracurricular activities, such as student government, political clubs, vocational and community organisations, they tend to project strong engagement and are more active in political activities. Equally, Barnett & Brennan (2006) and Brennan (2007), demonstrated that when youth engage in social issues, they accumulate knowledge, master social skills, and get a sense of purpose; as a result, they become long-term participants in the development process. Consequently, the current study proposes the following hypothesis:

H4: Capacity building infuses positive sustainable engagement among young people.

## 3. Methodology

### 3.1. Participants

#### 3.1.1. *Defining the participants*

According to the African Charter, youth are considered people between 15–35 years, yet the concept of young peoples' delineation provided by the UN might differ (15–24). However, considering that the current paper exclusively focuses on an African country, and is an active member of the African Union it will be preferable to employ the African charter. The application of such a chart will provide us with a cardinal extension of the dataset by reaching a decent number of people while simultaneously overcoming the sample gap in the literature.

#### 3.1.2. *Data collection and demographic analysis*

The survey included a total of 440 respondents; the questionnaire was posted on social media platforms by making it available for the Djiboutian public setting from February 2022 to late June 2022 and targeting youths before entering the summer break. Other feasible communication tools were utilised to acquire enough respondents; for instance, university students use WhatsApp groups in order to communicate and share information regarding university news announcements, for instance, the official WhatsApp group of law student major surpasses 200 students, only in their first year, whereas, second- and third-year students are estimated to be 50–60; other faculty students participated in the survey, as well. Overall, our sample size exceeds the absolute minimum recommended data for SEM which is 250 cases (Westland, 2010). It can be seen in Table 1 that female respondents represented 53.4% while male participants were 46.6%. In terms of age, the largest segment of respondents was between 21 and 25 with 48.9%, followed by those who were 26–30 (34.1%). Regarding educational level, most of our participants were bachelor holders/students (55.0%) while PhD holders/students comprised only 3.0%. As for their income, only 132 seem to be getting an income,

which can be relatively explained by the high unemployment that exists in the job market of the country, and with Covid-19 it became worse; in 2021 the Republic of Djibouti had the second highest unemployment rate in Africa, according to Statista.

Table 1.  
*Respondent's profile*

Demographic characteristics	N = 440	Frequency	%
Gender	Female	235	53.4%
	Male	205	46.6%
Age	15–20	59	13.4%
	21–25	215	48.9%
	26–30	150	34.1%
	31–35	16	3.6%
Educational level	High school	78	17.7%
	Bachelor	242	55.0%
	Master	107	24.3%
	PhD	13	3.0%
Income	Yes	132	30.0%
	No	308	70.0%

*Source:* Compiled by the author.

### 3.2. Questionnaire

A self-administered questionnaire was created for this study, see Table 2. For the sake of convenience of distribution and completion, an online survey was conducted. The first part of the questionnaire focused on the demographics of the respondents, followed by the factor of youth engagement; composed of five items inspired by (Szagun & Pavlov, 1995), then, in order to assess the effect of governmental reward on young people's engagement, six items were established. Two were newly created while four were inspired by (Chen, 2015; Lin & Lo, 2015), while the three other sections were structured as follows; three items for capacity building were taken from (Bennett et al., 2014), and six items on favourable policies were taken from (Webler & Tuler, 2000); however, only four items were maintained because of their low loading, and the last section was about interaction, with six items based on (Heikkila & Roussin Isett, 2007) but due to the low loading, only four items were retained respectively. The respondents rated the items via a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Table 2.  
*The questionnaire constructs*

Constructs	Items	Measures
Youth engagement	YE1	I advocate for the environment and inform others about climate issues.
	YE2	Overall, I am engaged in environmental activities at the national level (such as cleaning the beach, using bikes and purchasing sustainable products).
	YE3	I value the environment to the point where I will sacrifice certain luxuries.
	YE4	I am always involved in climate change activities and volunteer whenever I get the chance.
	YE5	I believe I have an important responsibility toward the environment.
Governmental reward	GR1	The government should give rewards to people who are engaged in environmental protection.
	GR2	Governmental reward such as monetary incentives plays an important role in how I perform.
	GR3	Personally, I will be engaged frequently in climate change activities if there was a rewarding system.
	GR4	Acknowledging my engagement efforts from the government contributes positively to my climate advocacy.
	GR5	Giving away simple awards such as electronics, prizes and books are enough to encourage me.
	GR6	I feel valued and appreciated when I am rewarded.
Capacity building	CB1	I feel the government is not providing us with enough training that will help us respond to environmental challenges.
	CB2	I believe I need more resources to prepare myself for environmental challenges.
	CB3	Generally, we are lacking encouragement and empowerment from the authority.
	CB4	More coaching and education about climate issues would increase my engagement.
	CB5	My environmental engagement will be irrelevant and feeble without proper training.
	CB6	Even if I engage in environmental protection activities, I will need external support.

Favourable policies	FP1	The government is inclusive and considers our voice when adopting legislation.
	FP2	The policies in force are strong enough and protect the national environment.
	FP3	Tougher laws against waste disposal and pollution should be put in place.
	FP4	Personally, I want to influence climate policies proposed by the government.
Interaction	IN1	The government established several interaction initiatives and platforms for the youth about climate issues in the past 3 years.
	IN2	I can function and protect the environment without governmental interaction initiatives.
	IN3	I am satisfied with the lack of interaction with the authority.
	IN4	As a youth, I believe the government listens to our environmental concerns.

Source: Compiled by the author.

### 3.3. Statistical analysis

Structural equation modelling was utilised in order to measure the significant effect of the independent (governmental reward, capacity building, favourable policies, interaction) variables on the main variable (youth engagement). We used SPSS version 28 to prepare the descriptive statistics, as well as the reliability analysis of the collected data (Cronbach alpha), while Amos 24 was used to conduct the structural equation modelling. According to Tommasetti et al. (2017), structural equation modelling is considered a powerful tool for causal effect, so SEM was the most appropriate tool for this research. However, before demonstrating the results, it is important to assess the model fit of the whole model. The model of fitness consists of the following indexes; Incremental Fix Index “IFI”, Tucker Lewis Index “TLI”, Comparative Index “CFI”, Goodness of Fit Index “GFI”, Adjusted Goodness-of-Fit Index “AGFI”, and Root Mean Square Error of Approximation “RMSEA” (Kamboj et al., 2018).

## 4. Finding and results

First, the model fit of this study can be seen in Table 3; all the values were within their respective common acceptance levels, and the five-factor model demonstrated a good fit. According to the table, the Chis-square/df (CMIN) ratio shows 1.955, and it is in line with (Schumacker & Lomax’s 2004) statement: “If the Chi-square/df ratio is less than 5 then the model and the data are an excellent match.” The fact that our result is closer to 1 is considered an excellent match for the model. Similarly, the “IFI” has a parameter estimate of 0.952, and the “TLI” index shows 0.945, while the “CFI” has 0.952; continuing with the model fit, our “GFI” has 0.916 and “AGFI” displays

0.897. All the indices were greater than 0.800, as they were all closer to 1 (Garson, 2012), hence, the aforementioned values are considered excellent. Furthermore, our RMSEA displayed an estimate of 0.047 which is adequate since it is lower than the suggested value by Hair Jr et al. (2010) which is 0.07.

Table 3.  
*Goodness-of-fit measurements of the model*

Goodness-of-Fit measures of the model	Parameter estimates	Minimum cutoff	Suggested by
Chis-square/df	1.955	< or = 5.00	(Schumacker & Lomax, 2004)
Incremental Fix Index (IFI)	0.952	> 0.80	(Garson, 2012)
Tucker Lewis Index (TLI)	0.945	> 0.80	(Hu & Bentler, 1999)
Comparative Index (CFI)	0.952	> 0.80	(Hair Jr et al. 2010)
Goodness of Fit Index (GFI)	0.916	> 0.80	(Hu & Bentler, 1999)
Adjusted Goodness-of-Fit Index (AGFI)	0.897	> 0.80	(Gefen et al. 2000)
RMSEA	0.047	> 0.07	(Gefen et al. 2000)

*Source:* Compiled by the author.

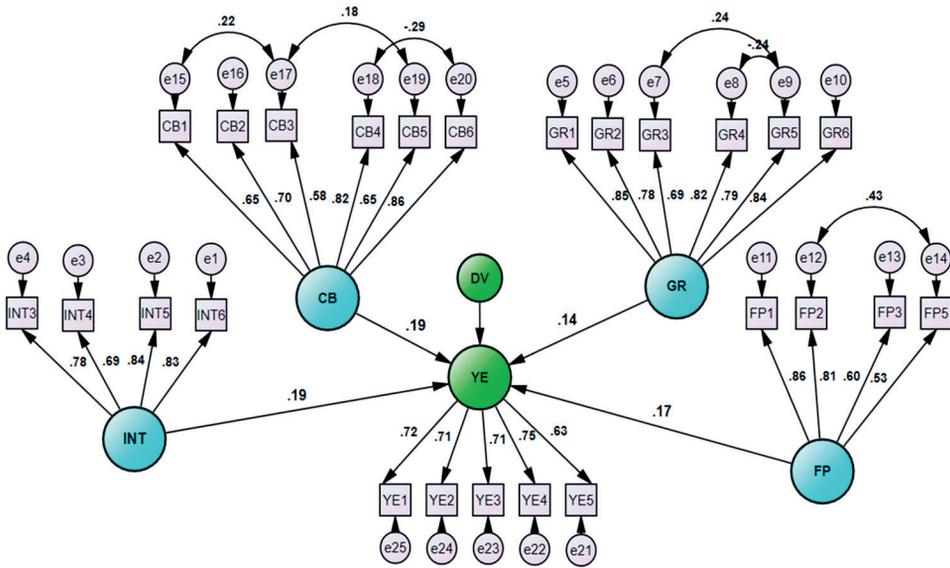
The next step was to analyse the convergent validity of the factors by assessing via Average Variance Extracted (AVE), and composite reliability (CR). Figure 1 shows all the factor loading and they are all higher than 0.5 which is the recommended value by (Chin, 2008), followed by composite reliability (CR), which are excellent and surpass the recommended threshold, which is 0.6; additionally, the AVE which reflects the overall amount of variance in the indicators accounted for by the latent constructs exceeds the recommended value of 0.5 (Hair Jr et al., 2014), observe Table 4. Furthermore, before conducting the SEM, all the items were subjected to factor analysis in SPSS, in order to avoid discrepancy and mixing in variables, since some of the items were newly created; however, the items were placed and divided into 6 categories, contradicting our framework, which was composed of 5 constructs. The two independent items that were put into the same category were interaction constructs; after deleting them and repeating the principal component analysis, all the items were perfectly placed in their expected categories (five categories) as a result validating our framework, (keeping in mind that the two same items were lower than 0.5 in the loading process after employing Amos), the same with favourable policies, despite loading in the same category in factor analysis; 2 of the 6 items were below the desired value and therefore, were discarded. Similarly, the KMO test ensured the overall measure of sampling adequacy, which was 0.826 higher than the value recommended by (Chan & Idris, 2017) which is of > 0.50; additionally, Bartlett's test provided support for the appropriateness of the factor analysis, which was significant at  $p < 0.01$ .

Table 4.  
Descriptive statistics and reliability of the constructs

Constructs	Items	Min.	Max.	Mean	StD	Loading	Cronbach's Alpha	CR	AVE
Youth engagement	YE1	1	5	3.91	1.132	.721	.833	.834	.501
	YE2	1	5	4.02	1.078	.712			
	YE3	1	5	4.02	1.048	.713			
	YE4	1	5	4.03	1.012	.746			
	YE5	1	5	4.22	.997	.631			
Governmental reward	GR1	1	5	4.00	1.025	.851	.912	.912	.635
	GR2	1	5	4.10	.984	.782			
	GR3	1	5	3.87	1.011	.698			
	GR4	1	5	4.04	1.006	.817			
	GR5	1	5	4.04	.921	.787			
	GR6	1	5	4.03	.955	.838			
Capacity building	CB1	1	5	4.04	1.006	.650	.865	.867	5.18
	CB2	1	5	4.12	.948	.701			
	CB3	1	5	4.07	.941	.583			
	CB4	1	5	4.13	1.076	.816			
	CB5	1	5	4.03	1.005	.646			
	CB6	1	5	4.16	1.016	.863			
Favourable policies	FP1	1	5	3.89	1.165	.861	.816	.824	.548
	FP2	1	5	3.97	1.121	.815			
	FP3	1	5	4.08	.928	.593			
	FP4	1	5	4.09	1.092	.533			
Interaction	IN1	1	5	2.49	1.161	.781	.869	.865	.617
	IN2	1	5	2.88	1.285	.686			
	IN3	1	5	2.74	1.180	.835			
	IN4	1	5	2.64	1.035	.830			

Source: Compiled by the author.

Figure 1.  
SEM with its indicator



Source: Compiled by the author.

Table 5 presents the results of the hypothesis, the values displayed in the table are the standardised beta; we notice that the variable Interaction possesses the highest impact on youth’s engagement with a strong significant p-value ( $\beta: 0.190; p < .0.00$ ), therefore supporting our hypothesis 4. It is worth noting, that the mechanism of young people to engage deeply in the environment had been impeded by a relative lack of active interaction with public authority. On average our responders are concerned about the government’s limited interaction with potential stakeholders, and indeed this dichotomy has contributed to a server backdrop of youth participation. Capacity building also demonstrated a strong significant *p-value*, as it appears in the table, while the direct effect of capacity building on youth engagement toward activities that involve environmental protection is estimated to be ( $\beta: 0.189; p < .0.00$ ); hence, in accordance with this result, our second hypothesis is also supported. Accordingly providing training and enhancing young people’s skills to accommodate environmental challenges will reduce the government’s unilateral responsibility, see Table 5. This is followed by the favourable policies factor, and interestingly it has a positive significant effect on youth engagement; ( $\beta: .169; p < .0.002$ ); observe Figure 1, consequently justifying and providing further validation to our third hypothesis. This implies the current strategy of non-inclusiveness in the Djiboutian context should be abandoned and adversely turned toward a more inclusive societal approach involving other stakeholders aside from the government in environmental policy formulation, and in the best scenario, this will further provide validation to “Article 3” of the Djiboutian national environment law in the sense of strictly abiding by the collective engagement promoted by the article. Finally, the impact

of government rewards on youth engagement displayed a positive impact, with a significant p-value ( $\beta: 0.139; p < 0.008$ ) which validates our hypothesis that young people will be more deeply engaged in environmental and climate activities when there is a reward system in place.

Table 5.  
*Structural estimates (hypotheses testing)*

	Hypothesis	Standardised estimates	T-value	P-value	Decision
H1	<i>Governmental reward</i> → YE	.139	2.638	.008	Accepted
H2	<i>Capacity building</i> → YE	.189	3.412	***	Accepted
H3	<i>Favourable policies</i> → YE	.169	3.035	.002	Accepted
H4	<i>Interaction</i> → YE	.190	3.445	***	Accepted
*YE = Youth engagement					

Source: Compiled by the author.

## 5. Discussion

This study’s findings contribute to the existing body of knowledge, by providing empirical support for the factors that influence young people’s engagement. Despite the fact that scholars have highlighted the need to explore incentives and initiatives proposed by government and public authority and their effect on youth’s engagement, little research has been done on this topic, as previous studies focused deeply on community engagement while assessing it from different facades without fully taking into account young people’s potential; therefore, this article is among the first to explore and identify the significant effect of governmental reward, interaction, favourable policies and capacity building on youth engagement. In addition, SEM was utilised to assess the causal relationship between the constructs and to examine their level of significance.

Considering our results, all the proposed hypotheses were supported, for instance, the interaction factor had the highest direct effect on youth engagement ( $\beta: 0.190; p = < 0.00$ ), our results are in line with (Johnston & Lane 2018; Canel et al., 2022). The following results reveal that Djiboutian young people are more inclined toward environmental activities if the government establishes several platforms that consist of interaction and consulting. Yet, this has been hindered by constrained governmental agenda that lacks collective inclusivity. In a more formal way, the national government is focused heavily on campaigns that address specifically and solely what they want to say; as a result, this excessive emphasis on message transmission on climate issues might be perceived by the government as a catalytic factor of youth engagement, nonetheless, this provokes only a one-way direction run by the authority.

Indeed, the government has a tendency to limit its interaction with young people; a particular reason could be attributed to the lack of providing a mechanism that absorbs young people’s opinions or recommendations on certain societal issues, consequently reducing their engagement and further reinforcing their apathy toward societal

transformation and environmental activities (O'Neill, 2007). On the other hand, young people have this belief that environmental and community improvement merely falls under governmental umbrella. However, interaction is a dialogue not only involving one single party (government or youth) but to explore how they can add value to each other and create mutual input for a better national outcome. The government needs to acknowledge that young people are the main vehicle for overcoming environmental issues; as suggested by Piqueiras et al. (2020), young people are considered the backbone of any nation. Hence, the government is required and advised to recognise the concept of being an audience, listening and adopting a mechanism that is based on consecutive interaction with young people rather than a periodic, unidirectional interaction led on government terms. Moreover, youth engagement is fully directed by their perception and the extent of influence the government has on them. In other words, an uninterrupted commitment to environmental issues is rare, but when young people realise, they have been acknowledged; their passion for engagement is driven by a sense of inclusiveness and confidence, simply because they value this interaction and, as a result, their engagement level increases. Likewise, the government needs to note that listening to and consulting with youths does not only enhance the level of engagement, it helps administrators define the situations more carefully, whereas an interaction platform will offer the Djiboutian Government a real reinvention agency and easier policy management process.

The results also showed that capacity building had a positive significant effect on engagement ( $\beta$ : 0.189;  $p < .00$ ). This provides insight into how building young people's skills in the context of environmental awareness and sustainability development boosts their level of participation in the national environment. From the constructs, our participants believe that the national government does not provide enough training that will assist them in overcoming environmental challenges. Several authors mentioned the critical role that capacity building plays when it is implemented in a specific population (Alicea et al., 2012; Schusler & Krasny, 2010; Iwasaki, 2016), as their recommendations included that providing training will promote growth, effectiveness and performance. Interestingly, our empirical findings that providing training and capacity building will help the government to make young people more engaged in environmental issues is in line with their results. Similarly, capacity building is not limited to physical training and providing resources, as much as this might be salient; on the contrary, it is insufficient. Therefore, including education and environmental awareness will produce higher support in the level of engagement, for instance, it is unlikely that someone who does not have sufficient information on climate impact will be engaged in environmental activities. As a solution, public authorities need to establish several impactful capacity building programmes, which can be achieved by building partnerships with private and educational institutions so that in retrospect could introduce some voluntary courses that promote environmental awareness in order for young people to accumulate sufficient knowledge of the climate issues that threaten their country and the wider region.

Keeping in line with the results, favourable policies also demonstrated a positive impact on youth engagement ( $\beta$ : .169;  $p < .002$ ); our findings support the statement made by (Mettler & Soss, 2004), who considered that desirable policies influence citizens' patterns and mobilise them to undertake impactful action, thus, adversely becoming

politically engaged. Although our scope was investigating youth engagement from two points (one checking if the policies adopted by the government are inclusive in nature by considering young people's voices, whereas the second was if these policies in question are strict enough in terms of protecting the environment and encouraging the already existing environmentalist to maintain their engagement). Many potential respondents voiced that little did the government consider their proposed policies or recommendation in the national environmental agenda, yet one of the elements on which the national environment law is based is on (*Principe de participation*) is a tenet and element of participation, which means that every citizen residing in the national territory is allowed to express and propose their ideas in order to respond better to climate change since the preservation of environment falls under the responsibility of every citizen.

Furthermore, the goal of incorporating young people's decisions in environmental policies will further project the existence of strong participatory governance, while at the same time, it predicts a better policy outcome by presenting the government as more equitable and transparent (Bishop & Davis, 2002; Kauneckis & Andersson, 2009). The fact that these strategies will affect their future is another reason to allow young people to influence these adopted policies by the government. However, effective engagement can only be reached when two conditions are met, first, finding civil society actors, and second, making sure that these actors are willing to contribute to the government's task at hand. Evidently, our results answered this, as we demonstrated how certain particular variables related to government strategies influence engagement. Continuing with the favourable policies factor, respondents were not satisfied with the current laws in place. This explains the low level of youth engagement in protecting the national environment, for instance – if the already existing laws are not sufficiently strict in protecting the environment (poor waste management, water pollution, overfishing, unnecessary tree cutting) the likelihood of participating in environmental activities is adversely, negatively affected by poor legislation. Accordingly, if the authority responsible demonstrated a sense of responsibility, and showed effectiveness in improving government service, commitment to public service, transparency and leadership, this will prevail and foster the level of engagement (Zamir & Sulitzeanu-Kenan, 2018; Hassan et al., 2021).

Finally, governmental rewards also had a significant effect on youth engagement, observe the estimate from Table 5 ( $\beta: 0.139; p < 0.008$ ). The government should take into account that youth are inclined towards environmental activities if there is a reward system in place. We conclude that young people's actions are motivated when some incentives are offered in exchange for their engagement, therefore further confirming previous scholars' finding (Abila & Kantola, 2019; Maki et al., 2016; Onuoha et al., 2018). From the constructs, it should be noted that rewarding can take different forms, while the level of appreciation depends on the participants. For instance, the majority of the respondents were fine with no monetary incentives, such as giving away gifts, prizes and recognition ceremonies. The Djiboutian authorities could establish systems that provide bonuses, and coupons to young people whenever they engage in environmental protection activities. Bennett (2008) identified how rewarding citizens for their positive activities such as waste disposal can increase the level of commitment to environmental protection, by injecting friendlier environmental behaviour. While others did not find any link between the

reward system and environmental protection (Timlett & Williams, 2008), overall, our result adds support to previous findings on the positive effect of reward on engagement.

## 6. Recommendation

Considering the climate issues that menace the Republic of Djibouti and the Horn of Africa, the current government must develop certain strategies to combat drought while focusing on keeping the national environment safe. According to a report published by *The Guardian* on 20 August 2022, the drought in the Horn of Africa has displaced more than 21 million people (Agence-France Presse, 2022). However, this article is focusing more on national environmental issues; this includes how to protect natural habitats, waste management, and hastening the transition to renewable energies by deploying youths and directing them to these issues. Clearly, it is a challenge to deploy young people's potential skills toward a specific problem unless there is some motivating factor influencing their actions, and indeed demonstrating this was one of the main objectives of this study. Applying the results and the findings of this research at the national environmental level will assist the Djiboutian Government in dealing better with the environmental issue while at the same benefiting from young people's potential. In the context of government rewards, the country's status is a low-middle income country according to the World Bank development classification; therefore, rewarding could take other forms rather than a monetary incentive, such as simple recognition, prizes and giving items away. In other cases, when young people demonstrate uninterrupted environmental engagement, the government should consider providing unreasonable rewards. Mostly because a small incentive will compensate their time and further reinforce their level of engagement. For instance, O'Neill (2007) investigated Canadian youth engagement in politics, and concluded that insufficient education and lack of income explained much of young people's apathetic attitude toward political activities and other participatory activities. Reasonably, education is considered an important factor, as it helps in building youths' confidence by providing adequate cognitive capacity while low income represents a barrier to engagement because, considering the reality that young people have insufficient access to public resources, including financial income, compared to their adult counterparts, thus rewarding will be a reasonable strategy. It is also recommended that the government should develop a waste management system that is based on rewards, such as creating a coupon strategy that allows young people to purchase certain limited items in exchange for their environmental activities and sustainable waste disposal. Public authorities should also consider increasing waste collection vehicles in certain communities instead of deploying exclusively to urban areas, simultaneously encouraging street sweepers and sanitation workers by providing them a total tax break, and continuing their salary even after retirement not in the sense of pension package, but a systematic flow of income for their long services.

Moreover, it is required of the current government to show resiliency and responsibility, such as educating young people about the benefit of preserving the national environment by establishing several programmes in institutes of public education, as the

current national curriculum lacks environmental subjects; it is therefore advised that the national government considers adopting certain educational strategies that will help young people to grow with an environmentally friendly mind-set from when they are still young; furthermore, depicting themselves as leaders will help young people to change their perspective of the government. Most Djiboutians are not interested in environmental issues, and a hindering factor is the lack of leadership. For instance, the mayor could prepare certain initiatives that involve community cleaning at weekends, informing citizens not only how this will help the national environment but demonstrating to young people how engaging in social issues can be fun by how it provides something different, and the opportunity to meet new people, build their experience and enriching their academic CV.

Similarly, investing in renewable energies will increase young people's appreciation of the efforts made by the government. Despite having policies that promote the transition to renewable energies, the country is far behind in its goal. Djibouti is notorious for it has abundant solar energy; the sun is present during almost the whole year, thus, installing more solar panels will help the government on mitigating the excessive dependence for energy transmission and exportation from neighbourhood countries, likewise, this will provide Djiboutian citizens to benefit from low electricity prices, since current electricity bills average is estimated to be more than USD350 per household. Moreover, the government needs to invest more in platforms that facilitate interaction between the government and young people, the idea of considering young people's outlooks and viewpoints as undeserving is becoming obsolete. Young people need to feel they have been listened to and heard while, in turn, the government is required to provide reasonable feedback and, adversely, this will make them feel more appreciated and acknowledged, in retrospect, their sense of trust in the government will increase, which in turn boosts their engagement level.

## 7. Conclusion

The Djiboutian Government has been struggling over the last years to make young people interested in environmental protection while reluctantly trying to discourage the harmful behaviour of some citizens, such as dumping their waste in public spaces and roads whilst the current regulations scarcely contribute to environmental protection. Consequently, the aim of this study was to provide a contribution to the already existing literature in the field of public administration, civic engagement, environmental behaviour and SDG goals. Four factors were selected (governmental reward, interaction, capacity building and favourable policies) to investigate their effect on youth engagement. A structural equation model was employed to explore the causal effects. All the factors had a positive effect on youth engagement. For instance, young people are more inclined to get involved in sustainable activities when there is a communication platform that is run through bi-directionality. In other words, the government needs to adopt the concept of being an audience while providing reasonable feedback to young people. It is important to note that the scope of environmental engagement can be challenging,

since environmental issues can be more complex and to some extent incorporate complicating factors. As a result, establishing a reward system will be the most appropriate way to increase young people's engagement, and in some cases a penalty system could accompany it; however, the Djiboutian penalty system, which prohibits harming the natural habitat, and imposes fines for improper disposal, has proved unfit for the task of safeguarding the environment from degradation; therefore, implementing an alternative solution, which makes young people more engaged in environmental activities and, at the same time, alters positively their actions and behaviour, by caring about the national environment is further required, and as it has been shown from these results, rewarding them will stimulate their engagement and encourage them to become involved in more sustainable activities.

The issues of young people's long exclusion from the public sphere can be disregarded when we take as a reference the Djiboutian environmental law that requires the participation of every citizen in national environmental politics; however, a mere law cannot generate this engagement unless young people's opinions, suggestions and worries have been taken into consideration and are included in the environmental agenda, since these adopted policies will influence their future. On the other hand, providing proper training and building young people's capacity will assist the government in addressing the environmental issue more effectively while ensuring for the long-term, a more sustainable society that prioritises the environment.

Finally, the study has several limitations, the paper has focused more on young people's sustainable and environmental attitude while juxtaposing the government's role in stimulating such behaviour, therefore, future studies could address the role of young people in ecological footprint mitigation. A threshold of an environmental sector that has a limited literature paper. Moreover, scholars could consider incorporating mediating or moderating factors such as income, and education level while simultaneously applying a comparative study between people in accordance with their generation category belonging such as Baby Boomers, Generation X, Millennials, etc. Noticeably, these comparative studies will prevent responder biases for instance, since the current study focused on young people it is likely our responders were willing to portray socially acceptable responses, therefore, future studies should consider applying a comparative study. Furthermore, instead of utilising the role of government, upcoming studies could conduct on the private sector, considering how in recent years private entities are becoming more competitive in the sense of opting for a more sustainable approach.

## References

- Abila, B. & Kantola, J. (2019). The Perceived Role of Financial Incentives in Promoting Waste Recycling – Empirical Evidence from Finland. *Recycling*, 4(1), 4. Online: <https://doi.org/10.3390/recycling4010004>
- Agence-France Presse (2022, August 20). Horn of Africa Drought Places 22 Million People at Risk of Starvation, Says UN. *The Guardian*. Online: <http://bit.ly/3CVR1ZS>
- Alford, J. (2009). *Engaging Public Sector Clients: From Service-Delivery to Co-Production*. Springer. Online: <https://doi.org/10.1057/9780230235816>

- Alicea, S. P., Pardo, G., Conover, K., Gopalan, G. & McKay, M. (2012). Step-Up: Promoting Youth Mental Health and Development in Inner-City High Schools. *Clinical Social Work Journal*, 40(2), 175–186. Online: <https://doi.org/10.1007/s10615-011-0344-3>
- Allen, J. D., Davis, D. & Soskin, M. (1993). Using Coupon Incentives in Recycling Aluminium: A Market Approach to Energy Conservation Policy. *The Journal of Consumer Affairs*, 27(2), 300–318. Online: <https://doi.org/10.1111/j.1745-6606.1993.tb00750.x>
- Arnold, H. E., Cohen, F. G. & Warner, A. (2009). Youth and Environmental Action: Perspectives of Young Environmental Leaders on Their Formative Influences. *The Journal of Environmental Education*, 40(3), 27–36. Online: <https://doi.org/10.3200/JOEE.40.3.27-36>
- Bamberg, S. (2006). Is a Residential Relocation a Good Opportunity to Change People's Travel Behaviour? Results from a Theory-Driven Intervention Study. *Environment and Behaviour*, 38(6), 820–840. Online: <https://doi.org/10.1177/001391650528509>
- Barber, T. (2009). Participation, Citizenship, and Well-Being: Engaging with Young People, Making a Difference. *Young*, 17(1), 25–40. Online: <https://doi.org/10.1177/110330880801700103>
- Barnett, R. V. & Brennan, M. A. (2006). Integrating Youth into Community Development: Implications for Policy Planning and Program Evaluation. *Journal of Youth Development*, 1(2), 5–19. Online: <https://doi.org/10.5195/jyd.2006.382>
- Bennett, J. V., Ylimaki, R. M., Dugan, T. M. & Brunderman, L. A. (2014). Developing the Potential for Sustainable Improvement in Underperforming Schools: Capacity Building in the Socio-Cultural Dimension. *Journal of Educational Change*, 15(4), 377–409. Online: <https://doi.org/10.1007/s10833-013-9217-6>
- Bennett, R., Savani, S. & Ali-Choudhury, R. (2008). Effective Strategies for Enhancing Waste Recycling Rates in Socially Deprived Areas. *Journal of Customer Behaviour*, 7(1), 71–97. Online: <https://doi.org/10.1362/147539208X290398>
- Bishop, P. & Davis, G. (2002). Mapping Public Participation in Policy Choices. *Australian Journal of Public Administration*, 61(1), 14–29. Online: <https://doi.org/10.1111/1467-8500.00255>
- Bouman, T., Steg, L. & Zawadzki, S. J. (2020). The Value of What Others Value: When Perceived Biospheric Group Values Influence Individuals' Pro-Environmental Engagement. *Journal of Environmental Psychology*, 71. Online: <https://doi.org/10.1016/j.jenvp.2020.101470>
- Bråten, I., Gil, L., Strømso, H. I. & Vidal-Abarca, E. (2009). Personal Epistemology across Cultures: Exploring Norwegian and Spanish University Students' Epistemic Beliefs about Climate Change. *Social Psychology of Education*, 12(4), 529–560. Online: <https://doi.org/10.1007/s11218-009-9097-z>
- Brennan, M. (2007). Community Development in the West of Ireland: Twenty Years on in the Killala Area. *Community Development Journal*, 42(3), 330–347. Online: <https://doi.org/10.1093/cdj/bsl017>
- Browne, L. P., Garst, B. A. & Bialeschki, M. D. (2011). Engaging Youth in Environmental Sustainability: Impact of the Camp 2 Grow Program. *Journal of Park and Recreation Administration*, 29(3). Online: <http://js.sagamorepub.com/jpra/article/view/2256>
- Bryson, J., Piper, J. & Rounsevell, M. (2010). Envisioning Futures for Climate Change Policy Development: Scenarios Use in European Environmental Policy Institutions. *Environmental Policy and Governance*, 20(5), 283–294. Online: <https://doi.org/10.1002/ect.542>
- Canel, M. J., Barandiarán, X. & Murphy, A. (2022). What Does Learning by Listening Bring to Citizen Engagement? Lessons from a Government Program. *Public Relations Review*, 48(1). Online: <https://doi.org/10.1016/j.pubrev.2021.102132>
- Carlson, A. E. (2001). Recycling Norms. *California Law Review*, 89, 1231–1300. Online: <https://doi.org/10.2307/3481159>
- Carlson, C. (2006). The Hampton Experience as a New Model for Youth Civic Engagement. *Journal of Community Practice*, 14(1–2), 89–106. Online: [https://www.tandfonline.com/doi/abs/10.1300/J125v14n01\\_06](https://www.tandfonline.com/doi/abs/10.1300/J125v14n01_06)
- Case, A. D. & Hunter, C. D. (2012). Counterspaces: A Unit of Analysis for Understanding the Role of Settings in Marginalized Individuals' Adaptive Responses to Oppression. *American Journal of Community Psychology*, 50(1), 257–270. Online: <https://doi.org/10.1007/s10464-012-9497-7>

- Castelloe, P. W., Watson, Th. & White, C. (2002). Participatory Change: An Integrative Approach to Community Practice. *Journal of Community Practice*, 10(4), 7–31. Online: [https://doi.org/10.1300/J125v10n04\\_02](https://doi.org/10.1300/J125v10n04_02)
- Cavaye, J. (2004). Governance and Community Engagement: The Australian Experience. In W. R. Lovan, M. Murray & R. Shaffer (Eds.), *Participatory Governance: Planning, Conflict Mediation and Public Decision Making in Civil Society* (pp. 85–102). Routledge. Online: <https://doi.org/10.4324/9781315247335>
- Chamberlin, J. (1978). A Diagrammatic Exposition of the Logic of Collective Action. In C. A. Hooker, J. J. Leach & E. F. McClennen (Eds.), *Foundations and Applications of Decision Theory* (pp. 17–18). Springer. Online: [https://doi.org/10.1007/978-94-009-9792-9\\_2](https://doi.org/10.1007/978-94-009-9792-9_2)
- Chan, L. L. & Idris, N. (2017). Validity and Reliability of the Instrument Using Exploratory Factor Analysis and Cronbach's Alpha. *International Journal of Academic Research in Business and Social Sciences*, 7(10), 400–410. Online: <http://dx.doi.org/10.6007/IJARSS/v7-i10/3387>
- Chawla, L. & Cushing, D. F. (2007). Education for Strategic Environmental Behaviour. *Environmental Education Research*, 13(4), 437–452. Online: <https://doi.org/10.1080/13504620701581539>
- Chen, L., Gao, X., Hua, C., Gong, S. & Yue, A. (2021). Evolutionary Process of Promoting Green Building Technologies Adoption in China: A Perspective of Government. *Journal of Cleaner Production*, 279. Online: <https://doi.org/10.1016/j.jclepro.2020.123607>
- Chen, Y. J. (2015). The Role of Reward Systems in Product Innovations: An Examination of New Product Development Projects. *Project Management Journal*, 46(3), 36–48. Online: <https://doi.org/10.1002/pmj.21499>
- Chiang, F. F. & Birtch, T. A. (2008). Achieving Task and Extra-Task-Related Behaviors: A Case of Gender and Position Differences in the Perceived Role of Rewards in the Hotel Industry. *International Journal of Hospitality Management*, 27(4), 491–503. Online: <https://doi.org/10.1016/j.ijhm.2007.08.009>
- Chin, W. W. (2008). Structural Equation Modelling in Marketing: Some Practical Reminders. *Journal of Marketing Theory and Practice*, 16(4), 287–298. Online: <https://doi.org/10.2753/MTP1069-6679160402>
- Christensen, J., Aarøe, L., Baekgaard, M., Herd, P. & Moynihan, D. P. (2020). Human Capital and Administrative Burden: The Role of Cognitive Resources in Citizen-State Interactions. *Public Administration Review*, 80(1), 127–136. Online: <https://doi.org/10.1111/puar.13134>
- Chung, S. S. & Poon, C. S. (1996). The Attitudinal Differences in Source Separation and Waste Reduction between the General Public and the Housewives in Hong Kong. *Journal of Environmental Management*, 48(3), 215–227. Online: <https://doi.org/10.1006/jema.1996.0074>
- Cohen, C., Pearlmutter, D. & Schwartz, M. (2017). A Game Theory-Based Assessment of the Implementation of Green Building in Israel. *Building and Environment*, 125, 122–128. Online: <https://doi.org/10.1006/jema.1996.0074>
- Cook, C. W. & Hunsaker, P. L. (2001). *Management and Organizational Behaviour*. Irwin/McGraw-Hill.
- Craig, R. T. (2006). Communication as a Practice. In G. J. Shepherd, J. St. John & T. Striphos (Eds.), *Communication as... Perspectives on Theory*, (pp. 38–49). Sage Publications. Online: <https://dx.doi.org/10.4135/9781483329055.n5>
- Cropanzano, R. & Mitchell, M. S. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management*, 31(6), 874–900. Online: <https://doi.org/10.1177/0149206305279602>
- Dardanoni, V. & Guerriero, C. (2021). Young People's Willingness to Pay for Environmental Protection. *Ecological Economics*, 179. Online: <https://doi.org/10.1016/j.ecolecon.2020.106853>
- Delli Carpini, M. X. (2000). Gen.com: Youth, Civic Engagement, and the New Information Environment. *Political Communication*, 17(4), 341–349. Online: <https://doi.org/10.1080/10584600050178942>
- Doherty, S. & Mayer, S. E. (2003). Capacity Building Programs for Nonprofit Programs. *Journal of Human Development*, 4(1), 85–111.
- Edelman, M. J. (1964). *The Symbolic Uses of Politics*. University of Illinois Press.
- Elster, J. (1989). *The Cement of Society: A Study of Social Order*. Cambridge University Press. Online: <https://doi.org/10.1017/CBO9780511624995>

- EPI (2016). Global Metrics for the Environment. The Environmental Performance Index. Online: <https://epi.yale.edu/epi-results/2022/country/dji>
- Erbstein, N. (2013). Engaging Underrepresented Youth Populations in Community Youth Development: Tapping Social Capital as a Critical Resource. *New Directions for Youth Development*, (138), 109–124. Online: <https://doi.org/10.1002/yd.20061>
- Feldman, S. & Conover, P. J. (1983). Candidates, Issues and Voters: The Role of Inference in Political Perception. *The Journal of Politics*, 45(4), 810–839. Online: <https://doi.org/10.2307/2130414>
- Garcés, C. L., Lafuente, A., Pedraja, M. & Rivera, P. (2002). Urban Waste Recycling Behaviour: Antecedents of Participation in a Selective Collection Program. *Environmental Management*, 30(3), 378–390. Online: <https://doi.org/10.1007/s00267-002-2601-2>
- Garson, G. D. (2012). *Factor Analysis*. Statistical Associates Publishers.
- Gefen, D., Straub, D. & Boudreau, M. C. (2000). Structural Equation Modelling and Regression: Guidelines for Research Practice. *Communications of the Association for Information Systems*, 4(1), 7. Online: <https://doi.org/10.17705/1CAIS.00407>
- Geldhof, G. J., Bowers, E. P. & Lerner, R. M. (2013). Special Section Introduction: Thriving in Context: Findings from the 4-H Study of Positive Youth Development. *Journal of Youth and Adolescence*, 42(1), 1–5. Online: <https://doi.org/10.1007/s10964-012-9855-7>
- Granger, R. C. (2010). Understanding and Improving the Effectiveness of After-School Practice. *American Journal of Community Psychology*, 45(3), 441–446. Online: <https://doi.org/10.1007/s10464-010-9301-5>
- Hair Jr, J. F., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. G. (2014). Partial Least Squares Structural Equation Modelling (PLS-SEM): An Emerging Tool in Business Research. *European Business Review*, 26(2), 106–121. Online: <https://doi.org/10.1108/EBR-10-2013-0128>
- Hair Jr, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th Edition. Pearson Education.
- Harris, A. W., Wyn, J. & Younes, S. (2010). Beyond Apathetic or Activist Youth: ‘Ordinary’ Young People and Contemporary Forms of Participation. *Young*, 18(1), 9–32. Online: <https://doi.org/10.1177/110330880901800103>
- Hart, R. A. (2013). *Children’s Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*. Routledge. Online: <https://doi.org/10.4324/9781315070728>
- Hassan, H. A., Zhang, X., Ahmad Bayiz, A. & Liu, B. (2021). Public Service Motivation and Employee Change-Supportive Intention: Utilizing the Theory of Planned Behaviour. *Public Personnel Management*, 50(2), 283–304. Online: <https://doi.org/10.1177/0091026020934515>
- Hawe, P. S., Shiell, A. & Riley, Th. (2009). Theorising Interventions as Events in Systems. *American Journal of Community Psychology*, 43(3–4), 267–276. Online: <https://doi.org/10.1007/s10464-009-9229-9>
- He, C., Wang, X. & Zhao, G. (2018). Developer’s Willingness to Construct Green Dwellings in China: Factors and Stimulating Policies. *Journal of Civil Engineering and Management*, 24(5), 378–389. Online: <https://doi.org/10.3846/jcem.2018.5185>
- Heikkila, T. & Roussin Isett, K. (2007). Citizen Involvement and Performance Management in Special-Purpose Governments. *Public Administration Review*, 67(2), 238–248. Online: <https://doi.org/10.1111/j.1540-6210.2007.00710.x>
- Hu, L. T. & Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. *Structural Equation Modelling: A Multidisciplinary Journal*, 6(1), 1–55. Online: <https://doi.org/10.1080/10705519909540118>
- Hügel, S. & Davies, A. R. (2020). Public Participation, Engagement, and Climate Change Adaptation: A Review of the Research Literature. *Wiley Interdisciplinary Reviews: Climate Change*, 11(4), e645. Online: <https://doi.org/10.1002/wcc.645>

- Iwasaki, Y. (2016). The Role of Youth Engagement in Positive Youth Development and Social Justice Youth Development for High-Risk, Marginalised Youth. *International Journal of Adolescence and Youth*, 21(3), 267–278. Online: <https://doi.org/10.1080/02673843.2015.1067893>
- Jager, N. W., Newig, J., Challies, E. & Kochskämper, E. (2020). Pathways to Implementation: Evidence on How Participation in Environmental Governance Impacts on Environmental Outcomes. *Journal of Public Administration Research and Theory*, 30(3), 383–399. Online: <https://doi.org/10.1093/jopart/muz034>
- Johnson, L. R., Johnson-Pynn, J. S., Sweeney, S. S. & Williams, C. T. (2009). Youth Civic Action: Going Green, Going Global. *EcoPsychology*, 1(2), 75–84. Online: <https://doi.org/10.1089/eco.2009.0007>
- Johnston, K. A. & Lane, A. B. (2018). Building Relational Capital: The Contribution of Episodic and Relational Community Engagement. *Public Relations Review*, 44(5), 633–644. Online: <https://doi.org/10.1016/j.pubrev.2018.10.006>
- Johnston, K. A. & Lane, A. B. (2019). An Authenticity Matrix for Community Engagement. *Public Relations Review*, 45(4). Online: <https://doi.org/10.1016/j.pubrev.2019.101811>
- Kaiser, F. G. & Wilson, M. (2004). Goal-Directed Conservation Behaviour: The Specific Composition of a General Performance. *Personality and Individual Differences*, 36(7), 1531–1544. Online: <https://doi.org/10.1016/j.paid.2003.06.003>
- Kaiser, F. G., Henn, L. & Marschke, B. (2020). Financial Rewards for Long-Term Environmental Protection. *Journal of Environmental Psychology*, 68. Online: <https://doi.org/10.1016/j.jenvp.2020.101411>
- Kamboj, S. S., Sarmah, B., Gupta, Sh. & Dwivedi, Y. K. (2018). Examining Branding Co-Creation in Brand Communities on Social Media: Applying the Paradigm of Stimulus-Organism-Response. *International Journal of Information Management*, 39, 169–185. Online: <https://doi.org/10.1016/j.ijinfomgt.2017.12.001>
- Kauneckis, D. & Andersson, K. (2009). Making Decentralization Work: A Cross-National Examination of Local Governments and Natural Resource Governance in Latin America. *Studies in Comparative International Development*, 44(1), 23–46. Online: <https://doi.org/10.1007/s12116-008-9036-6>
- Kazdin, A. E. (2009). Psychological Science's Contributions to a Sustainable Environment: Extending Our Reach to a Grand Challenge of Society. *American Psychologist*, 64(5), 339–356. Online: <http://doi.org/10.1037/a0015685>
- Kim, Y. & Darnall, N. (2016). Business as a Collaborative Partner: Understanding Firms' Sociopolitical Support for Policy Formation. *Public Administration Review*, 76(2), 326–337. Online: <https://doi.org/10.1111/puar.12463>
- Kinder, D. R. & Sears, D. O. (1985). Public Opinion and Political Action. *Handbook of Social Psychology*, 2, 659–741.
- Knoepfel, P. L. (2007). *Public Policy Analysis*. The Policy Press. Online: <https://doi.org/10.4324/9781315693965>
- Kormos, C. & Gifford, R. (2014). The Validity of Self-Report Measures of Proenvironmental Behaviour: A Meta-Analytic Review. *Journal of Environmental Psychology*, 40, 359–371. Online: <https://doi.org/10.1016/j.jenvp.2014.09.003>
- Kotzé, L. J. (2006). Improving Unsustainable Environmental Governance in South Africa: The Case for Holistic Governance. *Potchefstroom Electronic Law Journal*, 9(1). Online: [10.4314/pelj.v9i1.43452](https://doi.org/10.4314/pelj.v9i1.43452)
- Krosnick, J. A. (1990). Government Policy and Citizen Passion: A Study of Issue Publics in Contemporary America. *Political Behavior*, 12(1), 59–92. Online: <https://doi.org/10.1007/BF00992332>
- Latopa, A.-L. A. & Abd Rashid, Sh. N. S. (2015). The Impacts of Integrated Youth Training Farm as a Capacity Building Center for Youth Agricultural Empowerment in Kwara State, Nigeria. *Mediterranean Journal of Social Sciences*, 6(5), 524–524. Online: <https://doi.org/10.5901/mjss.2015.v6n5p524>
- Latulippe, N. & Klenk, N. (2020). Making Room and Moving Over: Knowledge Co-Production, Indigenous Knowledge Sovereignty and the Politics of Global Environmental Change Decision-Making. *Current Opinion in Environmental Sustainability*, 42, 7–14. Online: <https://doi.org/10.1016/j.cosust.2019.10.010>
- Li, X., Wang, Ch., Alashwal, A. & Bora, Sh. (2020). Game Analysis on Prefabricated Building Evolution Based on Dynamic Revenue Risks in China. *Journal of Cleaner Production*, 267. Online: <https://doi.org/10.1016/j.jclepro.2020.121730>

- Lin, S. W. & Lo, L. Y.-S. (2015). Mechanisms to Motivate Knowledge Sharing: Integrating the Reward Systems and Social Network Perspectives. *Journal of Knowledge Management*, 19(2), 212–235. Online: <https://doi.org/10.1108/JKM-05-2014-0209>
- Lorenzoni, I., Nicholson-Cole, S. & Whitmarsh, L. (2007). Barriers Perceived to Engaging with Climate Change among the UK Public and Their Policy Implications. *Global Environmental Change*, 17(3–4), 445–459. Online: <https://doi.org/10.1016/j.gloenvcha.2007.01.004>
- Macnamara, J. (2016). The Work and ‘Architecture of Listening’: Addressing Gaps in Organization-Public Communication. *International Journal of Strategic Communication*, 10(2), 133–148. Online: <https://doi.org/10.1080/1553118X.2016.1147043>
- Macnamara, J. (2017). Creating a Democracy for Everyone: Strategies for Increasing Listening and Engagement by Government. The London School of Economics and Political Science and University of Technology Sydney.
- Maki, A., Burns, R. J., Ha, L. & Rothman, A. J. (2016). Paying People to Protect the Environment: A Meta-Analysis of Financial Incentive Interventions to Promote Proenvironmental Behaviors. *Journal of Environmental Psychology*, 47, 242–255. Online: <https://doi.org/10.1016/j.jenvp.2016.07.006>
- Maynard, K. K. (2008). Fostering Youth Engagement: A Model of Youth Voice, Empowerment, and Participation. Masters Dissertation. Texas A&M University.
- Meadowcroft, J. (2007). Who Is in Charge Here? Governance for Sustainable Development in a Complex World. *Journal of Environmental Policy & Planning*, 9(3–4), 299–314. Online: <https://doi.org/10.1080/15239080701631544>
- Mettler, S. & Soss, J. (2004). The Consequences of Public Policy for Democratic Citizenship: Bridging Policy Studies and Mass Politics. *Perspectives on Politics*, 2(1), 55–73. Online: <https://doi.org/10.1017/S1537592704000623>
- Miklosi, J. (2007). Respecting, Listening, and Empowering: Three Vital Factors of Increasing Civic Engagement in American Teenagers. *National Civic Review*, 96(2), 36–42. Online: <https://doi.org/10.1002/ncr.176>
- Moynihan, D. P. (2012). Responsiveness to Reform Values: The Influence of the Environment on Performance Information Use. *Public Administration Review*, 72(s1), S95–S105. Online: <https://doi.org/10.1111/j.1540-6210.2012.02653.x>
- Narksompong, J. & Limjirakan, S. (2015). Youth Participation in Climate Change for Sustainable Engagement. *Review of European, Comparative & International Environmental Law*, 24(2), 171–181. Online: <https://doi.org/10.1111/reel.12121>
- Nyoni, D. (2009). Youth Participation in Addressing Global Challenges: The Promise of the Future. In P. B. Corcoran & P. Osano (Eds.), *Young People, Education, and Sustainable Development* (pp. 85–90). Wageningen Academic Publishers. Online: <https://doi.org/10.3920/978-90-8686-691-5>
- O’Donnell, C. R. & Tharp, R. G. (2012). Integrating Cultural Community Psychology: Activity Settings and the Shared Meanings of Intersubjectivity. *American Journal of Community Psychology*, 49(1), 22–30. Online: <https://doi.org/10.1007/s10464-011-9434-1>
- O’Brien, K., Selboe, E. & Hayward, B. M. (2018). Exploring Youth Activism on Climate Change. *Ecology and Society*, 23(3). Online: <https://doi.org/10.5751/ES-10287-230342>
- Olson, M. (1971). *The Logic of Collective Action: Public Goods and the Theory of Groups*. Harvard University Press.
- O’Neill, B. (2007). Indifferent or Just Different? The Political and Civic Engagement of Young People in Canada. Canadian Policy Research Network.
- Onuoha, I. J., Aliagha, G. U. & Rahman, M. S. A. (2018). Modelling the Effects of Green Building Incentives and Green Building Skills on Supply Factors Affecting Green Commercial Property Investment. *Renewable and Sustainable Energy Reviews*, 90, 814–823. Online: <https://doi.org/10.1016/j.rser.2018.04.012>
- Pancer, S. M. & Pratt, M. W. (1999). Social and Family Determinants of Community Service Involvement in Canadian Youth. In M. Yates & J. Youniss (Eds.), *Roots of Civic Identity. International Perspectives on Community Service and Activism in Youth* (pp. 32–55). Cambridge University Press. Online: <https://doi.org/10.1017/CBO9780511751820.004>

- Pereira, T. & Freire, T. (2021). Positive Youth Development in the Context of Climate Change: A Systematic Review. *Frontiers in Psychology*, 12. Online: 10.3389/fpsyg.2021.786119. Online: <https://doi.org/10.3389/fpsyg.2021.786119>
- Perri, M. (2007). Vaughan Youth Cabinet: Youth Participation in Community Planning and Design. *Children, Youth and Environments*, 17(2), 581–593. Online: <http://www.jstor.org/stable/10.7721/chilyoutenvi.17.2.0581>
- Phang, C. W., Kankanhalli, A. & Huang, L. (2014). Drivers of Quantity and Quality of Participation in Online Policy Deliberation Forums. *Journal of Management Information Systems*, 31(3), 172–212. Online: <https://doi.org/10.1080/07421222.2014.995549>
- Piqueiras, P., Canel, M. J. & Luoma-aho, V. (2020). Citizen Engagement and Public Sector Communication. In V. Luoma-aho & M.-J. Canel (Eds.), *The Handbook of Public Sector Communication* (pp. 277–287). Wiley-Blackwell. Online: <https://doi.org/10.1002/9781119263203.ch18>
- Rose-Krasnor, L. (2009). Future Directions in Youth Involvement Research. *Social Development*, 18(2), 497–509. Online: <https://doi.org/10.1111/j.1467-9507.2008.00506.x>
- Ru, X., Qin, H. & Wang, S. (2019). Young People's Behaviour Intentions Towards Reducing PM<sub>2.5</sub> in China: Extending the Theory of Planned Behaviour. *Resources, Conservation and Recycling*, 141, 99–108. Online: <https://doi.org/10.1016/j.resconrec.2018.10.019>
- Scharlemann, J. P., Brock, R. C., Balfour, N., Brown, C., Burgess, N. D., Guth, M. K. & Kapos, V. (2020). Towards Understanding Interactions between Sustainable Development Goals: The Role of Environment–Human Linkages. *Sustainability Science*, 15(6), 1573–1584. Online: <https://doi.org/10.1007/s11625-020-00799-6>
- Schultz, P. W., Oskamp, S. & Mainieri, T. (1995). Who Recycles and When? A Review of Personal and Situational Factors. *Journal of Environmental Psychology*, 15(2), 105–121. Online: [https://doi.org/10.1016/0272-4944\(95\)90019-5](https://doi.org/10.1016/0272-4944(95)90019-5)
- Schumacker, R. E. & Lomax, R. G. (2004). *A Beginner's Guide to Structural Equation Modelling*. Psychology Press. Online: <https://doi.org/10.4324/9781410610904>
- Schusler, T. M. & Krasny, M. E. (2010). Environmental Action as Context for Youth Development. *The Journal of Environmental Education*, 41(4), 208–223. Online: <https://doi.org/10.1080/00958960903479803>
- Scott, D. (1999). Equal Opportunity, Unequal Results: Determinants of Household Recycling Intensity. *Environment and Behaviour*, 31(2), 267–290. Online: <https://doi.org/10.1177/00139169921972100>
- Shaffer, V. A. & Arkes, H. R. (2009). Preference Reversals in Evaluations of Cash Versus Non-Cash Incentives. *Journal of Economic Psychology*, 30(6), 859–872. Online: <https://doi.org/10.1016/j.joep.2009.08.001>
- Shafiei, A. & Maleksaeidi, H. (2020). Pro-Environmental Behaviour of University Students: Application of Protection Motivation Theory. *Global Ecology and Conservation*, 22. Online: <https://doi.org/10.1016/j.gecco.2020.e00908>
- Shaharir, B. M. (2012). A New Paradigm of Sustainability. *Journal of Sustainable Development*, 5(1), 91–99. Online: <http://dx.doi.org/10.5539/jsd.v5n1p91>
- Smelser, N. J. & Baltes, P. B. (2001). *International Encyclopedia of the Social & Behavioral Sciences* (Vol. 11). Elsevier.
- Sommerfeldt, E. J. (2013). The Civility of Social Capital: Public Relations in the Public Sphere, Civil Society, and Democracy. *Public Relations Review*, 39(4), 280–289. Online: <https://doi.org/10.1016/j.pubrev.2012.12.004>
- Stewart, M. (2010). Transforming Higher Education: A Practical Plan for Integrating Sustainability Education into the Student Experience. *Journal of Sustainability Education*, 1(1), 195–203.
- Stoneman, D. (2002). The Role of Youth Programming in the Development of Civic Engagement. *Applied Developmental Science*, 6(4), 221–226. Online: [https://doi.org/10.1207/S1532480XADS0604\\_9](https://doi.org/10.1207/S1532480XADS0604_9)
- Szagan, G. & Pavlov, V. I. (1995). Environmental Awareness: A Comparative Study of German and Russian Adolescents. *Youth & Society*, 27(1), 93–112. Online: <https://doi.org/10.1177/0044118X950270010>
- Talwar, S., Wiek, A. & Robinson, J. (2011). User Engagement in Sustainability Research. *Science and Public Policy*, 38(5), 379–390. Online: <https://doi.org/10.3152/030234211X12960315267615>

- Taylor, M. & Kent, M. L. (2014). Dialogic Engagement: Clarifying Foundational Concepts. *Journal of Public Relations Research*, 26(5), 384–398. Online: <https://doi.org/10.1080/1062726X.2014.956106>
- Thew, H., Middlemiss, L. & Paavola, J. (2020). “Youth Is Not a Political Position”: Exploring Justice Claims-Making in the UN Climate Change Negotiations. *Global Environmental Change*, 61, 102036. Online: <https://doi.org/10.1016/j.gloenvcha.2020.102036>
- Timlett, R. E. & Williams, I. D. (2008). Public Participation and Recycling Performance in England: A Comparison of Tools for Behaviour Change. *Resources, Conservation and Recycling*, 52(4), 622–634. Online: <https://doi.org/10.1016/j.resconrec.2007.08.003>
- Tommasetti, A., Singer, P., Troisi, O. & Maione, G. (2017). Extended Theory of Planned Behaviour (ETPB): Investigating Customers’ Perception of Restaurants’ Sustainability by Testing a Structural Equation Model. *Sustainability*, 10(7). Online: <https://doi.org/10.3390/su10072580>
- Varney, D. (2007). Splitting the Ranks: Youth as Leaders, Laborers, and Learners in US Public Space Participation Projects. *Children Youth and Environments*, 17(2), 646–673. Online: <http://www.jstor.org/stable/10.7721/chilyoutenvi.17.2.0646>
- Wallis, H. & Loy, L. S. (2021). What Drives Pro-Environmental Activism of Young People? A Survey Study on the Fridays for Future Movement. *Journal of Environmental Psychology*, 74. Online: <https://doi.org/10.1016/j.jenvp.2021.101581>
- Watts, R. J. & Flanagan, C. (2007). Pushing the Envelope on Youth Civic Engagement: A Developmental and Liberation Psychology Perspective. *Journal of Community Psychology*, 35(6), 779–792. Online: <https://doi.org/10.1002/jcop.20178>
- Webler, T. & Tuler, S. (2000). Fairness and Competence in Citizen Participation: Theoretical Reflections from a Case Study. *Administration & Society*, 32(5), 566–595. Online: <https://doi.org/10.1177/00953990022019588>
- Westland, J. C. (2010). Lower Bounds on Sample Size in Structural Equation Modelling. *Electronic Commerce Research and Applications*, 9(6), 476–487. Online: <https://doi.org/10.1016/j.elerap.2010.07.003>
- Wheeler, W. & Edlebeck, C. (2006). Leading, Learning, and Unleashing Potential: Youth Leadership and Civic Engagement. *New Directions for Youth Development*, (109), 89–97. Online: <https://doi.org/10.1002/yd.156>
- Williams, I. D. & Taylor, C. (2004). Maximising Household Waste Recycling at Civic Amenity Sites in Lancashire, England. *Waste Management*, 24(9), 861–874. Online: <https://doi.org/10.1016/j.wasman.2004.02.002>
- Willis, P. (2012). Engaging Communities: Ostrom’s Economic Commons, Social Capital and Public Relations. *Public Relations Review*, 38(1), 116–122. Online: <https://doi.org/10.1016/j.pubrev.2011.08.016>
- Yang, K. & Callahan, K. (2005). Assessing Citizen Involvement Efforts by Local Governments. *Public Performance & Management Review*, 29(2), 191–216. Online: [10.1080/15309576.2005.11051865](https://doi.org/10.1080/15309576.2005.11051865)
- Yohalem, N. & Martin, S. (2007). Building the Evidence Base for Youth Engagement: Reflections on Youth and Democracy. *Journal of Community Psychology*, 35(6), 807–810. Online: <https://doi.org/10.1002/jcop.20180>
- Zamir, E. & Sulitzeanu-Kenan, R. (2018). Explaining Self-Interested Behaviour of Public-Spirited Policy Makers. *Public Administration Review*, 78(4), 579–592. Online: <https://doi.org/10.1111/puar.12825>
- Zilans, A. (2013). Assessment of Urban Development Policies in the Context of Sustainability in Latvia. *WIT Transactions on Ecology and Environment*, 175, 135–147. Online: <https://doi.org/10.2495/ECO130121>