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Efficacy of a group career construction intervention with early adolescent youth

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ABSTRACT

Career construction for life design aims to assist individuals across developmental age periods to anticipate and manage career transitions. We developed and implemented a group career construction intervention based on the My Career Story (MCS) workbook and compared it with a traditional career intervention for fostering life-career design among early adolescent youth. Participants (N = 108) were assigned based on convenience to an experimental group (27 girls, 27 boys) or a control group (27 girls, 27 boys). All participants responded pre- and post-intervention to measures of career adaptability, hope and optimism, and resilience and future orientation. Results indicated increased postintervention scores on career adaptability and future orientation measures for the experimental group but not for the control group. Likewise, moderation analysis revealed post-intervention increases in scores on measures of the concern and control dimensions of career adaptability for the experimental group only. No significant changes occurred in hope and optimism or resilience scores for either group. Social validity analysis supported participants' perceived efficacy, usefulness, and satisfaction with the career construction counseling group intervention. The MCS shows promise as a narrative-based intervention to promote particular aspects of youth life-career construction. Future research is needed to further examine and support the efficacy of the MCS for this purpose.

Career construction for life design emphasizes supporting individuals across developmental age periods to anticipate and manage developmental tasks, work-based transitions, and work traumas (Savickas, 2011, 2013). Youth, in particular, need to develop foundational attitudes, competencies, and resources useful to their life-long career planning, decision making, and work adjustment (Hartung, Porfeli, & Vondracek, 2005; Savickas, 2013; Super, Savickas, & Super, 1996). Constructing a clear sense of self and vocational identity and developing the attitudes, competencies, and resources needed to plan and explore an occupational future prove key to effective life-career progress, satisfaction, and success during the late-childhood to early-adolescent period (Hartung & Taber, 2015; Porfeli, Hartung, & Vondracek, 2008; Porfeli & Lee, 2012; Super et al., 1996).

In the present study, we examined the efficacy of a career construction-based intervention designed to foster key aspects of career development. Specifically, we aimed to determine whether or not greater increases in career adaptability, hope for a foreseeable future, optimism, future orientation, and resilience would be noted among early adolescent youth involved in a career construction narrative-based intervention as compared with youth engaged in a traditional career development intervention. For purposes of this study, we adopted the definition of early adolescence as the period of human development from age 10 through 14 years (Sanrock, 2015).

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1. Career construction as self-making

Career construction and other life-design approaches recognize that individuals make themselves and their worlds through the stories they tell. This self-making process begins in childhood and continues during the adolescent age period (Hartung, 2015a; Hartung et al., 2005; Porfeli et al., 2008; Savickas, 2010). To best achieve life-career success, adolescents can be encouraged to begin to create a story about themselves that articulates who they are becoming as a person, where in the work world they would most like to enact who they are becoming, and how they can use work to more fully be themselves. Career construction asserts that constructing such a life-career story constitutes a three-part narrative (Savickas, 2013). This narrative includes the self as the lead character, a setting consisting of a preferred educational or occupational environment, and a script that guides enactment of the self in a preferred setting. In other words, for youth prompted to construct such stories, the narratives tell who they are, where they want to be who they are, and how they can be themselves in that situation. Encouraging individuals to know and tell their own life stories, or autobiographies, deepens life-career planning and decision making (Hartung & Vess, 2016; Savickas, 2011; Savickas et al., 2009).

2. Advancing career construction theory and practice

Career construction theory and practice have evolved over 40 years of conceptual and practical work to address the complexities of 21st-century life (Hartung & Vess, 2018). A career theory (Savickas, 2002, 2013) and counseling method (Sanrock, 2015; Savickas, 2011) in the life-design tradition (Savickas, 2012a; Savickas et al., 2009), career construction incorporates person-environment fit, developmental, and social constructionist elements. It thereby offers a comprehensive view on vocational behavior and a narrative career counseling method to promote core life-career design goals of reflexivity, identity, career adaptability, and intentionality (Savickas et al., 2009).

Emerging lines of research support the efficacy of career construction as an intervention scheme (e.g., Barclay & Stoltz, 2016; Hartung & Santilli, 2018; Hartung & Vess, 2016; Maree, 2015, 2016; Rossier, 2015). A wave of recent research on the career adaptability construct provides particular evidence for the cross-cultural validity of career construction theory and intervention (for reviews, consult Hartung & Cadaret, 2017; Johnston, 2018; Rossier, 2015). Published case studies also support the efficacy of career construction interventions (e.g., Barclay & Stoltz, 2016; Hartung & Santilli, 2017; Maree, 2015, 2016; Savickas, 2012b; Taber & Briddick, 2011; Taber, Hartung, Briddick, Briddick, & Rehffuss, 2011). A few qualitative studies indicate usefulness of career construction-based interventions for promoting career awareness, self-confidence, sense of direction, and career choice certainty (Rehffuss, Del Corso, Glavin, & Wykes, 2011), and for life-theme identification and meaningful career decision making (Rehffuss, Cosio, & Del Corso, 2011).

A process analysis supported prior research indicating the usefulness of career construction counseling for promoting reflexive action in life design (Hartung & Vess, 2016). Elements of career construction counseling were further supported by several studies published in a *Journal of Vocational Behavior* (JVB) special issue on narrative career counseling (Savickas & Guichard, 2016). Research has also supported the validity of My Career Story (MCS; Savickas & Hartung, 2012) as a narrative-based, self-guided workbook for increasing self-reflection and ability to tell and enact one's career story (Hartung & Santilli, 2018). Yet, much further work is needed to advance understanding about career construction theory and practice, the MCS in particular, and their validity for use in career intervention contexts. Therefore, as evidenced in the current special issue of JVB, researchers continue to work to examine the principles and practices of career construction. In keeping with the aim of this special issue, then, for our part we examined the efficacy of a career construction-based intervention, and specifically the MCS, conducted in a group-based setting for increasing key career development outcomes among early adolescent youth.

3. Purpose of the study

In the present study, we developed a career construction-based intervention aimed at fostering career adaptability resources identified as useful for managing career transitions (Savickas & Porfeli, 2012). These career adaptability resources include dimensions related to concern for the future, control over decision making, curiosity to explore, and confidence to deal with barriers. The intervention was further designed to encourage youth to reflect on their futures, identify their strengths, and plan future projects. To evaluate the effectiveness of the career construction intervention, we tested the statistical significance of post-intervention change in several key career development variables. These variables included career adaptability as crucial for designing and managing an occupational future (Savickas & Porfeli, 2012) and a set of positive attitudes considered central to the pursuit of future life-career projects; specifically, hope, optimism, resilience, and future orientation (Nota, Santilli, & Soresi, 2015). In addition to examining whether the career construction intervention would relate to increases in career adaptability, hope, optimism, resilience, and future orientation, we evaluated indicators of the social validity of the intervention (Fawcett, 1991). These indicators, as promoted in the social validity literature, included participants' perceived satisfaction with the intervention and its utility for career planning, self-reflection, and decision making (Barrett, Shortt, Fox, & Wescombe, 2001).

Based on the foregoing literature review, we set up and tested two hypotheses. First, as a result of the career construction intervention, we hypothesized that, compared to a control group, the experimental group would report higher posttest levels of career adaptability, hope, optimism, resilience, and orientation toward the future. Second, we hypothesized that the experimental group would indicate that they were satisfied with the career construction intervention and rate it as useful, effective, and important for reflecting about specific dimensions of their career development. In sum, we examined the comparative efficacy of the career construction intervention and the social validity of its use for early adolescent youth.

4. Method

4.1. Participants

Participants were 108 middle-school students (54 girls, 54 boys) with a mean age of 13.1 years ($SD = 0.47$). All participants attended seven different classes of two public middle schools in Northeastern Italy. A total of 54 students from three separate classes within one public school agreed to participate in the career construction intervention and 54 students of these classes (92%) participated (experimental group). Four classes of another public school accepted the proposal to conduct a traditional vocational guidance program and 68 students (98%) participated (control group). From this control group we selected 54 students to match the number and gender distribution of the students in the experimental group. The experimental and control groups contained 15.4% and 18.5% first-generation immigrants from North Africa, respectively and the remainder of the participants were native Italians.

5. Measures

5.1. Career adaptability

To measure career adaptability, we used the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012). The CAAS comprises 24 items set on a 5-point Likert-type scale ranging from 1 (*not strong*) to 5 (*strongest*). The 24 items combine to yield a total career adaptability score. The items also form four separate six-item subscales that measure the career adaptability resources of concern (e.g., “Realizing that today’s choices shape my future”), control (e.g., “Counting on myself”), curiosity (e.g., “Investigating options before making a choice”), and confidence (e.g., “Working up to my ability”). For the present study, we used the Italian validated version of the CAAS for middle-school students (Di Maggio, Ginevra, Nota, & Soresi, 2016). Cronbach’s alpha coefficients for the CAAS-Italian version reported in the original description and validation of the measure with an adolescent sample ranged from 0.74 (curiosity) to 0.85 (confidence). Cronbach’s alpha coefficients for the four subscales in the present study were 0.75 (concern), 0.73 (control), 0.75 (curiosity), and 0.82 (confidence).

5.2. Hope and optimism

To measure hope and optimism about the future, we used the Visions About Future (VAF) scale developed and initially validated in Italy (Santilli et al., 2015). The VAF scale contains 20 items yielding a total score of positive future orientation and two subscales measuring hope (e.g., “Certainly, in the future I’ll be able to realize something interesting for me”) and optimism toward the future (e.g., “I think I am an optimist”). Participants respond to each item on a scale from 1 (*not strong*) to 5 (*strongest*). Cronbach’s alpha coefficients of the VAF scale validated by the original authors were 0.83 for hope and 0.78 for optimism. In the present study, Cronbach’s alphas were 0.88 for hope and 0.85 for optimism toward the future.

5.3. Resilience and future orientation

To measure resilience and future orientation, we used the Design My Future (DMF) scale also developed and initially validated in Italy (Santilli et al., 2015). The DMF scale contains 21 items and comprises two subscales measuring resilience (e.g., “I think I’m able to meet the difficult situations that may arise in the future for me”) and future orientation (e.g., “Looking ahead and thinking about what will happen in the future makes me feel full of energy”). Participants respond to each item on a scale from 1 (*not strong*) to 5 (*strongest*). In the original study, the DMF scale showed good levels of internal consistency (0.88 for resilience and 0.83 for future orientation). In the present study, Cronbach’s alphas were 0.89 for resilience and 0.87 for future orientation.

5.4. Social validity

To examine the social validity of the career construction intervention we developed five items designed for use post-test. We constructed these items to measure experimental group participants’ overall satisfaction with the intervention and perceived utility and importance of the training and activities referring to the study by Ginevra, Di Maggio, Nota, and Soresi (2017). Specifically, Ginevra, Di Maggio, et al. (2017) examined the satisfaction with and perceived utility of the career intervention, as two indicators of the social validity, based on Barrett et al.’s (2001) study. Participants responded to each item using a 5-point Likert-type scale ranging from 1 (*extremely satisfied*) to 5 (*not at all satisfied*). The first three items related to perceived utility of a career construction-based workbook. The last two questions assessed participants’ level of satisfaction with the overall program.

6. Career construction intervention

For the experimental group, we developed and implemented a group career construction intervention using the My Career Story workbook (MCS; Savickas & Hartung, 2012) translated into Italian (Santilli et al., 2013). Adapted from career construction principles, the MCS prompted participants to reflect on and narrate their emerging career stories. The MCS includes goal-setting activities identified as critical to the efficacy of career interventions (Brown et al., 2003) and initial support exists for the validity of the workbook (Hartung & Santilli, 2018). The students who participated in the career construction intervention were excused from the

traditional career intervention required by the Italian school programs.

The first section of the MCS, “Telling My Story,” involves answering four key questions taken from the Career Construction Interview (Hartung, 2015b; Hartung & Santilli, 2018; Savickas, 2011). The first question asks about role models, or heroes and heroines admired as a child to elicit stories that reveal the template used for constructing a self and determining how life should be lived successfully. The second question asks about favorite magazines and TV shows that indicate vocational interests and work settings in which individuals want to immerse themselves. For this question, we also included the option for students to indicate a smartphone application or videogame if they did not have a favorite TV show or magazine. The third MCS question elicits a favorite story in the form of a book or movie that attracts a person's attention because it offers a life script for successfully dealing with a core problem. The favorite story provides a way to link self and setting. The fourth question asks about a favorite saying that represents self-advice in the form of the best advice one has for dealing with life's problems. Favorite sayings or mottos remind people how to deal with their problems and become more complete. For those students who had difficulty indicating a favorite saying, we provided them with a list of proverbs and mottos or gave them opportunity to consult their Facebook pages to retrieve phrases they might have recently shared with their friends.

The career construction intervention was implemented by the first author, a Ph.D.-level psychologist, and two master's-degree-level career counselors. The two career counselors were specifically trained about how to involve the students and lead the activities including welcoming the students and developing rapport, introducing students to the activities, and implementing and supervising each activity. The MCS workbook activity comprised three two-hour sessions (six hours total), each with a brief introduction and specific activity for students held in the classroom of the participants' schools. The three sessions were conducted at the rate of one session per week over three weeks to allow students to reflect on the issues treated in the activity. During the first session, participants were also encouraged to explore their interests by completing a card sort of work activities.

Each two-hour MCS session began with a brief introduction to the content of the MCS on which they would later be asked to reflect. This content included the self that represents who they are becoming, the educational or work setting in which they might feel most comfortable working someday, and the script that explains and shows how they could use work in a way to best realize the self they have constructed. The aim was to focus their attention on the importance of creating a story about themselves that expressed very clearly who they are becoming as a person, where they most like to be in the work world, and how they want to use work in a way that best allows them to fully be themselves.

In the first 10 min of session one, as supported by Savickas et al. (2009) and Savickas (2013), the students were invited to reflect on the importance of looking toward the future, to take responsibility for their future, and to devote time to plan their future. Students were encouraged to think about the fact that having broader interests and values could help their careers, in which they will most likely have multiple jobs at the same time or change jobs more frequently. The importance of having more than one source of satisfaction was also examined (Savickas et al., 2009). Following this opening presentation, each participant individually completed the first part of the MCS workbook (Hartung & Savickas, 2011) to allow them to reflect on and revise their answers.

One week after session one, the second session of the career intervention began. In the second session, students completed the second part of the MCS, “Hearing My Story,” with the aim to promote understanding of self, preferred settings, a life script, and self-advice. The mini-stories told in response to the four questions of the first part are used in this section to construct a summary life portrait about self, setting, script, success formula, and self-advice. The individual in this way re-constructs the micro-stories from part one into a macro-narrative about future goals and adaptive strategies.

During this activity, as supported by Savickas (2013) and Savickas et al. (2009), the trainer also underscored the importance of a series of resources to cope with the complexity of the current labor market, projecting positively toward the future, and taking the responsibility for their future. Also stressed were the role of career adaptability and positive attitudes, such as hope, optimism, resilience, and future orientation. Attention was also paid to education and the importance of innovation and creativity to design a viable and successful future career (Nota et al., 2015).

In the third intervention session, students completed part three of the MCS workbook “Enacting My Story.” This involved making a realistic plan to put the story into action. This plan involved reflecting on, telling, and performing the story. Here, participants were prompted to use the strengths recognized in the previous phase, relate present and future experiences in order to identify further strengths, and to imagine their possible futures in terms of goals and strategies useful to cope with challenges and difficulties. In so doing, students were encouraged to pay particular attention to investing in education and training and the importance of learning methods to invest in high school.

The third session also introduced students to the definition of a goal, examples of goals, and the advantages associated with having multiple goals and multiple ways to focus on personal goals (Nota et al., 2015; Savickas et al., 2009; Vondracek, Ford, & Porfeli, 2014). After this presentation, students were encouraged to list two goals in line with their strengths and future aspirations. Lastly, they were asked to list other professional activities that could help them achieve their goals and to compare these activities in light of their strengths.

7. Traditional Intervention

During the same period in which the experimental group completed the career construction intervention, a second group engaged in activities traditionally carried out in Italian middle schools and required by the Italian school programs (MIUR, 2014; Nota et al., 2015). The traditional intervention was implemented by the first author, a Ph.D.-level psychologist, and two master's-level career counselors. The traditional intervention occurred in a different middle school in northeastern Italy from the one where the experimental intervention was conducted.

Students in the traditional intervention group responded, in paper and pencil format, to the same measures of career adaptability, hope, optimism, resilience, and orientation toward the future. They also responded to the other measure related to interests, values, and study motivation (*My interests; My work and values scale; School and Studying Scale; Soresi & Nota, 2001*). We presented the measures to the students in the same way, since the same constructs were the object of narrative activity in the MCS workbook experimental group. Based on their responses, students received a personalized report with suggestions about future school programs and job activities associated with their interests, values, and study motivation. This report was similar in content to the summary life portrait designed with the students in the experimental group. In the first 2 h, students completed the questionnaire. After one week, the personalized report was given in a sealed envelope. These reports were discussed with students in groups and a range of information about local high schools and job opportunities was also provided. Such activities required approximately 2–3 h and the traditional intervention in total spanned 4–5 h over two sessions.

8. Procedure

To evaluate the effectiveness of the intervention, a quasi-experimental design was used. Participants were assigned to the experimental group (54 students) and control group (54 students). The experimental group engaged in the career construction intervention and the control group engaged in the traditional intervention. Participants in both groups completed all measures pre- and post-intervention. Experimental-group participants were involved in MCS workbook activities at their school. Students were asked if they wished to participate. For students willing to participate their consent and that of their parents was obtained. Pre-test and post-test data from the two equivalent groups were compared following the interventions (Clarke, 1995).

9. Data analysis

9.1. Statistical significance of change on outcome variables

To test for the treatment effects of the intervention we followed the procedure used by LeBlanc et al. (2007). This involved conducting a moderation analysis. To do this, we created dummy variables representing time of measurement (i.e., pre- and post-intervention) and group membership (i.e., experimental or control), and an interaction term that was the product of the two dummy variables. When the interaction term is added to the equation, a significant relationship indicates that change over time in the experimental group is significantly different from that of the control group. Random effects of the slopes of the independent variables were fixed (i.e., the random variation of slopes between individuals was fixed) and individual controls (i.e., age and gender) were included as predictors of the dependent variable.

9.2. Evaluation of the career intervention by participants

As suggested by Gallegos-Guajardo, Ruvalcaba-Romero, Garza-Tamez, and Villegas-Guinea (2013) three areas of social validity were examined: (1) The extent to which students were satisfied with the program, with a detailed assessment of the intervention component; (2) the extent to which there were gender differences in the ratings of techniques and skills learned in the program; and (3) the possible relationship between level of satisfaction with the program and the intervention outcomes, with the hypothesis that a high level of satisfaction is correlated with a high level of improvement in outcome measures.

10. Results

We first conducted a preliminary analysis of the data. Table 1 presents intercorrelations among the measures for the total sample at pretest and posttest. Table 2 presents means and standard deviations for participants in the experimental and control groups at

Table 1
Correlations among the study variables at pretest and posttest.

Measure	1	2	3	4	5	6	7	8	9
1. Career adaptability	–	0.817**	0.852**	0.773**	0.838**	0.529**	0.474**	0.726**	0.655**
2. Concern	0.853**	–	0.640**	0.480**	0.548**	0.384**	0.383**	0.527**	0.561**
3. Control	0.886**	0.684**	–	0.504**	0.642**	0.496**	0.471**	0.655**	0.625**
4. Curiosity	0.901**	0.672**	0.731**	–	0.562**	0.382**	0.248*	0.515**	0.438**
5. Confidence	0.875**	0.629**	0.694**	0.770**	–	0.471**	0.449**	0.684**	0.521**
6. Hope	0.748**	0.713**	0.627**	0.672**	0.616**	–	0.526**	0.557**	0.473**
7. Optimism	0.611**	0.521**	0.594**	0.540**	0.491**	0.657**	–	0.655**	0.463**
8. Resilience	0.813**	0.673**	0.744**	0.729**	0.712**	0.674**	0.709**	–	0.542**
9. Orientation toward the future	0.670**	0.583**	0.575**	0.655**	0.541**	0.760**	0.712**	0.716**	–

Note. Intercorrelations for pretest (n = 108) are presented below the diagonal, and intercorrelations for posttest (n = 108) are presented above the diagonal.

* p < .05.

** p < .01.

Table 2
Means and standard deviations of the experimental and control group at pretest and posttest.

Measure	Experimental group								Control group							
	Pre				Post				Pre				Post			
	Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls	
	M	DS	M	DS	M	DS	M	DS	M	DS	M	DS	M	DS	M	DS
1. Career adaptability	84.43	12.38	88.79	15.01	91.30	9.64	96.42	15.71	85.86	13.70	89.40	14.67	81.14	16.63	86.50	15.09
2. Concern	20.39	3.86	21.10	4.14	22.08	3.54	24.26	4.10	21.86	3.90	21.75	4.41	19.79	4.58	21.40	4.64
3. Control	21.43	4.11	22.74	4.90	23.17	2.94	24.73	4.56	21.43	3.72	22.85	3.76	20.57	5.67	22.00	3.67
4. Curiosity	20.47	3.02	22.21	4.37	22.34	2.46	22.84	5.12	20.36	4.14	21.80	4.25	19.33	4.39	20.40	4.55
5. Confidence	22.13	3.99	22.73	4.31	23.69	2.83	24.57	4.43	22.21	3.96	23.00	4.61	20.86	3.88	22.70	4.35
6. Hope	28.35	6.28	31.79	8.33	40.86	6.70	44.57	7.91	31.29	7.81	29.35	6.13	36.07	10.64	37.40	9.72
7. Optimism	13.35	4.06	12.95	4.48	14.04	3.52	14.10	4.29	12.86	3.98	13.35	4.04	12.14	4.31	13.25	4.17
8. Resilience	31.04	6.39	30.89	6.55	32.56	5.42	33.42	6.68	29.36	6.57	31.25	7.35	28.79	7–17	29.80	7.01
9. Orientation toward the future	38.52	7.20	41.95	8.98	32.21	5.83	32.73	6.42	40.00	9.00	43.55	8.26	28.64	6.40	28.65	6.94

pretest and at posttest. To check the internal validity of the design, we compared the experimental and control groups on the outcome measures at pre-test. We found no significant difference, $t(106) 4.98, p = .62$ (Cohen's $d 0.10$), for career adaptability, hope $t(106) 0.52, p = .60$ (Cohen's $d 0.11$), optimism $t(106) 0.589, p = .57$ (Cohen's $d 0.12$), resilience $t(106) 1.08, p = .28$ (Cohen's $d 0.22$), or orientation toward the future $t(106) 1.36, p = .18$ (Cohen's $d 0.27$).

Gender differences on the outcome measures were also compared at pre-test. We found no significant difference, $t(106) 1.59, p = .114$ (Cohen's $d 0.32$), for career adaptability, hope $t(106) 0.56, p = .57$ (Cohen's $d 0.11$), optimism $t(106) 0.05, p = .95$ (Cohen's $d 0.01$), or resilience $t(106) 0.60, p = .54$ (Cohen's $d 0.12$). Significant differences emerged for orientation toward the future $t(106) 2.10, p = .03$ (Cohen's $d 0.42$) and for the CAAS curiosity subscale $t(106) 2.21, p = .029$ (Cohen's $d 0.38$). Specifically, girls achieved mean levels of orientation toward the future ($M = 42.39; DS = 7.90$) and curiosity ($M = 21.77; DS = 3.91$) higher than the mean levels achieved by boys ($M = 39.14; SD = 7.38; M = 20.10; SD = 3.52$, respectively).

Next, we examined the statistical significance of change on the outcome variables. The results of the analysis for treatment effects revealed that students in the experimental group experienced increases in career adaptability and orientation toward the future compared to students in the control group in which these changes were not observed (see Table 3; Model 1–5). Specifically, there was a significant interaction effect for career adaptability ($\beta = 0.306, p = .005$), and future orientation ($\beta = 0.301, p = .01$).

Taking account of the results reported above, we decided to conduct further moderation analysis considering time of measurement (i.e., pre- and post-intervention), group (i.e., experimental or control), interaction term, and the four subscales of career adaptability as outcome variables. The results revealed that students in the experimental group experienced increases in concern ($\beta = 0.30, p = .007$) and control ($\beta = 0.27, p = .02$) compared to students in a control group in which these changes were not observed (see Table 4; Model 1–2). These findings partially supported our first hypothesis in that the experimental group reported higher posttest levels of career adaptability and orientation toward the future.

Finally, we evaluated the social validity of the career construction intervention. Table 5 displays experimental group participants' responses by gender to questions regarding utility of and satisfaction with the program. Supporting our second hypothesis, students

Table 3
Multilevel models for effect of intervention on career adaptability, hope, optimism, resilience, and orientation toward the future.

	Outcome variable									
	Career adaptability		Hope		Optimism		Resilience		Orientation toward the future	
	Model 1		Model 2		Model 3		Model 5		Model 4	
	β	SE	β	SE	β	SE	β	SE	β	SE
Intercept	0.306**	6.195	0.233	6.466	0.147	3.891	0.237	6.39	0.301**	8.073
Controls										
Age	0.049	2.122	0.065	1.033	0.049	0.622	0.036	1.021	-0.008	1.289
Gender	0.167*	2.041	0.051	0.993	0.034	0.598	0.078	0.982	0.171*	1.240
Time and intervention										
Time of measurement	0.660**	6.329	0.431	3.080	0.212	1.854	0.327	3.045	0.626**	3.845
Experimental group	0.404	6.195	0.178	3.015	0.045	1.815	0.048	2.981	0.564*	3.764
Interaction term	0.781**	4.076	0.481	1.983	0.214	1.194	0.339	1.961	0.955**	2.476
AR ²	0.067%		0.026%		0.008%		0.028%		0.063%	

* $p < .05$.

** $p < .01$.

Table 4
Multilevel models for effect of intervention on career adaptability subscales: concern, control, curiosity, and confidence.

	Outcome variable							
	Concern		Control		Curiosity		Confidence	
	Model 1		Model 2		Model 3		Model 4	
	β	SE	β	SE	β	SE	β	SE
Intercept	0.301**	9.031	2.74*	8.97	0.257*	3.920	0.223	3.880
Controls								
Age	0.054	0.654	0.067	0.640	0.031	0.627	0.014	0.620
Gender	0.167*	0.620	0.148	0.616	0.150*	0.603	0.099	0.596
Time and intervention								
Time of measurement	0.710*	1.23	0.584	1.90*	0.463*	1.871	0.474*	1.849
Experimental group	0.501*	1.882	0.366	1.86	0.238	1.831	0.257	1.810
Interaction term	0.819*	1.238	0.697	1.22*	0.566	1.204	0.558	1.191
AR ²	0.06%		0.05%		0.04%		0.02%	

* p < .05.

** p < .01.

Table 5
Means and standard deviations by gender for social validity questionnaire item ratings.

Question	Boys		Girls	
	M	SD	M	SD
1. Has it been useful for you to have completed the MCS workbook?	3.34	0.873	3.58	0.830
2. To think about your future. Was it important for you to reflect on your interests and values?	3.54	0.817	4.00	0.829
3. To think about your future has it been important for you to reflect on a possible professional goal?	3.66	0.968	3.82	0.917
4. On the whole, how satisfied are you with the ‘MCS’ project you did at school?	3.37	0.942	3.88	0.857
5. Would you recommend to some of your classmates who are undecided about what to do after the middle school to follow this career program?	3.46	1.14	3.91	0.879

overall evaluated the career construction intervention as important for reflecting on specific dimensions of their careers, and satisfactory in helping them to cope with career future projects and transitions. A total of 16% of participants in the career construction intervention indicated that they were extremely satisfied with the overall program, 43% were satisfied, 30% were neutral about it, 9% reported being a little satisfied, and 2% indicated that they were not at all satisfied with the program. Specific to the MCS workbook, 10% of participants in the career construction intervention indicated that they were extremely satisfied to have completed it, 43% were satisfied with it, 27% responded that they were neutral about it, 8% were a little satisfied, and 2% responded that they were not at all satisfied with the MCS.

Independent sample *t*-tests revealed statistically significant gender differences, indicating that girls were more satisfied with the program and reported the program as more important for reflecting on interests and values, when compared to boys. Specifically, differences emerged in Question 2 (i.e., “To think about your future, was it important for you to reflect on your interests, and values?”) [*t*(1,52) = -2.29, *p* = .02], and Question 4 (i.e., “On the whole, how satisfied are you with the ‘MCS’ project you did at school?”) [*t*(1,52) = -2.31, *p* = .02].

Pearson correlations were performed in order to examine the relationship among the post-test scores on career adaptability, hope, optimism, resilience, orientation toward the future, and students’ level of satisfaction with the program (see Table 6). Statistically significant and positive correlations were found between all of the social validity items and career adaptability, hope, optimism, resilience and orientation toward the future.

11. Discussion

Results of the present study indicate that students who experienced a narrative-based career construction intervention using the MCS achieved significant increases in their levels of career adaptability and future orientation following the intervention. These same increases were not observed for students in the study who experienced a traditional classroom-based career guidance intervention. This finding supports the career construction-based intervention and lends further initial evidence for the validity of using the MCS (Hartung & Santilli, 2018) to foster future career planning attitudes and to promote career adaptability as a core life design goal (Savickas et al., 2009). Significant gender differences emerged with girls scoring higher than boys on future orientation and the curiosity dimension of career adaptability. Such differences are consistent with prior research indicating that girls generally evince higher levels of career maturity than do boys (Creed & Patton, 2003; Hartung et al., 2005; Patton & Creed, 2001). Our results further support need for interventions to particularly increase boys’ future time perspective (Taber, 2015) and career curiosity (Johnston,

Table 6

Pearson correlations between level of student satisfaction with the mcs program and the intervention outcome measures.

Question	Outcome measure				
	Career adaptability	Hope	Optimism	Resilience	Orientation toward the future
1. Has it been useful for you to have completed the MCS workbook?	0.260*	0.310*	0.368**	0.313**	0.338**
2. To think about your future, was it important for you to reflect on your interests and values?	0.204*	0.434**	0.370**	0.254*	0.356**
3. To think about your future, has it been important for you to reflect on a possible professional goal?	0.420**	0.578**	0.320**	0.349**	0.431**
4. On the whole, how satisfied are you with the 'MCS' project you did at school?	0.266*	0.372**	0.432**	0.319**	0.319**
5. Would you recommend to some of your classmates who are undecided about what to do after middle school to follow this career program?	0.264*	0.304*	0.371**	0.355**	0.315**

* $p < .05$.** $p < .01$.

2018).

Follow-up moderation analysis indicated that the MCS seemed to particularly help the early adolescents in the present study increase their career adaptability resources of concern and control. Career concern involves resources for orienting to the future and feeling hopeful about it. To increase career concern, counselors may use time perspective interventions that heighten awareness of the future, foster optimism, and increase future planning orientation and behaviors (Savickas, 1991; Taber, 2015; Taber & Blankemeyer, 2015). The present findings suggest that the MCS offers a useful tool in this regard for assisting early adolescents in developing the resources they need to plan their future life-careers. Career control, marked by feelings of responsibility and self-determination in career construction, involves taking ownership of and self-directing career decision making. To increase career control, counselors may use interventions that help individuals clarify their self-concepts, reduce their anxiety, and feel empowered to counteract and allay opposition from external sources, such as parents and significant others (Brown & Brooks, 1991; Savickas, 1995). The present findings suggest that the MCS also offers a useful method for fostering a sense of career decision-making ownership and self-directedness among early adolescents.

Advancing a key developmental task associated with the early adolescent age period (Super et al., 1996), the present findings indicate that the youth who received the MCS intervention evinced gains in their planfulness and feelings of hopefulness and optimism about their future careers. The increased posttest scores on the measure of future orientation augment this finding. Likewise, the MCS appears to also foster early adolescents' resources for taking ownership of their careers and making tentative career choices, also a central task associated with the adolescent age period (Super et al., 1996). Such career adaptability resources are especially critical for youth experiencing life-career pathways that are very likely to be marked by ongoing change and transformation throughout their lifetimes (Callanan, Perry, & Tomkowicz, 2017; Hirschi, 2018; Lent, 2018). Using the MCS with individuals even as young as early adolescence seems viable, based on the present study outcome, as a method to foster self-reflection that can help them promote their own career adaptability and thereby become more self-regulating, resilient, and employable.

Inspection of Table 2 indicates that scores on hope, optimism, and resilience all increased for the experimental group but not for the control group from pretest to posttest. That these increases did not reach statistical significance proved a curious outcome of the present study. An examination of Table 1 indicates that these variables all correlated moderately to highly and significantly with each one of the four career adaptability dimensions. This indicates that CAAS scores covary with VAF and DMF scores. The constructs of hope and optimism measured by scores on the VAF and resilience measured by DMF scores conceptually overlap very closely with constructs of concern and confidence measured by CAAS scores. Therefore, although students did not show posttest gains in VAF and DMF scores on these variables, students did show gains in CAAS scores that appear to be measuring very similar constructs. A viable explanation for this discrepancy is that the VAF and DMF measure cognitive-affective aspects of these variables, whereas the CAAS measures these variables in the form of abilities as deliberately indicated in the name of the measure, the Career Adapt-Abilities Scale. In other words, the VAF and DMF measure hope, optimism, and resilience dimensions in the form of beliefs, thoughts, and feelings. Alternatively, the CAAS measures aspects of these variables in the form of resources, skills, and strengths for coping with developmental tasks (Savickas & Porfeli, 2012). For the experimental group participants, they reported gains in coping resources, yet not associated increases in positive attitudes. Thus, the data may be indicating that the MCS proves potentially more effective for increasing abilities than for changing attitudes, at least in the short term. Future research is needed to examine this possibility.

Lending support to the efficacy of the career construction intervention, participants rated it quite favorably. Most participants found it useful to complete the MCS and felt satisfied with the experience on the whole. That girls found it more useful and satisfying than did boys suggests that girls may be slightly more amenable to narrative, group-based interventions. This outcome may also reflect possibly more advanced career development among girls compared to boys. Prior studies involving adolescent samples have typically found significant gender differences in career maturity, with girls scoring higher than boys on measures of the construct (see Hartung et al., 2005). Future studies may examine this potential gender difference in perceived utility of career construction and other narrative-based career interventions.

Another clear direction for future research would entail replicating the present study with different groups of adolescent youth

both within Italy and in other national contexts. Beyond that, future research with diverse groups across multiple age periods could and should be conducted to examine the utility of career-construction-based interventions and especially the MCS for promoting life-career design. Longitudinal cohort studies that could follow and study youth or other groups over time would, of course, be ideal.

12. Limitations

Although our findings are encouraging, there are some limitations to the study that must be considered. First, the sample size was quite small, and the sample was limited to a specific area of Italy. These sample limitations constrain generalizability of the results. Second, internal consistency may be a concern for three of the four CAAS subscales if 0.80 is used as the minimum coefficient for acceptable reliability. However, these three CAAS scales all reached alpha levels consistent with the widely considered acceptable reliability coefficient of 0.70 (Nunnally, 1978). Third, the control group joined typical school-based vocational guidance activities. It may simply be that the added attention that the experimental group received contributed to their higher scores. Future research should propose other kinds of interventions for the control group and ensure comparability of factors, such as sequencing, quantity, and duration of the interventions. Such studies should also measure social validity not only with the experimental group but also with the control group, regardless of the intervention that is provided. Lastly, the effectiveness of the career intervention should not be limited to examining changes that occur only at the end of the intervention. This implies that future research should also include 6- and 12-month follow-up assessments to verify whether students involved in the study have maintained and generalized the abilities focused on in the career construction intervention, and if this has affected the achievement of their future projects. Specifically, it would be interesting in future studies to monitor achievement of the goals identified with the intervention.

13. Conclusion

Early adolescence signifies a formative developmental period that presents youth with key career development tasks (Super et al., 1996). During this age period, budding adolescents succeed in their career development by moving to build more realistic self-concepts and clearer vocational identities (Porfeli & Lee, 2012). They also grow by further acquiring the career planning attitudes, behaviors, competencies, and resources needed to effectively navigate and shape a life-career of multiple career-related decisions, work-based transitions, and adjustments to changing career contexts and employment conditions (Hartung et al., 2005; Savickas, 2013; Super et al., 1996). These attitudes, behaviors, and competencies involve developing future time perspective, honing decision-making skills, exploring work and occupations, and building a sense of agency for effective career management (Savickas, 2013).

To foster career growth and exploration during the early adolescent years, school-based career interventions are needed that can effectively assist youth to ready themselves for their future careers and navigate transitions (Perry & Wallace, 2015; Wood & Dahl, 2015). Including narrative exercises and goal-setting activities that offer opportunity for self-reflection in such interventions has been identified as a critical component of comprehensive intervention strategies that can lead to more successful outcomes (Brown et al., 2003; Lapan, 2004). Career construction-based interventions incorporating the MCS either alone or in tandem with ancillary materials may prove to be an effective and efficient means of fostering career adaptability and associated life-design goals for early adolescent youth.

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