



Visions and Recommendations for the *Futures of Education*

By the IUCN Commission on Education and Communication (CEC)

Consultation Report (29/01/2021)

Executive Summary

Since its birth in 1949 the IUCN CEC has embraced an active advocacy for promoting education as a means to adopt attitudes and practices leading to nature conservation and human well-being. Against this target the UNESCO Futures of Education initiative resonates with the CEC in the quest for a knowledge-based education that forges a better future for humankind and Earth. The CEC and its partners in #NatureForAll movement have embarked on reconnection with nature as an evidenced approach to ensure a prosperous and sustainable coexistence of humanity and nature and found that education in both its formal and creative techniques should work on reestablishing these connections.

In response to the UNESCO Futures of Education initiative the CEC conducted a two-phase consultation process (guided by the minimally modified UNESCO survey on the top challenges and purposes of education) to explore its members' views on which challenges are expected to most affect humankind in 2050 and are thus worth addressing in education directed at sustainable development. The process also included drawing members' recommendations on how education in the fields of nature, biodiversity and sustainability can contribute in meeting these challenges.

It may not be considered a surprise that among the top five challenges selected by the respondents the first four places were occupied by nature-related challenges namely climate change, biodiversity loss, environmental crises and human-nature disconnect, with this latter being added to the survey list in light of respondents' relevant backgrounds and experiences. Several respondents who chose these challenges also selected other challenges that are not so distinctly related to nature issues thus pinpointing associations between the two types such as cause-effect relations. Hence we see economic inequalities, global health crises, poverty and injustice also significantly chosen as top five challenges.

In voting for issues education should focus on to meet the top five challenges (the above four and population growth) the overwhelming majority of respondents cited systemic change and sustainability through knowledge transfer, problem solving, attitude change and promotion of active and conscious citizenship. Education, many respondents argued, should focus on behavioural change of students, adults and decision makers. It should also mainstream locality considerations such as the revival of traditional knowledge, be based on firsthand learning in natural settings and follow innovative approaches. Combating climate change, which was considered the top challenge,



exemplifies this emphasis on local knowledge transfer, place-based engagement, innovative education methods, systemic and critical thinking as to create awareness, change attitudes and develop skills to act effectively against its impact and best serve the education purposes necessary to minimize this impact on humankind and Earth in 2050.



Introduction

The mission of the IUCN [Commission on Education and Communication \(CEC\)](#) is to be an agent of change by taking a lead role in advancing sustainable solutions for economic, social, and environmental challenges through leading communication, learning and knowledge management initiatives in IUCN and the wider conservation community. Volunteering from all around the world to improve education, CEC members are experts in nature, sustainability, environmental education, communication and behaviour change.

The CEC Deputy Chair, who is the CEC Co-chair of Education for Sustainability thematic group as well as the Education Committee Chair, invited CEC members to work collaboratively on a comprehensive strategic document aimed at showcasing the importance of mainstreaming nature conservation into education in order to enhance nature valuation and sustainability among different generations. This strategic document builds on the existing findings and achievements of the #NatureForAll movement, among others, and the findings of the meta-research documents on how connecting with nature helps us care for ourselves and Earth, "[Home to us All](#)" and "[Connecting with Nature](#)".

The Report intends to highlight and purport IUCN CEC philosophy that SDGs can only be achieved if humankind stays below the carrying capacity of the planet and does not hinder the self-regeneration processes of ecological systems which sustains all basic conditions and resources for life. The recent COVID-19 pandemic made people aware of the value of our living systems and also their vulnerability. That awareness needs to be maintained and followed by appropriate actions. Education and learning are key driving forces for that change.

The findings and recommendations presented in this paper are based on a two-phase survey conducted with respondents from the community of IUCN CEC members who are looking at the global challenges from the perspective of valuing nature, and, as a result, articulating the IUCN CEC standpoint on the futures of education with regard to the UNESCO Futures of Education frame.

Education within IUCN CEC

The International Union for Conservation of Nature (IUCN) is a membership union composed of both government and civil society organisations. It harnesses the experience, resources and reach of its approximately 1,400 Member organisations and the input of more than 17,000 experts. This diversity and vast expertise makes IUCN the global authority on the status of the natural world and the measures needed to safeguard it.

The CEC was established by the IUCN Council as the 'Commission on Education' in 1949. The important role of an education commission has continued since that beginning; according to its original statutes, this Commission will seek "to educate adults and children to realize the danger which lies in the alteration of natural resources and the necessity of action against such a danger". As examples of its contributions, CEC



developed multimedia packs for teachers, guided protected area managers to training opportunities and provided guidance for the formation of wildlife clubs. As a result of CEC's leadership role, and the other IUCN commissions' dedication to education, more than ten resolutions adopted by the IUCN General Assembly emphasize the importance of nature education.

Since the turn of the century CEC has been an important actor in the interpretation and realization of a work programme pertinent to Article 13 on communication, education, and public awareness (CEPA) in the Convention on Biological Diversity (CBD). CEC continues to enhance its involvement in the inter-governmental sphere through active participation in the Conference of the Parties (COP) processes, on advisory committees and in other major events to support the CBD as well as other environmental conventions and is recognized by conventions, secretariats and national governments as the major CEPA knowledge network. CEC also demonstrated leadership in the area of Education for Sustainable Development (ESD). The Commission coordinated a range of initiatives which built up international momentum in this area, among others, featuring major international dialogues. CEC members mobilized support for the proposal to establish the UN Decade of Education for Sustainable Development.

The recommendations in this report are another example of CEC's leadership and result from the recent "CEC Futures of Education Consultation" in support of UNESCO's efforts.

Recommendations

In this document, education is meant to include all forms that support learning including formal, informal and non-formal education, as well as those in traditional and non-traditional settings.

Understanding that achieving the UN Sustainable Development Goals (Transforming our World: 2030 Agenda for Sustainable Development) requires systemic change to reverse unsustainable practices in most aspects of our life, IUCN CEC members acknowledge that sustainability and systemic change are basic goals of education.

Recognising that climate change is identified as the most urgent and critical challenge, followed by biodiversity loss and other environmental crises, from a systemic point of view, these two challenges are seen as interrelated. Climate change is a cause for and consequence of biodiversity loss, soil erosion and many other environmental crises. Human-nature disconnect and population growth were also emphasized among the top challenges and described as main causes of climate change, biodiversity loss and other environmental crises. As ecosystems provide the vital living resources (water, air, food, production materials, cultural and spiritual benefits), the challenges facing them influence all aspects of life including health, welfare, prosperity, violence, and migration.

Key recommendations related to the findings are: the imperative need for education to incorporate a more holistic and integrated living systems approach and to inspire and re-establish deep connections between humans and nature.

It is important for individuals to understand the intrinsic interconnections and interdependencies that exist among all forms of life on the planet, including human. Understanding the different elements and the ways these forms interrelate, as well as the actions that will help address the issues, will be a key factor in developing sustainable and regenerative cultures and ecosystems.

Bringing nature into the center of education and allowing learning through active exploration and discovery activates learners' creative capacities and their sense of being part of nature. Nature becomes the teacher as well as a powerful and immersive learning environment in which learning of all subjects can be related and inspired by the dynamics of living systems. Strengthening meaningful connections between people and nature will stimulate effective learning and better support not only education for sustainable development but learning at large.

It is fundamental that education strengthens its capacity to aid critical and systemic thinking that will allow individuals to better understand global environmental issues and the way they relate to each other. It is also considered extremely urgent and vital that Education for Sustainable Development is integrated with mainstream education, to the extent possible, worldwide. Educators must then look at varied and innovative informal and formal options to initiate and encourage this integration.

The present generation of learners must be empowered with the necessary tools to play a central role in building a culture of resilience, one that enables them to adapt to the changing environmental conditions in which they live, dictated by the broader problem of a changing climate. While the global goals of education are shared, regional and local level differences (social, economic, cultural, etc.) are crucial. For example, while climate change was identified as the most urgent, burdensome and critical challenge, respondents stated that many populations lack awareness of its impacts, especially in remote rural areas suffering from poverty. Other communities have chosen to ignore it. Further, changing consumption and production patterns differ between over-consuming communities and those with (and sometimes without) access to barely the basic needs of life.

Education has a responsibility to develop the knowledge, skills and capacities for people to be able to create relations that allow for all lives to thrive together. As our findings suggest, the human-nature disconnect plays a fundamental role in this process. Starting from early childhood, education must aim to foster a deep connection between individuals and nature - and an understanding and appreciation of the latter - if we are to shift mindsets towards a sustainable future. Empathy with nature, an understanding of the principles of wise and sustainable use of renewable natural resources, regenerative practices and living system intelligence will need to be key components in the future of education.

Therefore, education has to focus on a holistic approach to living systems. It should be nature-centred, where nature is both inspiration and teacher. By sensitizing learners to nature, developing critical and systems thinking, and solving problems with an understanding of the consequences of interventions, behaviours will change and be consistent with the goals of education for sustainable development.

Further, education should focus on experiential learning and place-based engagement. It helps learners to understand their local context and practices. Learners touched by real life tend to appreciate value and critically apply indigenous and traditional knowledge and practices. Local-based learning also contributes to reconnection with nature and nurturing traditions. Learning locally helps to illustrate local, regional and global environmental impacts.

Also, it is important to note that the continued shift in climate patterns presents new challenges and cannot solely be addressed by traditional knowledge. Moreover, educators should aim to be continuously upgrading their level of knowledge and approach, as the world is changing at an incredible pace. In this regard, education should embrace research and innovation (learnings drawn from nature's adjusting responses to changing climate) to complement traditional knowledge on mitigation, adaptation approaches at local, national and global levels.

Outdoor activities, excursions, community actions, visiting national parks, the wilderness and applying methods to bring together the sciences, communities, humanities and complexities are of great importance to learning for communities as well.

Although direct experiences in nature are considered most important, there is also benefit from innovative use of Information and Communication Technology (ICT) interactive tools, like applications, online green calculators, video, community mapping and art. These approaches may awaken creativity and make learning a joyful activity outdoors and indoors. In addition to the use of ICT technology in fostering and strengthening learners' connection to nature, use of virtual reality and other technology should also be considered as this may assist communities and groups to connect with nature from their localities.

An education in environmental work, aimed at both young and adult generations, is essential to broaden the bases of a well-informed public opinion and of the conduct of individuals, companies and communities. In this context, access to ICT may be helpful to stimulate changes and improve quality and the curriculum in the environmental classroom.

In light of COVID-19 ICT competences and pedagogy for remote and distance teaching and learning become vital as most of the educational institutions were forced to provide teaching via different online platforms. There is a need for recommendations, tools and strategies on how to embed sustainability principles, mobilisation to connect with nature into on-line teaching and learning as well. Developing materials for the available traditional channels like TV, radio is also important. Of equal importance is using a terminology that is widely understandable and accessible to people and avoiding jargon.

Also, allowing learners to participate in decision-making on the design and content of educational programmes that look to the future; ensuring that the content has a long-term perspective and uses both medium and long-term planning.



Sustainable development indicates a long term investment in a prosperous future, which summons the basic elements of that future: youth exploring the physical world around them, businesses and entrepreneurs exploiting natural resources for their business, politicians and public officers involved in making and enforcing decisions that affect sustainable developments and civil society organizations that can bring all these parties together for a joint cause.

Education should bring all these stakeholders together for a shared orientation to prioritize sustainable development, a process that is more effectively achieved through partnerships and cooperation.

Good examples of such a path can found on the [#NatureForAll website](#) especially [#NatureForAll Discovery Zone](#) and [IUCN CEC resources](#).

CEC Members Survey Outputs

Research Objectives and Methodology

The main objective of the surveys was exploring the views of the CEC community members, based on their experiences, regarding the global challenges that face valuing nature, and as a result, articulating the IUCN standpoint on the futures of education in line with the UNESCO frame.

The survey was conducted online in two phases. In the first phase, IUCN CEC members were asked to name the 5 most important challenges (based on the list of the [UNESCO survey](#)) they expect to impact humankind in 2050 from the point of view of nature protection/mainstreaming nature in all walks of life and justify their answers and priorities in free text. Based on the results of this questionnaire, respondents in the second phase selected topics that education should focus on to address the top 5 challenges, how can nature/biodiversity/sustainability education contribute to tackling these challenges, and what other education purposes could benefit from their suggestions.

First Phase Outputs: TOP 5 Challenges

A total of 129 respondents took part in this phase selecting the 5 most important challenges expected to be impacting humankind in 2050 (from the point of view of nature protection/mainstreaming nature in all walks of life). These challenges were: climate change, biodiversity loss, environmental crises, human-nature disconnect and population growth.

Participants stated that it was hard to rank the challenges, because they are interconnected and could be viewed both as causes and as consequences.

Based on the frequency of answers, the most chosen challenge was climate change, identified by 99 respondents (76,74%) as one of top 5 challenges. Almost half of these (43 respondents) chose climate change as Nr1 challenge expected to impact humankind in 2050. It was followed by biodiversity loss, chosen by 86 respondents (66.66%), then

environmental crises, named by 78 people (60.46%). The 4th place was for human-nature disconnect (63 answers, 48.83%), followed by population growth (55 answers, 42.63%).

Based on the top 5 shortlist, priority was primarily given to ecosystem-related challenges (e.g., climate change, environmental crisis, biodiversity loss) as the sources of the overarching impacts. These were followed by human factors such as human-nature disconnect and population growth.

Despite the severe health crisis facing humanity, health was only ranked as the 7th most important challenge in the long term. This suggests that most of the respondents are aware that climate change is among the root causes of zoonotic diseases, and it highlights that financial contributions are better spent on conservation efforts as prevention than on dealing with already evolved issues. If we look at what respondents chose as Nr1 challenge, the order changes somewhat, but the challenges are still the same.

Due to the limited number of items, we could not detect significant correlations or patterns; however, in some cases there were similarities which can help categorize the answers. In the following section, we present and explain similar rankings based on the justifications.

Climate Change: Examining the justifications offered by these participants, climate change was considered to be the most critical issue, being related to the other challenges.

Human-Nature Disconnect: Respondents argued that human-nature disconnect is the source of the nature related problems which leads to further challenges.

Environmental Crises: The third most common challenge was either environmental crises or biodiversity loss. In half of the environmental crises cases climate change followed as either second or third place. Also in these cases, biodiversity loss was among the top 5 challenges. Another interesting pattern was that environmental crises was followed by global health crises, justified by the current COVID-19 pandemic.

Biodiversity Loss: In half of the cases where biodiversity loss was the first challenge, climate change followed second, explained by the increased vulnerability to climate change caused by biodiversity loss. Population growth and environmental crises also followed among the top 3 challenges.

Population Growth: The fifth most common Nr1 challenge was population growth. In these cases there was no specific distinct pattern for the following challenges as votes were randomly distributed among other challenges.

Second Phase: Focus Areas for Futures of Education

The second survey was answered by 49 respondents who had also responded to the first phase.

In the UNESCO Futures of Education initiative survey participants were able to rank the top three purposes of education in 2050. We assumed that most of the IUCN

respondents to the second phase would choose sustainability; therefore, we did not include it in our list of education purposes which allowed respondents to focus on the other options. We also considered it important to highlight systemic change thus adding it to our list. To validate our assumptions, we asked confirmatory questions about the extent to which respondents agree with the statements that education should focus on sustainability and systemic change in addressing the top 5 challenges. Our assumptions have largely been substantiated. Based on the confirmatory questions, approximately 90% of respondents gave “4” or “5” on a scale where “5” means “yes, totally agree” and “1” means “no, absolutely do not agree”. That meant that the vast majority of the 49 respondents agreed that education should focus on systemic change (44 respondents) and sustainability (43 respondents).

In the second section of the second phase survey respondents were able to express their thoughts in textual answers about how nature/biodiversity/sustainability education can contribute to tackling the top 5 challenges and how education purposes can benefit from their suggestions.

General Conclusions

In most responses, the general roles of education appear to focus on a particular challenge (e.g. knowledge transfer, problem solving, attitude change and promotion of active and conscious citizenship). It also repeatedly appears that the task of education is to shape the attitudes of not only students or adults, but also decision-makers and politicians. In addition, place-based learning (local commitment, transfer of local and ancient knowledge), experiential learning in nature and the use of innovative, experiential pedagogical tools and methods (ICT, study trips, excursions, fieldwork, project-based learning, community-based learning) were also common elements.

Responding to the question on the other educational purposes that could benefit from the participants’ suggestions, health and well-being were listed as the top priorities in all 5 challenges.

Climate Change

According to the answers, education can contribute in combating climate change by presenting the problem, increasing awareness, understanding consequences and contexts, and changing attitudes (changing consumption patterns, promoting lifestyle changes). For example, it is vital, in strengthening critical and system thinking, to understand the operation of different ecological systems, and to highlight the effects of our everyday decisions and lifestyles on the climate. ESD should promote critical thinking, problem solving and action, all of which develop confidence in addressing the challenges to sustainable development. Along with these suggestions, local knowledge transfer and innovative education methods appear many times. Respondents think education should focus on place-based engagement to understand the local context, practices and indigenous knowledge (as local-based learning can contribute in reconnection with nature, nurturing sustainable traditions and bringing knowledge closer

to local -and thus global- environmental impacts) and the use of innovative (e.g. ICT tools), creative (e.g. literature, art, drama), interactive and experiential teaching (e.g. outdoor activities, visiting national parks) methods to bring together the sciences, humanities and complexities.

Respondents argued that if their suggestions to tackling climate change would be implemented, the education purposes of health and well-being (43 answers) scientific innovation (27 answers), skills for work and social cohesion (13-13 answers) could benefit best.

Human-Nature Disconnect

Through scientific knowledge transfer people understand the importance of nature and can learn solutions to environmental problems. 'Education for Sustainable Development' should promote reconnection with nature, understanding and experiencing the human-nature relationship, and increasing empathy for wildlife and living ecosystems. The role of humankind needs to be reinterpreted as part of nature. It should also promote systemic thinking, present opportunities for connections, highlight the impacts of human activities, and seek mutually beneficial solutions. Moreover, ESD should be embedded in the curriculum in an interdisciplinary and holistic manner, allowing for a whole-institution approach to environmental settings, management and policy making, sharing the values and principles that underpin sustainable development. Nature/biodiversity/sustainability education needs to step out of the classroom and bring education into natural spaces especially in cities where urban life has been alienating people from nature.

As with climate change, many respondents argued that knowledge and contexts should be conveyed in a comprehensible way, through creative tools (e.g. video, photo) and experiential pedagogy (excursions, visits to national parks, international partnerships). It is important to transfer knowledge at the local level, cultivate practices by summoning local knowledge and restoring sustainable practices, draw nature closer, delegate responsibility, and promote active citizenship.

Education has a responsibility to develop the knowledge, skills and capacities for people to be able to create relations that allow for all life to thrive together. As our findings suggest, the human-nature connection plays a fundamental role in this process. Starting from children's early years, education must aim to foster a deep connection between individuals and nature if we are to shift mindsets towards a sustainable future. Empathy with nature, regenerative practices and living system intelligence will need to be key components in the future of education.

Respondents say, if their suggestions on tackling human-nature disconnect would be implemented, the education purposes of health and well-being (42 answers) active citizenship (18 answers), and social cohesion (17 answers) could benefit best.

Environmental Crises

Like other challenges the most common idea is that the task of 'education for sustainable development' is basically to provide the knowledge (on causes, interactions,

consequences, risks), change attitudes (promoting systemic thinking, non-consumption measured well-being) and provide tools (for good practices and potential solutions) needed to recognize and resolve environmental crises. Respondents indicated that most people are indifferent to this challenge, because they do not have any information about its magnitude.

Many respondents also emphasized that awareness of environmental crises can be best promoted at the local level, investing local knowledge and practices to change attitudes and restore sensitivity to factors contributing to such crises. Respondents were also not oblivious to the importance of global perspectives and international cooperation and exchanges of experience.

Curriculum change towards sustainability should be integrated in parallel with economics and environment in higher institutions of learning, however education for sustainable development should not be restricted to formal education students but it must also target young adults, NGOs, entrepreneurs, startups and decision-makers/politicians. It was also a valuable idea that education should draw attention to the fact that the impacts of environmental crises do not affect all people equally.

Respondents believe that, if their suggestions on tackling environmental crises would be implemented, the education purposes of health and well-being (31 answers), scientific innovation (24 answers), and justice (16 answers) could benefit best.

Biodiversity Loss

In the case of biodiversity loss, education can also contribute to reducing species extinction by transferring knowledge and educating active citizens. People need to be first aware of the ongoing biodiversity loss is, its causes, its impacts on humans, their livelihoods and on nature, and methods of reversing this loss.

Respondents also often mentioned the importance of raising awareness, reconnection with nature and reinterpretation of the place of humankind in nature. In addition education should use a terminology that is accessible to wide audiences.

Recognizing interdependence and emphasizing the value of biodiversity and biosphere services were also recurring ideas. With the help of nature/biodiversity/sustainability education people can change their anthropocentric viewpoint to an eco-centric one which will lead them to appreciating the whole environment and the ecosystems therein.

Respondents believe that, if their suggestions on tackling biodiversity loss would be implemented, the education purposes of health and well-being (34 answers), scientific innovation (23 answers), and active citizenship (16 answers) could benefit best.

Population Growth

'Education for sustainable development' seeks to raise awareness of the impact of population growth on the planet's limited resources and to acquaint people with potential



actions to meet this challenge such as birth control, reduction of adolescent pregnancies, gender equity, better access to education for women, better distribution of wealth among nations and within a nation, individual freedom, health and well-being, increasing human rights, sustainable economy and natural resources exploitation.

Respondents believe that, if their suggestions on tackling population growth would be implemented, the education purposes of health and well-being (33 answers), human rights (18 answers), and gender equity (13 answers) could benefit best.



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Annex I

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Annex II

As a result of CEC's leadership role, and the other Commissions' dedication towards education, numerous IUCN resolutions highlight the importance of nature education.

- a. WCC 2016 Res 085 Connecting people with nature globally
<https://portals.iucn.org/library/node/46502>
- b. WCC 2016 Res 084 Environmental education and how to naturalise the spaces in educational centres for healthy development and a better childhood connection with nature
<https://portals.iucn.org/library/node/46501>
- c. WCC 2012 Res 008 Increasing youth engagement and intergenerational partnership across and through the Union
<https://portals.iucn.org/library/node/43975>
- d. WCC 2012 Res 101 Child's right to connect with nature and to a healthy environment
<https://portals.iucn.org/library/node/44068>
- e. WCC 2008 RES 098 Intergenerational partnerships: fostering ethical leadership for a just, sustainable and peaceful world
<https://portals.iucn.org/library/node/44248>
- f. WCC 2008 RES 105 Communication, education and public awareness (CEPA) in conservation
<https://portals.iucn.org/library/node/44255>
- g. GA 1994 RES 024 Environmental Education
<https://portals.iucn.org/library/node/43893>
- h. GA 1988 RES 033 Environmental education and awareness
<https://portals.iucn.org/library/node/43762>
- i. GA 1981 RES 008 Environmental education as related to development
<https://portals.iucn.org/library/node/43665>
- j. GA 1972 RES 023 Environmental education for professionals
<https://portals.iucn.org/library/node/43590>
- k. GA 1969 RES 019 Pollution and education
<https://portals.iucn.org/library/node/43551>

Annex III

Table 1. Distribution of responses to the top 5 challenges

#	Challenge/Ranking	Nr1	Nr2	Nr3	Nr4	Nr5	Total
1	Climate change	43	19	16	11	10	99
2	Biodiversity loss	14	25	22	18	7	86
3	Environmental Crises	14	23	19	16	6	78
4	Human-Nature disconnect	19	6	12	11	15	63
5	Population growth	13	10	15	7	10	55
6	Economic inequalities	6	5	6	8	19	44
7	Global health crises	2	8	6	5	12	33
8	Poverty	4	5	6	6	9	30
9	Injustice	5	6	4	7	7	29
10	Armed conflict/war	1	4	3	8	5	21
11	Migration/mobility	0	5	5	3	6	19
12	Political extremism	3	2	6	5	3	19
13	Employment and work	1	4	1	4	3	13
14	Technological change	0	2	1	6	4	13
15	Violence	0	1	0	4	1	6
16	Other: Consumer habits	1	0	0	0	0	1

Annex IV

Table 2. The order of the Nr1 challenges

#	Challenge/Ranking	Nr1
1	Climate change	43
2	Human-nature disconnect	19
3	Environmental crises	14
4	Biodiversity loss	14
5	Population growth	13
6	Economic inequalities	6
7	Injustice	5
8	Poverty	4
9	Political extremism	3
10	Global health crises	2
11	Employment and work	1
12	Armed conflict/war	1
13	Migration/mobility	0
14	Technological change	0
15	Violence	0
16	Other: Consumer habits	1