Development and Validation of an Instrument to Assess Activism toward Social and Environmental Sustainability in Career Counseling

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Abstract

Considering the recent attention to challenges regarding sustainability in the field of career counseling, this study aimed to provide the development and initial validation of an instrument entitled, "Activism toward Social and Environmental Sustainability for Career Construction" (ASESCC). ASESCC can be used in career counseling and research activities to assess activism toward social and environmental sustainability. With this aim, two different studies were carried out. In the first, we developed items, assessed content validity, and tested the factorial structure and reliability of the scale. The second study tested the convergent and discriminant validity of the ASESCC with measures of propensity to sustainability in making decisions about one's future (convergent validity), career adaptability (discriminant validity), and life satisfaction (discriminant validity). Results showed good psychometric support for the scale for Italian workers. Moreover, the findings indicated that the ASESCC total score was related yet distinct from other measures, suggesting that Italian workers that reported a greater propensity to activism toward social and environmental sustainability also were characterized by higher levels of career adaptability, an inclination to sustainability in making decisions about their future, and life satisfaction.

Keywords: Sustainability, Activism, Career counseling, Assessment measure.

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Extreme social inequalities and environmental emergencies strongly characterize the so-called Anthropocene age, a time in history characterized by the fact that human actions have the absolute control and ability to modify the ordinary flow of events but also, paradoxically, to threaten human security (Asayama et al., 2021; Morrissey, 2022; Nota et al., 2020). Regarding the first phenomenon, Oxfam International (2022) highlighted that we are living in times characterized by extreme inequalities with enormous wealth owned by few people, while the majority of the population lives in conditions of precariousness, poverty, hardship, and difficulty (Hoyt et al., 2018). The World Inequality Report (2022) also indicated that the richest 10% of the global population owns 52% of global income, while the poorest half of the population owns 8.5% of it. Furthermore, global wealth disparities are even more noticeable than income differences, with the richest 10% of the global population owning 76% of all wealth. According to Polacko (2021), income inequality has been largely driven by many political factors related to neoliberal reforms such as privatization, deregulation, and tax and welfare reductions. With neoliberal reforms, labor precariousness has intensified; labor market institutions have weakened as unions have lost power; and public social spending has begun to shrink, which has not compensated for the vulnerabilities created by the process of globalization and technological development.

With respect to environmental emergencies, climate change and other forms of environmental degradation are considered among the defining challenges of the present time. As reported by Montt, Fraga, & Harsdorff, (2018), humanity is using more resources and producing more waste compared to the speed at which nature can absorb and regenerate resources. This is causing unprecedented rates of biodiversity loss, soil degradation, changes to global biogeochemical flows, and more extreme climatic conditions. Moreover, this is connected to the disruption of the hydrosphere, such as the melting of ice in polar regions and on mountain summits (Kerényi & McIntosh, 2020; Montt et al., 2018; Nota et al., 2020). This also has been illustrated by the recent experience connected to the COVID-19 global pandemic, which has been linked to poor ecosystem management (Capua, 2020).

Islam and Winkel (2017) stressed the strong connection between these two global challenges, namely social and environmental. They argued that a self-reinforcing vicious cycle exists, where climate change acts as a risk multiplier for pre-existing social inequalities. Islam and Winkel (2017) discussed the need for further studies and research that, considering the strong connections between social inequality and climate change, can examine how to reduce inequality.

The urgency to address these global challenges underscores the importance of developing career counseling interventions and assessment instruments that help individuals design their career future in ways that take into account and contribute to sustainable development (Guichard, 2022). The International Association for Educational and Vocational Guidance (IAEVG) in its 2023 Communique emphasized that sustainability should be at the core of the emergence of career counseling and that "this requires educational and vocational guidance to consider ecological, planetary, and social foundations (p. 2)." Thus, the current study aims to develop and validate a measure to examine activism toward social and environmental sustainability that can be used in career counseling and research activities.

Activism Definitions and Theoretical Framework

Activism is widely recognized as a group of actions aimed to generate social or political change. Dono, Webb, & Richardson (2010) described activism as the consequence of the behaviors meant to promote new social directions, from entering socially engaged groups that defend a noble purpose to taking part in collectively important political actions, to organizing sensibilization activities on socially relevant topics such as demonstrations, signature-collection, etc. Curtin and McGarty (2016) discussed its temporal feature, affirming that, to talk about activism, the behaviors must be performed with perseverance and for a certain period of time.

Other scholars (e.g., Fielding McDonald, & Louis, 2008; Holahan & Lubell, 2016) highlighted that said actions must have as their final objective changes on a political, social, and economic level, to the benefit of society, keeping in mind that there are individual consequences (that can be social, economic, and sometimes even related to work) to manage and tolerate.

To describe activism behaviors, many scholars mentioned classical social theories that tried to define human behavior within groups and communities (e.g., Fielding et al., 2008; Jew & Tran, 2020; Holahan & Lubell, 2016; Wilkinson & Sagarin, 2010). As suggested by Jew and Tran (2020), among these classic conceptual perspectives, there is the Theory of Planned Behavior (TPB). Derived from the Theory of Reasoned Action, TPB has been used to describe activism behaviors (Torres-Harding, Siers, & Olson, 2012; Wang, 2020). In the TPB, the direct element establishing the person's actual behavior is behavioral intention. The latter is determined by three independent components: attitude (i.e., an individual's positive or negative evaluation of the adoption of a particular behavior), subjective norms (i.e., societal pressure that a person perceives before determining whether or not to adopt a particular behavior), and perceived behavioral control (i.e., the level of difficulty that a person perceives to execute an action in light of available resources, opportunities, abilities, etc.) (Ajzen, 1991).

Although the TPB has been used extensively in the literature on activism, some scholars (e.g., Agyeiwaah et al., 2021; Cho & Richardson Walton, 2009) have claimed that this theory is limited when considering affective influences on behavior because the three components (i.e., attitude, subjective norm, and perceived control) are based on cognitive beliefs. The TPB does not include the affective aspects and the complex interactions among individual thoughts, feelings, and actions. For example, specific feelings can lead to behaviors based on the connection they reveal between people and their context. This causes a particular action to cope with the feeling (Feldman & Hart, 2016).

According to Feldman and Hart (2016), affective variables (emotions, feelings, or drives) are relevant for activism behaviors. Anger is an intense negative emotion that seems to combine with cognitive components in the prediction of online activism (Feldman & Hart, 2016). Several studies also have focused on the emotion of indignation (e.g., Castells, 2015; Knops & Petit, 2022) emphasizing its importance, especially when situations of discrimination arise. Indignation plays an important role in triggering people to take actions aimed to produce positive changes.

As pointed out by Agyeiwaah et al. (2021), the limitation of the TPB about activism was taken into account in the Tricomponent Attitude Theoretical Model (TATM; Rosenberg, et al, 1960). Agyeiwaah et al. (2021) argued that activism involves three elements: cognition, affect, and behavior. The cognitive component involves the principles, opinions, and information individuals have about the object. The affective component includes the emotional reactions or feelings toward the object. Finally, the behavioral component is the behavioral intention or behavior directed toward the object. Thus, the research in this field should focus on the cognitive, behavioral, and affective components of activism.

Activism for the Construction of an Inclusive and Sustainable Career Future

Activism targeting social and environmental sustainability in the career counseling field has been recently discussed in the literature (e.g., Cadenas & McWhirter, 2022; Guichard, 2022; Nota et al., 2020). For example, Plant (2014) introduced the term 'green guidance' when referring to career counseling approaches that stimulate individuals to consider social and environmental challenges when thinking about their career future. These approaches contrast with more traditional ones, which focus on stimulating individuals to make career decisions based solely on their aspirations, attitudes, and interests.

Among the paradigms in career counseling, Life Design recently has advocated for the need to prepare people to think of a working life that actively contributes to equitable and sustainable development (Guichard, 2022). Thus, Life Design counseling promotes reflection and reflexivity on sustainability, with the goal of supporting career-life projects that contribute to the protection and well-being of the environment and society (Rochat &

Rossier, 2023). According to the Life Design paradigm, workers and young people can be encouraged to have a greater awareness of global challenges, to question their contributions to promoting sustainable development, and to have a broader ecological or social purpose in their career decisions (Guichard, 2022; Nota et al., 2020).

Workers also can be persuaded to think about roles or new occupations in professional fields that aim at sustainable development (Baumgartner, 2014; Nota et al., 2020). Additionally, they should be invited to implement changes in organizational policies and practices that may represent an opportunity to influence society in favor of a greater focus on the issue of sustainable development (Briscoe & Gupta, 2016).

Becoming aware of these global challenges can stimulate workers to become 'activists' within their organizations, instigate social change, or attempt to delegitimize the status quo in their professional contexts (Briscoe & Gupta, 2016). This can be done by offering new templates for organizationally acceptable decision-making and by creating sociocultural spaces that can be translated into entrepreneurial opportunities. Workers can be reinforced to engage with their peers, take part in group actions, and work within their organizational system. Furthermore, individuals can be motivated to access institutionalized channels of influence, such as senior executives, or they can exert pressure on the organization through collaborative efforts. Workers' understanding of the informal social structures, values, culture, and routines within their organizations can be instrumental in promoting a change of action in professional contexts. Consequently, this knowledge can empower them to influence stakeholders and the wider public, fostering a more inclusive and sustainable environment (Briscoe & Gupta, 2016).

Due to the importance of social and environmental activism in career counseling, specific assessment instruments are needed to help workers reflect on their career-life projects in relation to the world's needs.

Instruments to Assess Activism

Numerous self-reports have been developed to evaluate activism toward social or environmental challenges. In their international review on actions to benefit social justice, Fietzer and Ponterotto (2015) considered the Activism Orientation Scale (AOS; Corning & Myers, 2002), the Social Issues Advocacy Scale (SIAS; Nilsson et al., 2011), the Social Issues Questionnaire (SIQ; Miller et al., 2009), and the Social Justice Scale (SJS; Torres-Harding et al., 2012). The most recent measure, the Social Justice Scale (Torres-Harding et al., 2012), based on the TPB, consists of 24 items that saturate four sub-scales: social justice attitudes, perceived behavioral control toward social justice, social justice subjective norms, and behavioral intentions toward social justice. Responses to all four sub-scales were found to be negatively correlated with symbolic racism, neo-sexism, and a global belief in a just world. However, as noted by Fietzer and Ponterotto (2015), all four instruments had certain weaknesses, particularly concerning the absence of test-retest reliability, validation on more diverse samples, and the utilization of more robust confirmatory methods, such as confirmatory factor analysis.

Regarding the instruments to evaluate environmental activism, the most commonly used is the self-report Activism Scale (Seguin, Pelletier, & Hunsley, 1998). This measure is comprised of six items solely reflecting past environmental activism behaviors without considering cognitive and affective components. The items include participation in events organized by ecological groups, financial support of an environmental group, circulating a petition demanding improvements in government policies on the environment, taking part in protests against current environmental conditions, voting for a government that advocates environmentally conscious policies, and writing letters to firms that produce harmful products.

There are other limitations of the instruments just briefly discussed. First, they focus on social or environmental challenges alone without considering the strong relationship between global challenges (i.e., social and environmental), as suggested by Islam and Winkel (2017). Currently, based on our knowledge, no scale assesses activism toward both social and environmental sustainability. Second, the existing measures seem to only consider the behavioral component of activism, casting aside the cognitive and affective components that strongly contribute to the prediction of behaviors (Cho & Richardson Walton, 2009; Feldman & Hart, 2016). And

finally, the main content contained in these scales is relevant to individuals involved in activist groups, students, or members of the community; the content does not address workers who are thinking about their future careers.

Research Goal

Our study addressed the aforementioned limitations by developing an assessment instrument entitled, "Activism toward Social and Environmental Sustainability for Career Construction" (ASESCC), to determine its usefulness to evaluate the propensity toward both social and environmental activism. This scale also considers the strong relationship between cognitive (thoughts and beliefs toward such challenges), affective (e.g., anger, indignation) variables, and specific behaviors performed to respond to social and environmental challenges. Lastly, this instrument examines workers' activism toward social and environmental activism in career counseling activities.

Two studies were performed. The first, using two independent samples of Italian workers, aimed to test the appropriateness of the items and the factor structure of the new scale by performing Exploratory Factor Analyses (EFA), Confirmatory Factor Analyses (CFA), and reliability analyses. The second study examined the convergent and discriminant validity of the ASESCC. Convergent validity was investigated by correlating the responses to this scale and the propensity to sustainability in making decisions about one's future, assessed by the "Goals for Future Design of the 2030 Agenda" measure (Santilli et al., 2023). Discriminant validity was tested by examining responses to the ASESCC with career adaptability, and life satisfaction.

Based on the TATM (Agyeiwaah et al., 2021; Rosenberg, et al, 1960), we expected that the instrument's factorial structure represented the three central components (first-order factors) of activism toward social and environmental activism (second-order factor) in career counseling. These are (a) a cognitive component (i.e., the propensity to consider issues connected to social and environmental sustainability as something interesting and valuable); (b) an affective component (i.e., the propensity to feel emotions of hope and indignation when exposed to threatening and/or discriminatory events and contexts for the safeguard of the environment); and (c) a behavioral component (i.e., the propensity to implement activism actions that are linked to social and environmental sustainability). Moreover, we predicted the first-order factors and the second-order factor to achieve internal consistency indices of at least .70 since this is considered an acceptable reliability coefficient (Nunnally & Bernstein, 1994).

Finally, taking into account the relevance that activism toward social and environmental activism may have in career counseling (Guichard, 2022; Nota et al., 2020) and in influencing individuals life satisfaction (Klar & Kasser, 2009; Kushlev et al., 2020; Nassani et al., 2013), we tested the correlation between responses to the ASESCC and career adaptability (i.e., psychological skills useful to consider environmental eventualities to proactively adjust them to necessities and values in a career path) (Massoudi et al., 2018), the propensity to sustainability (i.e., the tendency to consider systemic challenges related to sustainable development in making decisions about one's future), and life satisfaction. We hypothesized weak correlations between the responses to ASESCC, career adaptability, and life satisfaction, and a moderate to strong correlation between the responses to ASESCC and the propensity to sustainability in making decisions about one's future.

Study 1: Item Generation and Validation of Factor Structure

Method

Item Development

Following the suggestions of Clark and Watson (1995), items were generated by two expert researchers in the field of career guidance and activism in career choices (second and fourth authors) from a review of the scholarly literature on instruments that assess behaviors of activism toward social and environmental challenges (e.g., Corning & Myers, 2002; Fietzer & Ponterotto, 2015; Torres-Harding et al., 2012). The ASESCC was designed

to contain items corresponding to each of the three different components of activism: cognition, affect, and behavior. Specifically, based on the TATM (Agyeiwaah et al., 2021; Rosenberg, et al, 1960), a list of 18 items was developed to assess the three different components of activism in career counseling: (a) the propensity to consider issues connected to social and environmental sustainability as something interesting and valuable (6 items: cognitive component); (b) the propensity to feel emotions of hope and indignation when exposed to threatening and/or discriminatory events and contexts for the safeguard of the environment (6 items: affective component); and (c) the propensity to implement activism actions that are linked to social and environmental sustainability (6 items: behavioral component).

To test the readability of the 18 items, we developed a pilot study with 10 Italian workers in the socio-educational field, such as teachers and educators (M_{age} = 37, *SD* = 9.45). The scale was administered in Italian. The analysis of the comments reported by the participants involved in the pilot study showed that for all participants the items were comprehensible.

Participants

Based on Goretzko, Heumann, & Bühner's (2021) recommendations about an adequate sample size, 960 Italian workers in the socio-educational field (e.g., teachers, educators) were recruited. They ranged in age from 23 to 63 years old (*M* = 38.48, SD = 10.02), and 843 (87.81%) were women and 117 (12.19%) were men. Participants were randomly assigned to two subgroups: sub-sample A that was used to conduct an EFA and sub-sample B that was used to perform a CFA. Sub-sample A was composed of 480 workers (427 women and 53 men) with a mean age of 38.87 years (*SD* = 8.66), while sub-sample B was comprised of 480 workers (416 women and 64 men) with a mean age of 38.09 years (*SD* = 11.15). Between the two sub-samples, no gender [χ^2 (1) = 1.178, p = .324] and age [t (479) = -1.219, p = .223] differences were found, confirming no bias in the groups as a result of random assignment.

Procedure

Through the collaboration of various socio-educational institutions (e.g., schools, educational centers) in the Veneto region located in the northeastern part of Italy that shared participants' contact details, the research team contacted a pool of workers in the socio-educational field by email to ask if they wanted to participate in the study. Specifically, participants were invited to take part in a study about "workers' reflections on career futures, thoughts, emotions, and actions taken toward forms of injustice and discrimination experienced by individuals or groups, as well as threats to the environment and the planet." They also were told that they could receive a personalized report on their responses to the scales they completed. Participants volunteered for the study and did not receive any payment for their time. They completed an online informed consent form and they were then invited to complete the ASESCC questionnaire in Italian - using Google Forms®.

All procedures performed in this study were in accordance with the ethical standards involving human participants as outlined by the Italian Society of Vocational Guidance (SIO) and the Italian Association of Psychology.

Measure

ASESCC. All participants were asked to complete the ASESCC. Respondents were instructed to read and indicate the extent to which each item described their current way of thinking, feeling, and behaving in relation to various topics focused on people, society, and the environment, including issues such as injustice, threats to the environment, and threats to people and their dignity, in the context of their career role. Participants were invited to express their views on a 5-point Likert scale (*1 = It describes barely at all my thoughts, feelings, and behaviors; 5 = It perfectly describes my thoughts, feelings, and behaviors*).

Data Analysis

With sub-sample A, in the first step, a preliminary analysis was carried out to test the items' distribution (e.g., skew, kurtosis) and inter-item correlations. Then, based on Goretzko et al.'s (2020) recommendations, we conducted a series of EFAs (principal-axis) to assess the underlying basic factor structure of the scale and to identify any potential items to delete. A direct oblimin rotation was conducted, as responses to all the underlying domains were expected to correlate with each other. The Kaiser-Meyer-Olkin (KMO) sample adequacy test and Bartlett's test of sphericity were used as indicators of adequacy for the EFA.

The scree plot (Cattell, 1966) and the Kaiser-Guttman criterion (retaining factors with eigenvalues equal to or greater than 1.0; Guttman, 1954; Kaiser, 1960) were employed to determine the appropriate number of factors to retain. In addition, we conducted a parallel analysis, comparing the eigenvalues from the observed data with those extracted from 1,000 random data sets for the current study. This process, with an equivalent number of cases and variables, aided in selecting an adequate number of factors. Items with primary factor loadings below .40 and/or cross-loadings on other factors exceeding .25 were deleted (Pett, Lackey, & Sullivan, 2003). Cronbach's α was used to determine the internal consistency of the scale and the factors.

To continue examining the factorial structure of the ASESCC questionnaire, CFAs were performed involving the sub-sample B. Specifically, we tested three different structural models: (a) the second-order-factor model (Model 1), having the 16 items clustered into three first-order factors and these combined into a single second-order factor; (b) the three-factors correlated model (Model 2), having 16-items loading in three correlated factors; and (c) the one-factor model (Model 3), having all 16-items loading on a single factor.

Different indexes and criteria were used for the assessment of the models' fit. Specifically, we used the Chi-square statistics, the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Squared Residual (SRMR). Indicators of a good model can be considered with CFI and NNFI values greater than .95 and RMSEA and SRMR values greater than .08 (Schermelleh-Engel, Moosbrugger, & Müller, 2003). Moreover, the $x^2\Delta$ test and the CFIΔ test were used to compare the three different factorial structure models analyzed.

Cronbach's α was also used to determine the internal consistency of the scale and the factors.

Results

EFA (sub-sample A). The preliminary analysis showed skew, kurtosis, and an adequate correlation index ($r < .80$). No items were removed during this phase. Bartlett's Test of Sphericity ($p < .001$) and the Kaiser-Meyer-Olkin measure (.90) suggested that the 18 items were appropriate for EFA. All the criteria we considered resulted in deciding that an initial three-factor solution should be examined through an EFA with an oblique rotation. A total of 2 items from the emotions' subscale were deleted due to cross-loading.

The Principal Axis Factoring (PAF) analysis on the three-factor oblique solution with 16 items accounted for 61.26% of the total variance (see Table 1). The first factor involved 6 items, accounted for 26.29% of the variance, and referred to the cognitive component. One example of an item is "It is important and interesting to be informed on socially relevant issues and know more about their causes, consequences, etc." The second factor consisted of 6 items, accounted for 21.19% of the variance, and captured the behavioral component. One example of an item is "I demonstrate with other people against injustice or to the benefit of higher equity." The third factor contained 4 items, accounted for 13.78% of the variance, and encompassed the affective component. One example of an item is "It happens to me to feel discomfort when I witness the indifference toward." Factor loadings ranged from .61 to .94 and the communality values were greater than .40 for all the items. The inter-factor correlations ranged from .22 to .68. Items, factor loadings, and commonalities are presented in Table 1. Cronbach's α internal consistency reliability for the total score of ASESCC was .88, the cognitive component was .91, the affective component was .80, and the behavioral component was .89.

Table 1

ASESCC Items, Component Loadings, and Communality Estimates.

Items	Factors[1]			
	1[1]	**2[2]**	**3[3]**	**Communality**
1. It is important and interesting to be informed on socially relevant issues and know more about their causes, consequences, etc.	**.94**	-.01	-.15	.71
2. It is important and interesting to try to understand the consequences of discrimination, lack of respect for rights, etc.	**.90**	-.05	.00	.79
3. It is important and interesting to analyze and reflect on injustice, threats to the environment, to people and their dignity, etc.	**.78**	.02	.11	.76
4. It is important and interesting to search for ideas and suggestions on what could be done to reduce injustice and the threats to the environment or people.	**.77**	.05	.08	.72
5. It is important and interesting to reflect and discuss with other people about actions and ways to safeguard common goods, what belongs to us and future generations.	**.72**	.03	.11	.65
6. It is important and interesting to give contributions and propose reflections and ideas to promote social changes to the benefit of the community.	**.69**	.02	.12	.63
17. I demonstrate with other people against injustice or to the benefit of higher equity.	-.10	**.85**	.08	.71
15. I join informative or awareness-raising events organized by associations or groups of socially committed activists.	.04	**.78**	-.01	.63
16. I sign petitions, manifestos, and calls to action (e.g., change.org etc.).	-.01	**.74**	.00	.54
13. I organize events to protest something or to demonstrate to promote something.	-.02	**.72**	-.14	.49
14. I circulate videos, messages, and posts about the sensibilization of social commitment topics.	.03	**.69**	.02	.50
18. I get involved to report discrimination, the lack of respect for rights, etc.	.10	**.68**	.10	.56
8. It happens to me to feel discomfort when I witness the indifference toward oppression, violence, and arrogance.	-.09	-.04	**.92**	.72
7. It happens to me to feel indignant in presence of injustice.	.07	.03	**.65**	.51
9. It happens to me to feel reassured and hopeful observing that unity is a strength to improve the society we live in.	.14	.00	**.61**	.51
10. It happens to me to feel that it is possible to do something for the benefit of all and to reduce injustice and inequalities.	.15	.09	**.48**	.39

Note: [1]Factor 1 was named Propensity to consider issues connected to social and environmental sustainability as something interesting and valuable (cognitive component); [2]Factor 2 was labeled Propensity to implement activism actions that are linked to social and environmental sustainability (behavioral component); [3]Factor 3 was named Propensity to feel emotions of hope and indignation when exposed to threatening and/or discriminatory events and contexts for the safeguard of the environment (affective component).

CFA (sub-sample B). The CFA generated identical good fit coefficients [$x^2_{(101, 480)}$ = 373.651, p < .001; CFI = .966; NNFI = .959; RMSEA = .075 (CI90 = .067–.083); SRMR=.054] for the second-order-factor model (Model 1) and three-factors correlated model (Model 2). For both models, we found that factor loadings were significant (p < .001) and ranged from .60 to .87. Moreover, R^2 values were greater than 20% and ranged from .49 to .76. Standardized loadings of the first–order factors on the second-order factor were 1.14 for the cognitive component, .68 for the affective component, and .25 for the behavioral component. Finally, the one-factor model (Model 3) revealed low fit indexes: x^2(104, 480) = 1835.254, p < .001; CFI = .792; NNFI = .760; RMSEA = .232 (CI90 = .224–.239); SRMR = .178. Moreover, the x^2 difference test suggested that the second-order-factor model (Model 1) and the three-factors correlated model (Model 2) improved the fit compared with the one-factor model (Model 3) $\Delta\chi^2_{(3)}$ = 1461.60, p < .001. Moreover, using the CFIΔ test, the CFI changes were .174 between the second-order-factor model (Model 1) and the three-factors correlated model (Model 2) compared with the one-factor model (Model 3). Thus, the second-order-factor model (Model 1) and the three-factors correlated model (Model 2) were found to be better supported.

Cronbach's α internal consistency reliability for the total score of ASESCC was .87, the cognitive component was .90, the affective component was .78, and the behavioral component was .89.

Discussion

Using two independent sub-samples, the first study was conducted to develop and evaluate the appropriateness of the ASESCC items, examine the factor structure of the ASESCC using EFA and CFA, and evaluate its reliability. The preliminary analysis carried out to test the appropriateness of the items revealed that the original 18 items were appropriate and comprehensible. Moreover, the EFA provided additional support for the quality of the items, and yielded three different factors: the propensity to consider issues connected to social and environmental sustainability as something interesting and valuable (cognitive component, 6 items); the propensity to feel emotions of hope and indignation when exposed to threatening and/or discriminatory events and contexts for the safeguard of the environment (affective component, 4 items); and the propensity to implement activism actions that are linked to social and environmental sustainability (behavioral component, 6 items).

The three-factors model was supported also by the CFA, which generated good fit indexes for the second-order-factor model with the three factors combined and the three-factors correlated model. Moreover, considering that three first-order factors were significantly saturated on the second-order factor, we can affirm that the second-order-factor model was more plausible because of the common variance shared by the three first-order factors. These results are in line with the TATM (Agyeiwaah et al., 2021; Rosenberg, et al, 1960), suggesting that cognitive, affective, and behavioral components can be considered as indicators of a global dimension reflecting the propensity toward activism regarding environmental and social sustainability. Lastly, all Cronbach's α indexes were adequate and provided support for the ASESCC's reliability.

Study 2: Convergent and Discriminant Validity

Method

Participants

G* Power 3 (Faul et al., 2007) was used to identify the minimal sample size for Study 2. We specified a correlation p of .03, a power of .80, and a significance level (α) of .05. A total sample of 84 participants was needed. Thus, 110 Italian workers in the socio-educational field (e.g., teachers, educators), aged from 23 to 65 years old (M = 37.35, SD = 10.182), including 101 women (91.8%) and 9 men (8.2%), participated.

Procedure

A similar procedure to Study 1 was utilized in this study. Participants were contacted by email, informed about the research goals, and invited to voluntarily participate in this study by completing an online research form. Specifically, they were informed that this study examined workers' propensity for social and environmental activism, their inclination toward sustainability, their attitudes towards their career future and job market, and life satisfaction. No specific instructions were given to participants other than the request to answer all items as accurately as possible. All scales were administered in Italian in the same order as presented below. All procedures performed in this study were in accordance with the ethical standards involving human participants as outlined by the SIO, and AIP.

Measures

In addition to the ASESCC, the following measures were used.

The Career Adapt-Abilities Scale (CAAS)-Italian Form (Soresi, Nota, & Ferrari, 2012) was utilized to assess career adaptability. Specifically, this scale is composed of 24 items saturated in four sub-scales of 6 items each: concern (e.g., "Thinking about what my future will be like"), control (e.g., "Taking responsibility for my actions"), curiosity (e.g., "Observing different ways of doing things"), and confidence (e.g., "Solving problems"). The CAAS-Italian Form possesses adequate internal consistency estimates (Cronbach's alpha for the four subscales were .80, .74, .77, and .85, respectively) and a coherent multidimensional structure (the fit indices were RMSEA = 0.058 and SRMR = 0.049; see Soresi et al., 2012 for more details about the scale's construct validity), in line with the fit indices for the CAAS-International model (Savickas & Porfeli, 2012). Higher scores denote higher levels of career adaptability. In the current study, the analyses confirmed the factor structure of the scale $\chi^2(248) = 476.380$, $p < 0.001$; RMSEA = 0.082, 90% CI 0.070–0.95, CFI = 0.93, NNFI= 0.92. Good reliability indexes also were obtained (Cronbach's alpha for the four subscales were .83, .82, .80, and .85, respectively, and .93 for the total score) in the current study.

Goals for Future Design of the 2030 Agenda (Santilli et al., 2023). This scale was used to analyze the tendency to consider systemic challenges to attain sustainable development. Specifically, this scale is composed of 17 items that refer to the 17 goals presented in the 2030 Agenda for Sustainable Development (United Nations, 2015) document. An example item is: "In the future, there will certainly still be much to do to ensure employment and decent work for all… How could this topic of promoting decent work influence your career design?" Using a 5-point Likert scale (1 = *almost not at all,* 5 = *very much*), participants rate how much they think that every goal can affect their career. The analyses conducted by Santilli et al. (2023) revealed good fit indices or construct validity for the four-factor first-order structure $\chi^2(200) = 102.503$, $p < 0.001$; RMSEA = 0.058, 90% CI 0.038–0.078, CFI = 0.970, TLI = 0.91. The four factors were social/health (2 items), environment/nature (6 items), human rights and equal economic development (7 items), and policy and democracy (2 items). A total score for the 17 items indicates the propensity for sustainability in making decisions about one's future. Good reliability indices also were obtained by Santilli et al. (2023): Cronbach's α internal-consistency reliability for the factors were social/health .70, environment/nature .91, human rights and equal economic development .75, and policy and democracy .79. In the current study, the analyses confirmed the factor structure or construct validity of the scale $\chi^2(115) = 208.406$, $p < 0.001$; RMSEA = 0.084, 90% CI 0.066–0.103, CFI = 0.959, NNFI= 0.93. Good reliability was obtained as well; in the current study Cronbach's alpha for the four factors were .67, .94, .84, and .77, respectively, and .91 for the total score.

The Satisfaction with Life Scale (Diener et al., 1985) was used to assess life satisfaction. It consists of five items. An example of an item is "I am satisfied with my life." Participants were asked to rate how much each statement describes them on a 7-point scale. Higher scores denote higher levels of life satisfaction. The Italian adaptation of the scale confirmed the mono-factorial structure or construct validity, accounting for 55.73% of the total variance, and good internal consistency (α = .80) was discovered as well (Di Maggio, 2014). In the current

study, the analyses confirmed the factor structure of the scale $\chi^2(5) = 10.233$, $p = 0.05$; RMSEA = 0.050, 90% CI 0.038–0.095, CFI = 0.997, NNFI = 0.99, and yielded a Cronbach's alpha of .89.

Data Analysis

The convergent validity of the ASESCC scale was analyzed by performing correlations between the responses to the measure's total score and the propensity to sustainability in making decisions about one's future (social/health, environment/nature, human rights, and equal economic development). Discriminant validity was assessed by correlating responses to the ASESCC's total score with career adaptability (concern, control, curiosity, and confidence), and life satisfaction.

Results

As shown in Table 2, significant positive correlations were found between the responses to the ASESCC total score and the propensity to sustainability in making decisions about one's future subscales (*r's* .313-.424, $p < .01$) providing support for the scale's convergent validity. Moreover, significant, positive, and weak correlations were found between the responses to the ASESCC total score with the career adaptability subscales (*r's* .247 - .318, $p < .01$), and life satisfaction ($r = .268$, $p < .01$) offering support for the measure's discriminant validity.

Discussion

The second study was conducted to examine the convergent and discriminant validity of the ASESCC. As expected, the results obtained through correlational analyses revealed positive correlations between the responses to the ASESCC total score and the propensity to sustainability in making decisions about one's future demonstrating support for the scale's convergent validity. This result could be due to the fact that both constructs, albeit distinct, focus on engagement toward sustainability in career-life projects. Moreover, as hypothesized, the responses to the ASESCC total score were positively and weakly correlated with the responses to the four CAAS-Italian Form sub-scales of career adaptability (concern, control, curiosity, and confidence) and its total score, and also life satisfaction providing support for the discriminant validity of the ASESCC. These results are in line with other studies that reported that activism – also social and environmental sustainability – was associated with higher career adaptability and greater life satisfaction (Klar & Kasser, 2009; Kushlev et al., 2020; Nassani et al., 2013). As suggested also by Klar and Kasser (2009), engaging in activism could lead individuals to greater consistency between their values, thoughts, and behaviors, thereby reducing cognitive dissonance and increasing their levels of well-being and satisfaction.

General Discussion

Considering the recent attention to social and environmental challenges regarding sustainability in the field of career counseling (e.g., Guichard, 2022; Nota et al., 2020), the current research was designed to develop and validate a scale to examine the propensity toward both social and environmental activism in career counseling. Specifically, considering the instruments currently available in the literature to assess activism related to social and environmental sustainability (e.g., Corning & Myers, 2002; Fietzer & Ponterotto, 2015; Torres-Harding et al., 2012), we set out to create a measure that was able to assess activism in terms of its cognitive, affective, and behavioral components related to sustainable development in a single scale.

The combined results of our two studies provide strong psychometric support for the ASESCC scale with Italian workers. The factor analyses yielded a three-factor structure that can be useful in evaluating the propensity to consider issues connected to social and environmental sustainability (cognitive component), the propensity to feel emotions of hope and indignation when exposed to threatening and/or discriminatory events and contexts for the safeguard of the environment (affective component), and the propensity to implement activism actions that are linked to social and environmental sustainability (behavioral component).

Table 2

Correlations between the responses to the ASESCC, Career adaptability, Life Satisfaction, and Propensity to sustainability in making decisions about one's future.

	Career adaptability total score[1]	Concern[2]	Control[2]	Curiosity[2]	Confidence[2]	Life Satisfaction[3]	Propensity to sustainability in making decisions about one's future Total Score[4]	Social health[4]	Environment/ Nature[4]	Human rights and Equal economic development[4]	Policy and Democracy[4]
Propensity toward activism regarding environmental and social sustainability (ASESCC Total score)	.318**	.281**	.249**	.319**	.247**	.268**	.474**	.313**	.414**	.424**	.377**
Cognitive Component	.432**	.371**	.318**	.420**	.391**	.244*	.508**	.287**	.427**	.475**	.461**
Affective Component	.329**	.270**	.232*	.266**	.378**	0.156	.446**	.335**	.330**	.453**	.383**
Behavioral Component	.091	.095	.094	.125	-.008	.193*	.230*	.163	.233*	.173	.14

Note: [1]CAAS-Italian Form Total Score; [2]CAAS-Italian Form Subscale; [3]Satisfaction with Life Scale; [4]Goals for Future Design of the 2030 Agenda.

*** p < .01; * p < .05.*

The CFA, considering both the three-factors correlated model and the second-order-factor model (with the three first-order factors subordinated to a single second-order factor), produced consistent and adequate fit indices. This indicates that the ASESCC can be used with Italian workers for separate assessments of each component (cognitive, affective, and behavioral) as well as for analyzing a general dimension reflecting a positive propensity toward activism regarding environmental and social sustainability. Correlational analyses confirmed that the responses to the ASESCC total score were weakly related to career adaptability (discriminant validity) and life satisfaction (discriminant validity) and moderately related to the propensity to sustainability in making decisions about one's future (convergent validity). This suggests that workers with a greater propensity toward activism regarding social and environmental sustainability exhibited higher levels of career adaptability and life satisfaction and a greater propensity to sustainability in making decisions about their future (Klar & Kasser, 2009; Kushlev et al., 2020; Nassani et al., 2013).

Limitations of the Study. Several limitations of this project should be considered. First, in this research, no objective measures were used to verify if self-reports are correlated with the frequency of activism people actually perform in their work context. Second, the test-retest and the predictive validity of the ASESCC were not addressed. Third, although the items were generated to evaluate the three components of activism, in accordance with the TATM (Agyeiwaah et al., 2021; Rosenberg, et al 1960), individuals' proficiency or perceived competency in activism was not considered. Fourth, only Italian workers in the socio-educational field were involved in the research, where the gender distribution is generally unequal (with a greater prevalence of women; OECD, 2017). Finally, this research was a cross-sectional analysis, therefore, causal relationships were not assessed (Setha, 2016).

Implications for Practice. The results of the two studies support the use of the ASESCC scale in career counseling and research activities to examine Italian workers' activism toward social and environmental sustainability. Specifically, in career counseling, the ASESCC can be utilized by career counselors to stimulate workers' thoughts and beliefs toward social and environmental challenges, emotions of anger and indignation toward situations of discrimination and environmental violations, and behaviors that can be undertaken to support social and environmental sustainability. In addition, the ASESCC can be used in the pre- and post-test phases of career education programs to evaluate its effectiveness in training workers on the topic of social and environmental sustainability and to stimulate reflections on their career and professional future from a sustainable perspective (Guichard, 2022). Lastly, it can be useful for research activities involving workers in order to examine the relationships between activism toward social and environmental sustainability and other psychosocial constructs in the field of career counseling.

Implications for Future Research. The limitations of the current project present several avenues for future research. Future researchers could include both self-report and objective measures to assess activism behaviors in the work context and they also can consider the relationship between responses to the ASESCC and individuals' proficiency or perceived competency in activism. Additionally, future studies should explore the test-retest reliability of the ASESCC and investigate its predictive validity. Furthermore, research on the ASESCC should include a larger sample of males, and workers from diverse countries and in various professions and occupations.

Conclusion

Unlike other assessment measures found in the literature, the ASESCC is a psychometrically sound scale to assess the propensity toward both social and environmental activism, particularly for Italian workers. Moreover, based on the TATM (Agyeiwaah et al., 2021; Rosenberg, et al, 1960), the ASESCC can be used to assess a general dimension and three components (cognitive, affective, and behavioral) of activism related to social and environmental sustainability. It can be utilized in career counseling to measure workers' propensity to activism in work contexts, and this assessment may stimulate the workers to have greater awareness of social and environmental challenges leading to their enhanced willingness to promote sustainable development.

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Declaration of Interest Statement

The author declares no conflicts of interest in relation to this work.

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