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Sustainability and Well-being: the Perception of Younger Generations and their Expectations

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Abstract

The paper aims at analyzing the level of knowledge and the perception of the concepts of sustainability and well-being of high school students in Tuscany. It is an explorative study carried out during specific events held in high schools with the support of the teachers; during the events, students were asked to fill a questionnaire designed to elicit their relation with these topics as well as the level of involvement of their families. The results provide an interesting starting point for a debate about what the expectations of younger generations are and what we can do to match them. The debate moves from the assessment of the importance of sustainability and well-being indicators and the relevance of perceived threats. Moreover, the results put the role of institutions (and in particular that of public schools) under scrutiny to develop the level of awareness and to promote knowledge transfer

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1. Introduction

Science communication plays an important role in orienting society toward a sustainable development (Kloprogge et al., 2007) and schools and universities are directly involved in both the production and the spreading

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of knowledge, becoming key institutions in processes of social, economic and environmental challenge (Brennan et al., 2004; MaikAdomßent, 2013).

Since 1972, with the United Nations Conference on Human Environment in Stockholm, education was given a primary role as a means to promote environmental management. School is a suitable place to communicate and promote sustainability principles because of its influence on society (Sherren, 2006; Irandoust, 2009; Balsiger, 2014) and its capability to increase the knowledge of the community about sustainability (Collier, 2004). At its 57th session in December 2002, the United Nations General Assembly declared the time period between 2005 and 2014 as the United Nations Decade of Education for Sustainable Development (DESD) in order to stress the crucial role of education in moving towards a more sustainable world (UNESCO, 2007).

Given the relevance of education for sustainable development to enhance students' attitudes and behaviors, many studies were carried out to detect the perception of sustainability by student. This proves to be useful in order to plan adequate education strategies for sustainable development and to promote sustainable behaviors among young people (De Leeuw et al., 2014).

The education sector can contribute to promote initiatives about sustainable development, playing an important role to encourage and implement sustainable lifestyles (Zilahy and Huisingh, 2009; Abdul Aziz et al., 2012), but its participation is considered not sufficient because it faces various difficulties: lack of coordination and organizational support, lack of available time and financial resources (Cebrian et al., 2014).

Using an exploratory analysis, this study aims at detecting the perceptions of high school students in relation to the concepts of sustainability and well-being. The analysis observes where and how much young people hear about sustainability, in order to understand where to intervene with an action of sustainable development education. Moreover, the research aims at understanding the parameters that young people consider important to define sustainability and well-being, to provide useful information to support decision making in management systems (Souza et al., 2014).

2. Metodology

A questionnaire was prepared to elicit the needed information and it was administered in two Tuscan high schools, with the involvement of nearly 200 students. The questionnaire includes both closed and open questions: closed questions are aimed at observing the relationship between students and the concepts of sustainability (where and how much they hear about it and what related activities are carried out by their families) and well-being, eliciting their perception of BES – fair and sustainable well-being – determinants (Istat, 2014) and the perceived threats; open questions are aimed at obtaining wide information related to the perceived meanings of sustainability and well-being, which is useful for understanding the phenomenon and coherent with the exploratory nature of the study. For the analysis of the answers to open questions, text mining techniques were applied to obtain automated information from textual data. These techniques are mostly based on multidimensional scaling (Jolliffe, 2002; Bolasco, 2005). In this study, the text analysis was carried out using the T-Lab[†] content analysis software package. Specifically, the body of text related to sustainability was analyzed via word associations that allow to select co-occurence and similarity relationships which define the local meaning of selected key-words ("sustainability" in this specific case). Associated words are selected by calculating an association index. The body of text related to well-being, on the other hand, was analyzed with a multidimentional scaling technique, which consists in a set of data analysis techniques that allow to use similarity matrices in order to get a visual representation of the relationships among the data within a space of reduced dimensions. The results that were obtained allow to interpret both the relations among lemmas (proximity, distance) and the dimensions that define the space where they are represented.(Bolasco, 1999; dellaRatta-Rinaldi, 2007).

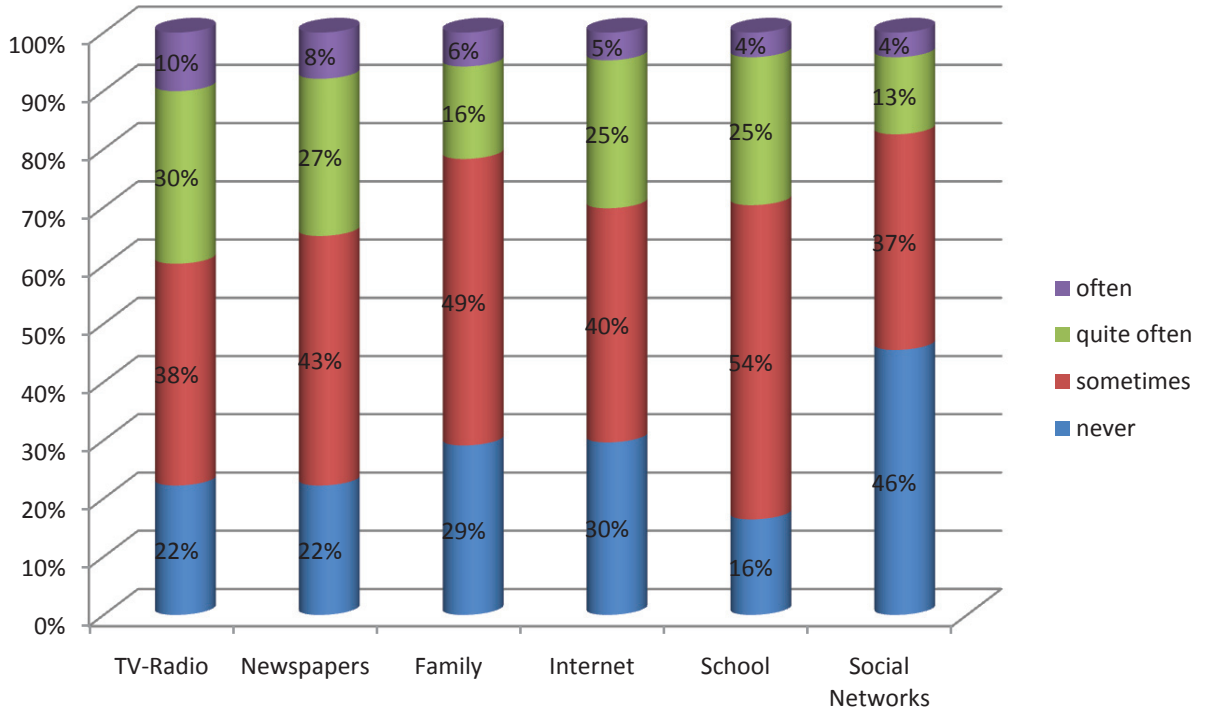
3. Results and discussion

[†]http://www.tlab.it

A questionnaire was administered to 196 Tuscan high school students. The study is purely exploratory in nature and does not have the ambition to extend the results to the population. After a first screening, usable questionnaires were reduced to 189. The sample has an average age of 17.8, and is composed by 57% of females and 43% of males.

The analysis of the information channels where students have heard about sustainability shows the following results (Fig. 1).

Fig.1: Sustainability information channels

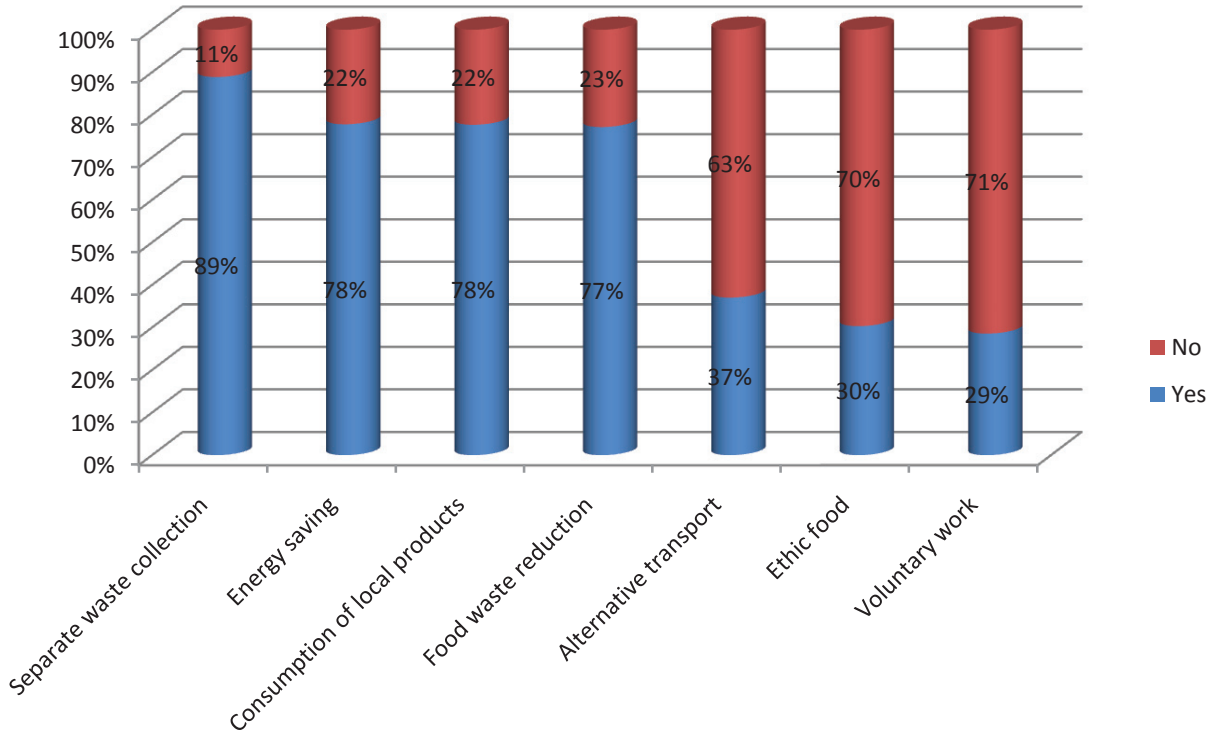


The results fundamentally show that young people do not hear about sustainability very often. Schools, which should have a very important role in the dissemination of knowledge and good practices, seems to be scarcely involved in these activities. Students receive information about sustainability mainly through TV-radio and newspapers, but with only a 40% of "often" and "quite often" answers.

Young people do not express differences in the perception of subjects responsible for the promotion of sustainability, as the average values for the considered categories (national government, local administrations, schools/universities, enterprises, associations, family, citizens) are very similar and between the 5.5 result of enterprises and the 6.2 result of families (on a 1-10 scale).

The students have answered as shown in Fig. 2 to the question "what activities are carried out by your family?".

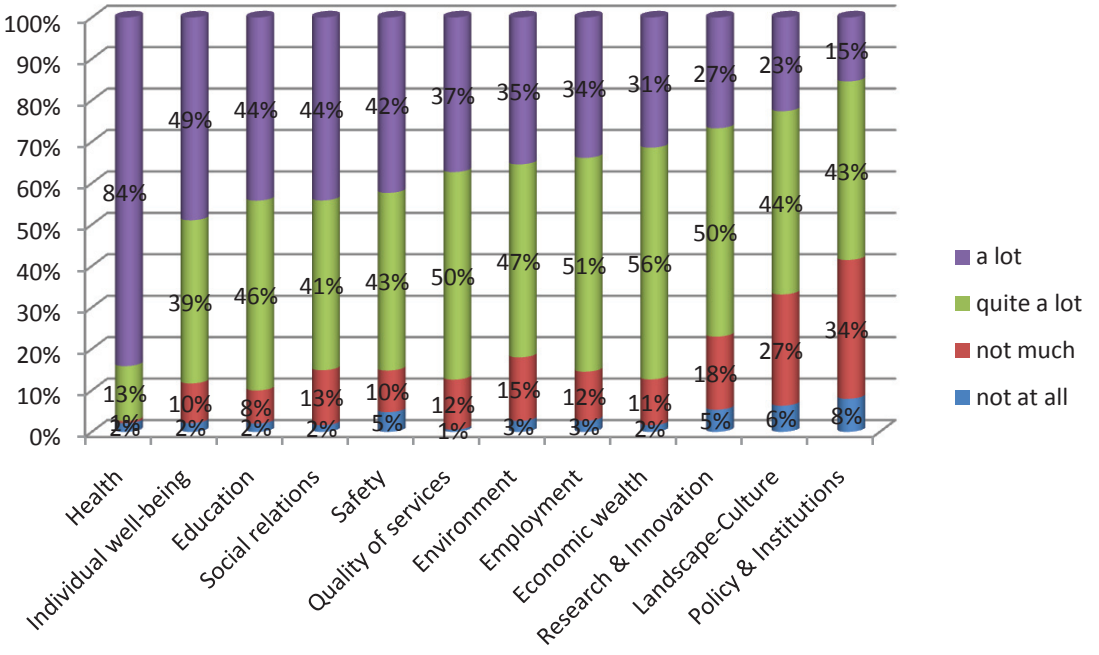
Fig. 2: Family activities



The results show how separate waste collection, energy saving, the consumption of local products and food waste reduction can be considered activities that are established among family habits. Coherently with what emerges from scientific literature, teenagers state that environmetally sustainable behaviors are more frequently adopted within the family than on a social level, maybe because it is more difficult to observe the families carrying out socially sustainable behaviors (De Leeuw et al., 2014).

The answers to the question related to the perception of the twelve BES dimensions are shown in Fig. 3

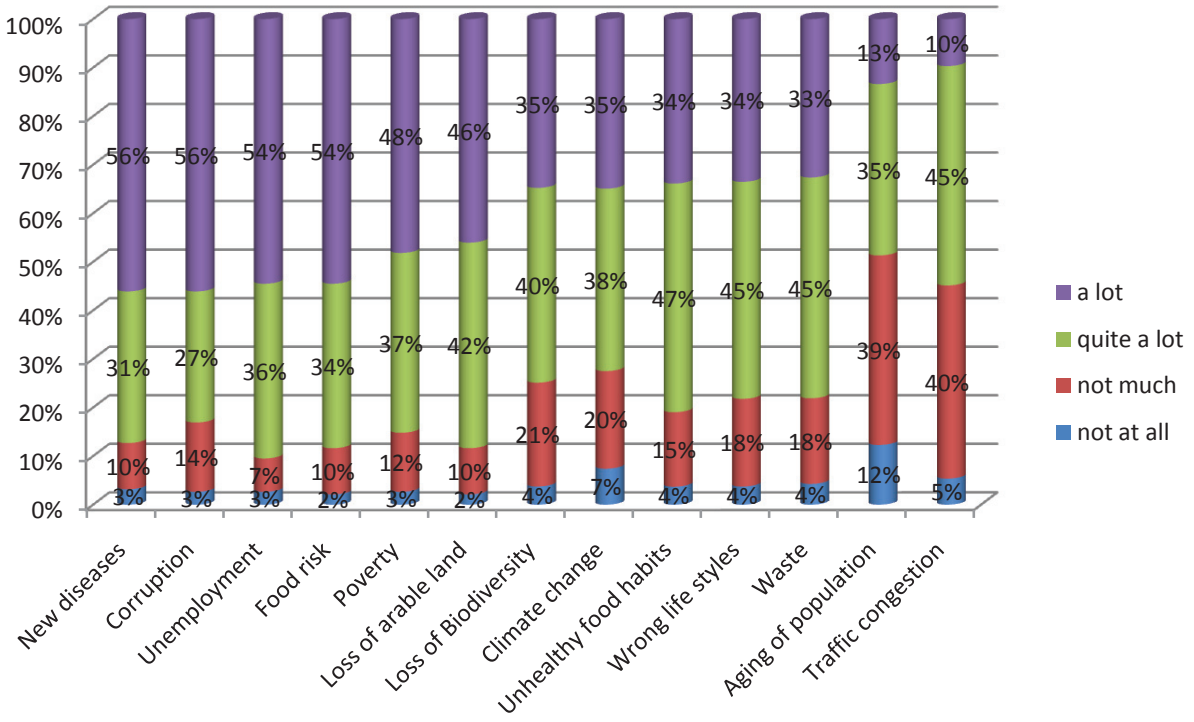
Fig. 3: Perception of BES indicators



The results show that health is clearly perceived as the indicator with the higher influence on the concept of well-being, followed by individual well-being, education and social relations. The environment is considered quite important by almost half of the sample, and more than one third considers it very important in the definition of well-being. Employment and economic wealth, though with a medium-high value (expressed by the ordinal category "quite a lot") for more than half of the sample, are not considered as much as the above mentioned indicators. It is possible that this is due to the fact that the issues connected to employment and economic wealth do not look like a priority to such a young target. Substantially, the indicators that young people consider more significant for the definition of well-being are the ones that are most linked to their personal environment (health, individual well-being, education, social relations). Even though "landscape and culture" and "policy and institutions" have medium-high values for 40% of the sample, they are the indicators that are perceived as less important in the composition of well-being. This result is an indication of the distance between youth and the world of policy making, fueled by the lack of trust in politics in general (IstitutoG.Toniolo, 2014).

Finally, with regards to the perceived threats to well-being, the results of the study show what is represented in Fig. 4.

Fig. 4: Perception of threats to well-being.

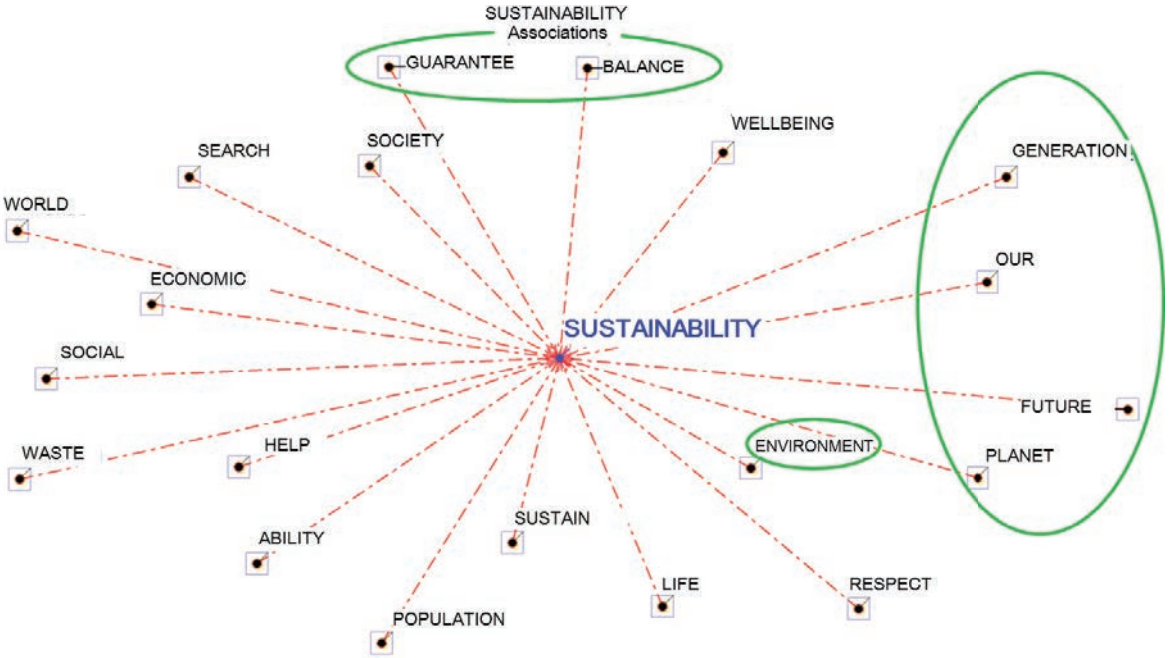


The risks that are perceived more are clearly those that directly involve the individual (new diseases, unemployment, food risk). The distance from politics and the distrust is once more confirmed by the high perception of corruption as a threat to well-being. The issues related to the environment (loss of arable land, loss of biodiversity, climate change, waste) have a high value for more than one third of the sample, although their perception decreases to a medium-high level. The ageing of population and traffic congestion show the lower levels of perception as a threat to well-being, maybe because the low involvement of youth in general in such aspects.

The questionnaire also included two open questions, for which text mining analysis tools were used.

The answers to the question “how would you define sustainability” are represented in the word association radial diagram shown in Fig. 5.

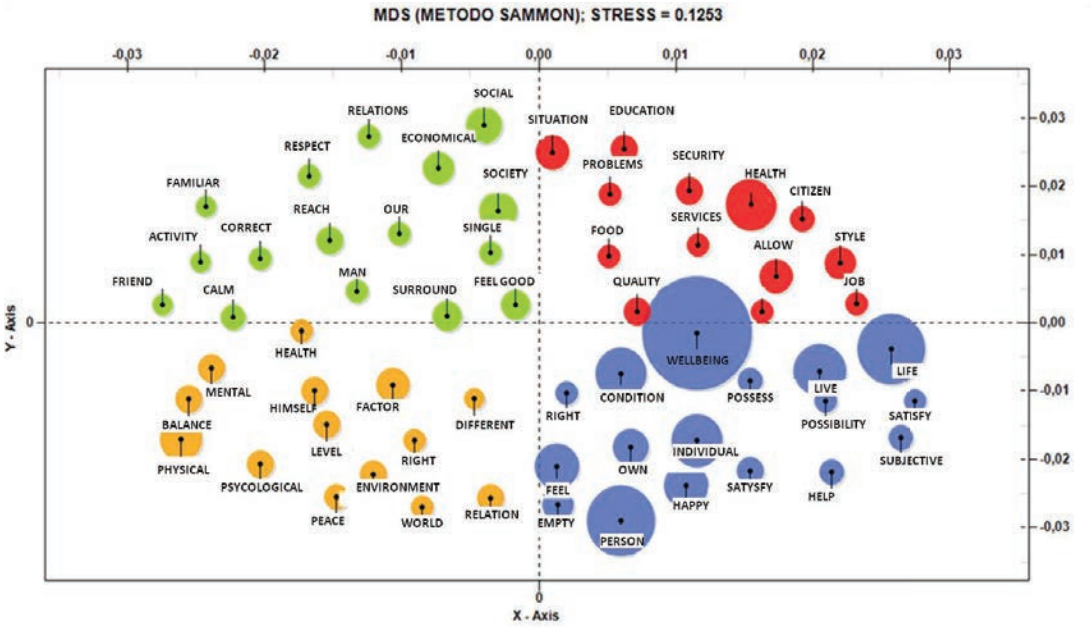
Fig. 5: Word association for sustainability



The diagram shows the first 20 words with the higher association index to the word "sustainability". These words are those that better contribute to the definition of the concept of sustainability for young people. All three dimensions of the concept, environmental, economic and social, are expressed, even though the environmental dimension seems to be the more relevant in the definition of sustainability, a confirmation of what the scientific literature already states (Yuan and Zuo, 2013). Well-being is closely associated with sustainability, which is also perceived in an intergenerational dimension ("guarantee", "generation", "future"). The vision of sustainability is, however, mostly related to the environmental aspects, as in its definition it is important to "guarantee" the "equilibria" of "our planet", with a specific stress on the issue of "waste" seen in a broad sense that is not necessarily only related to food.

The other open question, related to the definition of well-being, was analyzed with multidimensional scaling techniques, resulting in the concept mapping shown in Fig. 6.

Fig. 6: Concept mapping of well-being



The dimensional space of the variables shows four main potential categorizations of words. The lower part shows internal factors linked to the individual that contribute to well-being; the upper part, on the other hand, systemizes the elements that are external to the individual. Specifically, the first quadrant includes the elements that the external environment, and particularly public institutions, can supply to the definition of well-being (i.e. education, health, safety); the second quadrant shows the relevant external elements related to the relational fabric (i.e. relationships, friend, family, society). The lower part shows in the third quadrant the determinants of a personal, psycho-physical well-being (i.e. equilibrium, psychological, physical, mind) and in the fourth the internal subjective variables closely related to the "individual" and the "life" of the "person" and his/her own "well-being". It is important to point out that the elements that are more linked to the person and to a subjective well-being are consistently more important in the perception of young people.

Conclusions

The study has shown how, substantially, young people do not hear about sustainability very much, especially in school, the place that scientific literature considers crucial for the education for sustainable development. They perceive sustainability as mostly related to environmental aspects, and this can be considered a stimulus for the development of education programs aimed at promoting a holistic vision of sustainability. The suggestion to promote the participation of the schools system in sustainable development education programs stems from the fact that school and universities play an important role in the development of the society, preparing the future citizens who will enter society as active individuals and, through their choices, will contribute to a more sustainable society (Disterheft et al., 2012; Ericson et al., 2014). However, sustainability reporting, a tool that can provide to measure and communicate the economic, environmental, social and governance performances, is not widely used in schools. The adoption of Global Reporting Initiatives by the education system may bring to a change in the attitude of students, with a higher incidence of behaviors coherent with sustainability, producing beneficial effects for society (Adams and Petrella, 2010; Alonso-Almeida et al., 2014). Moreover, students, bringing best practices of sustainability at home, may spread the knowledge within the family. In relation to the education for sustainable development, there is a necessity to understand the efficacy of educational processes according to a systemic tool of

networks, that will have to bring the student to better understand the complexity of the problems that led to "unsustainable development" (Macris and Georgakellos, 2006).

A future development might be the simulation of decision maker activities with a role playing logic in order to have a vision of the complexity of the phenomenon. The objective of such a typology of education activity is to supply younger generations that are about to enter the employment market with management capabilities and collaborative methods that can help in the development of their multi-criteria decision making skills for assessing sustainability criteria. The ducation for sustainable development does not aim at supplying contents but an approach methodology, focusing on creative and collaborative learning processes (Irving et al., 2005; Steinfeld and Mino. 2009; Balsiger, 2014; Wals, 2014). Considering the interconnections among ecological, social, and economic dimensions of sustainability is a very difficult task that requires education for sustainable development to have a complex and transdisciplinary characterization. Among suitable methodologies, the presentation of case studies based on "real world problem" might be very effective to stimulate the cooperation among students, teachers and university researchers. This can create a dynamic mutual learning process that should develop transdisciplinary (Hirsch Hadorn et al., 2006) problem-solving processes, social competencies and communication qualities to face sustainability challenges (Steiner and Posch, 2006).

In relation to well-being, the study has shown how the factors linked to individual aspects are perceived as more important. In recent years, public and policy interest in sustainability issues has decreased while the interest in the concept of well-being has increased (Rinne et al., 2013). The role of well-being indicators becomes crucial for policymaking. The discussion about the perception and the definition of well-being indicators leads to forums where new ideas can be developed and indicators can be negotiated and agreed upon. Therefore, knowing what elements compose the concept of well-being for young people and what their perceptions are is the first step to supply means of concretely representing the various dimensions of these issues. It would be very important to extend the research to include the whole collectivity to provide useful information to improve programs and initiatives aligned with the concerns of the community (Rivera et al., 2014).

A policy that has sustainability as its regulating principle should have school as the stepping stone to face this challenge, as school is the pace invested in the growth of cultural capital and, as a consequence, in the improvement of individual abilities to make conscious choices coherent with sustainability.

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