UNIVERSITA' DEGLI STUDI DI PADOVA

Life Design, Career Adaptability and Life Satisfaction

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Introduction

The present work is the result of a thorough study of the theoretical model 'Life Design', which progressively has become my life pattern. Thus, according to the autobiographical tale of my professional history, this introduction focuses on the three main chapters of the history, that is, the past, present and future.

Once upon a time, precisely eight years ago, a young aspirant psychologist moves from Rome to Padova and comes into contact with the LaRIOS Laboratory (Laboratory of Research and Intervention in Vocational Guidance and Career Counseling) and the University Centre for Research and Services on Disability, Rehabilitation and Inclusion, as well.

In these environments, the young student has personal and professional experiences that help her to focus on her career goals, explore workplace, and at the same time acquire skills and knowledge that made her gradually more and more confident in her ability to manage the unpredictability of the life. Always there, she met people that helped her to be aware of her strengths and also to develop a vocational maturity making her ready for future contexts and environments.

Today this girl, now grown-up into a woman, is aware that she will be professionally happy and successfully when as follows will be accomplished: a) she will be able to express her creativity, but at the same time will demonstrate to be a precise and scrupulous person; b) she will work in places where people are committed to thought, reflect and gather information from different points of view, listening the voices of those individual often marginalized by the society because of the vulnerability's labeling; c) she will work within multidisciplinary and multicultural networks.

She will be an happy and satisfied person if in the future workplace will have the opportunity to help people to overcome and cope with challenging time, test and apply new measures and intervention programs, develop own product, that has the scent of originality,

sharing, and technological development. In doing so, the motto that will help her to achieve these wishes is 'Courage is a virtue of strength people', remembering that achieving future goal is well overcome our fears, although these sometimes lead to undertake roads, unexplored and climb paths as well.

Abstract

Life Design approach represents a new paradigm for career counseling and development in the 21st century augmenting 20th-century Person-Environment (P-E) fit and developmental models by focusing on making meaning through work. Life Design emerged from work by an international group of scholars and practitioners in seven countries to better account the complexities of work and careers brought about by today's economic conditions, globalization, and the digital revolution (Savickas et al., 2009; Nota & Rossier, 2015). People today experience a new social arrangement of work that moves from permanent to more temporary jobs, from linear to dynamic career trajectories, and from specific career knowledge to lifelong learning. Moreover, it emphasizes the need to support people to become expert in co-construction and Life Design processes, to anticipate and deal with career transitions, and to consider the hope for a foreseeable future, optimism, future orientation, and resilience, useful to individual's future planning and behavior, and career adaptability, that is a modern world workers' essential resource to manage frequent career and life transitions.

According to Life Design approach, the research project is articulated in three phases.

The first phase was aimed at the validation and development of instruments to assess the variables above described. In this respect two questionnaires were developed: 'Vision about future', to assess hope, optimism and negative view towards the future and 'Design My Future', to assess the Youth resilience and future orientation. . Explorative and Confirmatory Factor Analysis (CFA) were used to analyze factor structure, evaluated convergent and discriminant validity. Multi-group Confirmatory Factor Analysis procedures was conducted to verify the factorial structural across gender.

The second phase was finalized to investigate the relationships between career adaptability, positive variable, that is, hope, optimism, future orientation, resilience and life

satisfaction. This phase was characterized by the development of different research projects, aiming to test the positive variables mediating role inside the adaptability and life satisfaction report.

1. In the first study, a cross cultural work, in collaboration with the University of Lausanne, 537 young Swiss adolescents and 727 young Italian adolescents were involved in order to assess the mediating role of hope and optimism in the relationship between career adaptability and life satisfaction relatively to both Countries. The conceptual model across countries was also verified.

2. In the second study 120 adults with disability were involved in order to investigate the mediating role of hope in the relationship between career adaptability and life satisfaction.

3. In the third study 152 (62 fathers and 90 mothers) parents of children with intellectual disabilities were involved to investigate the mediating role of resilience in the relationship between career adaptability and life satisfaction.

Structural Equation Models (SEM) were conducted for the studies to test the models indicated above and to define the structure of the relationships between the considered different variables.

The third phase of the project was focused on the development and implementation of an online method based on the Life Design's theoretical principles.

In order to evaluate the effectiveness of intervention, a study was conducted with 200 middle school students: 100 of the participants were assigned to the traditional intervention group and 100 were assigned to the on-line intervention group aiming to increase their level of career adaptability and life satisfaction. A variance analysis with repeated measures was carried out to evaluate pre- and post-test differences between the two intervention groups on levels of adaptability, life satisfaction, and wishes toward the future. Results indicated that students in the on-line intervention group showed higher levels of concern, control, curiosity

and life satisfaction than those in the traditional intervention group. Also, they suggested that intervention increased students' narratives wishes, richer in aspects useful for a career design more in tune with our times.

  Overall, the results underline the importance of preventive career education activities focusing on strengthening career adaptability, which in turn can sustain the development of positive expectations towards future and life satisfaction concerning both adolescents and adults.

Riepilogo

L'approccio Life Design rappresenta un nuovo paradigma per il career counseling nel 21° secolo, volto al superamento dei modelli teorici del 20° secolo, fondati sulla 'corrispondenze persona – ambiente'. Esso si sviluppa dal lavoro di un gruppo internazionale di studiosi, al fine di spiegare la complessità del lavoro e delle carriere professionali, considerando il contesto socio economico attuale caratterizzato da crisi, globalizzazione e rivoluzione digitale (Savickas et al., 2009; Nota & Rossier 2015). In considerazione di ciò, le recenti riflessioni in materia di progettazione professionale, enfatizzano che non si può più pensare che il futuro sia anticipabile, prevedibile e ricco di possibilità e promesse come si credeva in passato. Sono più frequenti cambiamenti, transizioni e forme di lavoro a tempo determinato (Savickas, Nota, Rossier, et al., 2009). Inoltre, l'approccio Life Design, pone l'accento sulla necessità di supportare le persone nel diventare esperte nei processi di co-costruzione e progettazione della vita, di anticipare e gestire le transizioni professionali, e di considerare la speranza, l'ottimismo, l'orientamento futuro, e la resilienza, quali variabili importanti alla pianificazione dei comportamenti futuri dell'individuo e, l'adaptability, quale risorsa essenziale per gestire le frequenti transizioni di carriera e di vita. All'interno dell'approccio teorico del Life Design si sviluppa il presente progetto di ricerca che si articola in tre fasi.

Durante la prima fase si è proceduto alla validazione e allo sviluppo di strumenti al fine di valutare le variabili sopra descritte. A questo riguardo sono stati sviluppati due questionari:'Vision about Future', per valutare la speranza, e l'ottimismo verso il e 'Design My Future', per valutare la resilienza e l'orientamento al futuro in un gruppo di giovani preadolescenti. Analisi esplorative e confermative (EFA e CFA) sono state utilizzate al fine di analizzarne la struttura fattoriale e la validità convergente e discriminante degli strumenti.

Analisi multi-gruppo sono state inoltre condotte al fine di verificare la struttura fattoriale nel genere.

La seconda fase del progetto è stata finalizzata all'analisi dei rapporti tra career adaptability, variabili positive (speranza, ottimismo, orientamento futuro, e resilienza) e soddisfazione di vita. Durante questa fase sono stati sviluppati diversi progetti di ricerca al fine di testare il ruolo di mediazione delle variabili positive considerate nel rapporto tra adaptability e soddisfazione di vita.

1. Nel primo studio, un lavoro interculturale, in collaborazione con l'Università di Losanna, 537 giovani adolescenti svizzeri e 727 giovani adolescenti italiani sono stati coinvolti, al fine di valutare il ruolo di mediazione della speranza e dell'ottimismo nel rapporto tra career adaptability e soddisfazione di vita nei due paesi.

2. Nel secondo studio sono stati coinvolti 120 adulti con disabilità al fine di indagare il ruolo di mediazione della speranza nella relazione tra career adaptability e soddisfazione di vita.

3. Un altro studio è stato sviluppato al fine di studiare il ruolo di mediazione della resilienza nella relazione tra career adaptability e la soddisfazione di vita in un gruppo di 152 genitori (62 padri e 90 madri) con figli con disabilità.

Modelli di equazioni strutturali (SEM) sono stati condotti nei diversi studi per testare i modelli sopra descritti e per definire la struttura delle relazioni tra le diverse variabili considerate.

Nella terza fase del progetto è stato messo a punto un intervento online fondato sui principi teorici del Life Design. L'efficacia dell'intervento è stata valutata attraverso uno studio condotto con 200 studenti delle scuole medie: 100 dei partecipanti sono stati assegnati al gruppo di intervento tradizionale e 100 sono stati assegnati al gruppo di intervento on-line volto ad incrementare i loro livelli di adaptability e soddisfazione di vita. Un'analisi della

varianza a misure ripetute è stata effettuata al fine di valutare le differenze pre e post-test tra i due gruppi di intervento sui livelli di adaptability, soddisfazione di vita e desideri verso il futuro. I risultati hanno messo in evidenza che gli studenti che hanno preso parte al gruppo di intervento on-line hanno mostrato livelli più elevati di preoccupazione, controllo, curiosità e soddisfazione di vita rispetto agli studenti che hanno preso parte all'intervento 'più tradizionale' di vocational guidance.

In generale i risultati ottenuti dal presente progetto di ricerca hanno messo in evidenza l'importanza di mettere a punto degli interventi di career guidance che possano rafforzare l'adaptability delle persone, la quale a sua volta può sostenere lo sviluppo di aspettative positive verso il futuro e aumentare i livelli di soddisfazione di vita di giovani e adulti.

Life Design Paradigm

This new century is characterized by a fast moving global economy (Coutinho, Dam, & Blustein, 2008). Therefore phenomena such as globalization, internationalization, and rapid technological advances, influence people life and the ways in which they seek and do their jobs. In Western countries, in particular, the economic recession has resulted in the loss of employment, insurance and pension securities (Nota, Soresi, Ferrari, & Ginevra, 2014).

Changing the shape of organizations changes the shape of careers. Because jobs are being replaced by projects, working in the postmodern global economy involves frequent dislocations from employment assignments. Employees' careers become destabilized, organizations has produced the 'insecure worker,' including employees who are called temporary, contingent, casual, contract, free-lance, part-time, external, atypical, adjunct, consultant, and self-employed. Today, individuals can no longer plan to work 30 years developing a career within the boundaries of one job or even one organization. Instead, during their lifetimes they can expect to occupy at least ten jobs, more properly called assignments. The new job market in an unsettled economy calls for viewing career not as a lifetime commitment to one employer but as a recurrent selling of services and skills to a series of employers who need projects completed.

Consequently, the world of work is in general much less clearly defined or predictable, and entering the work world of information societies and moving through occupational positions requires more effort and greater self-knowledge and confidence.

People now find themselves having to develop professional skills that differ substantially from the knowledge and the skills required in 20th-century occupations, such as continuous updating of knowledge, which is crucial to the use of increasingly sophisticated technologies (Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013; Nota et al., 2014).

The consequences of economic crisis are different from one context to the other. The lack of work is influencing negatively an increasing part of the population. Therefore the World Health Organization has expressed its concern about depression, which seems to extent in Western countries (World Health Organization, 2011). According to the Eurostat (2015) in February 2015, the youth unemployment rate was 21.1 % in the EU-28 and 22.9 % in the euro area. In this regard, however, there are differences between European countries. The reasons for these discrepancies can be partially explained or related with different, social, political and economic contexts, characterized by different migration rates, financial situations, etc.

An examination of contemporary employment practices reveals that the social reorganization of work and organizations has produced a new psychological contract between organizations and its members (Guichard, 2015). Today, workers must be employable, life-long learners who commit themselves to an organization for a period of time and show professional character in performing emotional labor and adapting quickly to changes.

The new contract of employability has prompted management and human resource scholars to re-conceptualize careers as boundary less, customized, kaleidoscope, and portfolio (Savickas, 2015).

To better account for the complexities of work and careers and the constraints induced by today's economic conditions, globalization, and the digital revolution, the Life Design paradigm for career counseling has been recently developed, a dynamic approach that encourages individuals' imaginative thinking and the exploration of possible selves (Savickas et al., 2009).

A theory of vocational behavior and a system of career counseling, career construction implements life design as a new paradigm for career theory and intervention in the 21st century (Savickas, 2014; Savickas et al., 2009). Life design augments the vocational guidance (Holland, 1997; Parsons, 1909) and career development (Super, 1990) paradigms of 20th-

century career science and practice. Building upon psychological constructivism that views meaning as interpersonally constructed by the individual, Life Design takes social constructionism as its central epistemology. Constructivism and constructionism both portray human experience as incoherent and variable (Savickas, 2015). They also hold that meaning resides in words people use to describe and explain their experiences rather than in the world. Psychological constructivism, however, views people as scientists who use cognition to interpret their experiences and make sense of the world. By contrast, social constructionism views people as storytellers who use narrative and relationships to co-construct meaning through dialogue (Collin & Guichard, 2011).

Steeped in social constructionism and the life-design paradigm, career construction theory views human life-careers as interpersonally shaped by individuals in interaction with others. In turn, career construction counseling uses narrative as the key medium for self-making because it is the life story that connects experiences through time, fosters unity and intentionality, and shapes identity with regard to who one is and who one is becoming in work and other life roles (Savickas, 2011). By telling their life-career stories, people shape their identities as self-defining autobiographical narratives. These narratives hold them during and carry them through times of transition, tension, and turmoil. Consistent with the life-design paradigm, career construction theory (Savickas, 2002, 2013) views career as a project through which to make self and work a vehicle for imbuing life with meaning and purpose. The loss of stable structures and predictable trajectories in fact, has led to what has been called the 'individualization of the life course' (Beck, 2002). Individualization requires people to 'get a life' (Habermas & Bluck, 2000) and navigate transitions in that life by using an identity work that involve the reflexive activities of forming, maintaining, and revising identity narratives characterized by distinctiveness, coherence, and continuity.

These narrative processes produce the identity capital of knowing and liking one's life story. This means that the use their story to cope with the uncertainties prompted by vocational development tasks, occupational transitions, and work traumas. As workers move from one assignment to the next assignment, they must let go of what they did yet not who they are. If they let go of everything, then the loss may overwhelm them. By holding onto the self in the form of a life story that provides coherence and continuity, they are able to move with integrity and vitality to pursue their purpose and overarching goals.

Life Design emphasizes the need to support people to become experts in constructing their life-careers, to anticipate and deal with transitions, and to create positive orientation toward future (Savickas et al., 2009).

Therefore Life Design is a new theoretical model that emphasizes human flexibility, adaptability, and life-long learning and places individuals in the continuous process of integration into their contexts. It is new methods to help people have a hope for the future, have trust in their society, and have faith in their communities.

The origin of Life Design

Life in a 21st-century interconnected, global, knowledge-based system requires new models and methods to assist people feeling uncertain and insignificant in an ambiguous and unstable world. The psychology of life design advances a contextualize epistemology emphasizing human diversity, uniqueness, and purposiveness in work and career to make a life of personal meaning and social consequence. Origins of life designing date to Kitson's (1942) work on constructing interests, Super's (1954, 1957) thematic extrapolation method and career pattern research, and Tiedeman's (1961) reflective career consciousness and career constructionism. Over the past 30 years, work on personal constructs, biographical hermeneutics, and the narrative paradigm (for a review see Hartung, 2013) led to the

statement of life design as a new paradigm for 21st-century careers (Savickas et al., 2009).

This perspective views self as a project for making meaning. It most values narratability, or the capacity to tell one's own life story, along with adaptability and intentionality as the main outcomes of career counseling that assist people to answer the question 'What purpose does work serve in my life?' The core elements of life design are reflexive consciousness and self-making.

Rather than matching self to occupation (Holland, 1997; Parsons, 1909) or readying self to develop a career (Super, 1990), career construction reflects a third wave of career theory and practice. The first wave emerged as the psychology of *occupations* in the first half of the 20th century to match people to jobs (Holland, 1959; Parsons, 1909; Roe, 1956). The second wave comprised the psychology of *careers* (Super, 1957) ascending at mid-20th century to manage worker and other life roles across the lifespan. The third wave arose as the psychology of *life design* (Savickas et al., 2009) in early 21st century to make meaning through work and relationships. This third wave shifts the focus to shaping self through work and relationships. Situated within this third wave of career theory and practice, career construction finds its conceptual elaboration in a theory of vocational behavior (Savickas, 2002, 2013) and its practical implementation in a system of career counseling (Savickas, 2011).

Presuppositions of life-design

To better assist clients in designing their lives for the 21st century, many career counselors now concentrate on identity rather than personality, adaptability rather than maturity, intentionality rather than decidedness, and stories rather than scores.

Savickas et al. (2009) identified five presuppositions to Life Design which are the core conditions to develop a new paradigm for life designing in the 21st century: context, process, non-linear dynamics, narrative realities, and modeling.

The first presupposition considers career identity shaped by self-organization of the multiple experiences of daily life; individual client and his or her ecosystem form a complex dynamical entity, resulting from mutually adaptive self-organization over time.

The second presupposition is focus upon strategies for survival and the dynamics of coping, rather than adding information or content. Counselors must discuss with clients ''how to do' not ''what to do' (Savickas et al., 2009).

The hypothesis that aptitudes and interests are sufficient to succeed in a given job or training, and the belief that such requirements remain stable and predictable seem to be no longer true, people design and live their lives they should not view their aptitudes and interests as fixed. Furthermore, simple linear causalities are the exception and thus non-linear causalities, become the rule, and the third Life Design's presupposition shift from simple advice for vocational decision making to an expertise in co-construction clients' life design.

The fourth presupposition s is to focus on client's ongoing construction and re-construction of subjective and multiple realities. Rather than relying on group norms and abstract terms, they should engage in activities and meaning-making that enable them to build some new view of themselves.

Finally the last presuppositions is focuses on valuating the outcomes and assuring the quality of counseling procedures, modeling fractal patterns, striving to forecast emerging stable configurations of variables, rather than any single outcome variable in evaluation.

Intervention Model

Life Design denotes the third major paradigm for career intervention, subsequent to vocational guidance and career education (Savickas, 2015). The first one focuses on the relationship between individuals and work, the second paradigm concentrates on individual subjects considered as owners of a certain capital of competencies they must know how to invest in occupational opportunities they elicit from the settings where they interact as designers and governors of their lives.

Aligned with career construction theory, career construction practice (Savickas, 2011), in turn, emphasizes three principal counseling goals of *narratability* to clearly and coherently know and tell one's story, *adaptability* to cope effectively with changes in self and situation and navigate developmental tasks and transitions, and *intentionality* to advance individual life-career projects and design a meaningful life.

There are two kind of interventions in Life Design Paradigm: interventions aim to help individuals learn how to find exact and relevant information about today's work and employment, and others intend to help individuals build a vocational self concept appropriate to the current world of work.

The competencies portfolios (Aubret, 2001) and some career education workshops are prototypical examples of the interventions forming the first subcategory.

Life designing dialogues – which form the second large category of interventions – intend to assist people in developing the reflexivity they need to design their lives (Savickas et al., 2009). Indeed, as showed above, in current liquid societies, individuals must think about their lives in order to define (and redefine at each period of their lives) the major expectations that give their lives a meaning (expectations and meaning that permit them, in addition, to adopt the strategic mindset they need to manage their job pathways). Differently from career guidance, life-designing dialogues don't aim to aid clients in thinking about their

lives from the perspective of the current social norms of employability. Their purpose is more fundamental: It is to help them define their own norms; norms from which they can give a meaning to their lives and design them. This means assisting clients in finding the life bearings that will play the holding role in their lives that stable institutions and established ideologies offered in solid modernity. Reflecting on the perspectives, which make lives meaningful, implies that people embark in dialogues with themselves and others. Therefore, interventions that aim to assist clients in developing such reflexivity take the shape of counseling dialogues (Guichard, 2015).

The general model of Life designing dialogues interventions has six general steps (Savickas et al.,2009). First, the client and counselor need to define the problem, formulate goals for counseling, establish a relationship characterized as a working alliance. In this relationship, the counselor encourages the client to describe through stories the history of problems to be addressed.

The second step involves the client's exploration of his/her current system of subjective identity forms, and of how the client organizes self and function in the salient role/domain.

The third step allows the client to study the stories at a distance and gives to clients a new perspectives throughout a story revision. The fourth step in life-designing intervention is to put the starting problem into the new perspective. The fifth step is to specify a plan, to describe some activities related to the future desired experiences. The counselor should check with the client that this plan of purposeful action directly addresses the problem they brought for consultation. It is useful to provide the client with a written summary of the plan along with an identity statement that crystallizes sustainable strengths and a success formula.

The sixth step consists in the study of the outcomes of consultation and, as necessary, provides additional consultation.

<h1 style="text-align: center">Career Adaptability & Positive Variables</h1>

Career Adaptability

Central to Career Construction Theory and the Life Design approach to career counseling is the concept of career adaptability (Savickas, 2015; Savickas et al., 2009). Indeed career adaptability has provided a starting point for the development of instruments to operationalize life design in practice.

Savickas (1997) described career adaptability's construct in his acknowledgement of the patrimony of Super's thinking (1990). Specifically, Super denoted that the individual is the principal actor of his/her career construction that is characterized by five stages of development, e.g., the five life phases of growth, exploration, establishment, maintenance, and retirement. Super (1990) suggested that these stages delineate an essentially predictable evolution, even with individual differences. At each phase, specific development tasks, i.e. a set of actions that people are asked to do before going on to the next phase, are carried out. Such tasks are related to age, social norms and expectations. A person's ability to successfully cope with the vocational tasks set out in the different phases would depend on his/her vocational maturity, in other words, on his/her ability to make advantageous choices as regards vocational training. Super used the term 'life space' to indicate the roles that an individual acquire in certain life periods, and 'life span' to denote five life phases of development. In 1984, he stressed the importance of career counseling aspects that analyze the different roles that individuals play at home, at school, at work, and in the community and the context barriers (e.g. relating to corporate restructuring, layoffs, and economic crises) individuals experience in their career development. In his work Super emphasizes the adjustment process through which individuals adapt to the situations they have to face by making efforts to realize their own self. During this adjustment process people try to improve

themselves or increase their person-environment fit, and at the same time attempt to become what they wish and to achieve their objectives (Savickas, 1997). Such attention to adjustment laid the foundations that allowed Savickas to bring together into a single model the different perspectives on vocational development that he had elaborated (Savickas, 1997) and to re-think development in terms of adaptability.

As also mentioned by Savickas and Porfeli (2012), the term *adaptability* derive from the Latin *adaptō* that means to fit or to connect. Over time, the term adapt has assumed different meanings, including adaptation, adapting, adaptivity, and adaptability. Adaptation means being able to implement one's self-concept in working roles and, when there is a good fit, it leads to the achievement of a desirable fusion between past concerns and present aspirations. Adapting implies the enactment of behaviors that adjust to changing circumstances (coping with professional distress, handling work-to-work transitions): orientation, exploration, establishment, management, and disengagement. Adaptivity is either a personality trait that can be resilient and stable or a person's tendency to be flexible or willing to change. In either case it becomes a core characteristic of that individual. Adaptability is a psychosocial construct centered on the individual's resources to handle developmental tasks to prepare for future professional roles. Adaptability implies ability to adjust to unexpected needs arisen from changes in the labor market and/or in working conditions (Savickas & Porfeli, 2012). The construct encloses the professional duties and transitions individuals find themselves having to deal with and also the strategies needed to cope with them. It is a process through which people dynamically build their professional life, at the same time handling changes and considering the context they are living in (Karaevli & Hall, 2006; Savickas, 2005). Four main resources (known as the 4Cs) characterize adaptability and they denote the problem-solving and coping strategies used by people to incorporate the self-concept into their work roles. These four resources are: (1) Concern about

the future, that is, to be positively oriented to the future, linking the past and the present, and (2) Control, that is, to consider the future as at least controllable, and to be persistent, (3) Curiosity, the willingness to explore the environment, with the aim of acquiring information about themselves and the outside world, and (4) Confidence in one's own ability to face the challenges and overcome the obstacles and barriers that may be experienced in pursuing the goals (Savickas, 2011; Savickas et al, 2009; Savickas & Porfeli, 2012).

Adolescents and Adaptability. Propensity to look to the future, recognizing one's right to make decisions autonomously, wishing to explore vocational opportunities and build up a sense of efficacy in coping with challenges contribute to characterizing adaptability during pre-adolescence and adolescence (Hartung, Porfeli, & Vondracek, 2008). On account of this, some studies have more recently focused on the topic of career adaptability in pre-adolescence and adolescence. For example, Hirschi (2009) examined career adaptability predictors and adaptability effects on development of sense of power and life satisfaction among 330 Swiss eighth graders, aged from 12 to 16 years. The author identified four career adaptability predictors, which are goal decidedness, capability beliefs, beliefs and social context, and found than higher levels of career adaptability predicted sense of growth power and life satisfaction. In an additional study, Hirschi (2010) investigated the role of adaptability, measured by planning and exploration, in predicting degree of career aspiration development in terms of realism, stability, and coherence, in a group of 262 Swiss students, aged from 13 to 15 years. He observed that the degree of adaptability explained realism and stability of career aspirations.

Porfeli and Savickas (2012), involving a group of 460 10th and 11th grade U.S. students, observed that career adaptability was strongly correlated with vocational identity, and, specifically, with in-depth career exploration and identification with career commitments. This result emphasizes that identity and career adaptability are crucial in career

construction (Savickas, 2011), and that people with higher levels of career adaptability make career choices that implement one's identity. Pouyaud, Vignoli, Dosnon, and Lallemand (2012), have found, in French adolescents, that career adaptability, and in particular concern scale, correlated significantly with the motivation in educational environments; it also negatively correlated with general anxiety and the fear of failing in one's academic-professional path. These results highlighted that anxiety and fear of failing can affect the development of adaptability resources.

De Guzman and Ok (2013), involving 193 technical students, observed that adolescents with high levels of career adaptability showed high employability skills. This result emphasized that people with higher levels of adaptability have greater possibility of finding a suitable job, thereby achieving career success and work satisfaction. As regards pre-adolescents, Soresi and Nota (2012) examined the relationship among career adaptability and hope, optimism, and resilience in a group of 388 Italian middle school students, ranged from 12 to 13 years old. The authors found that students with higher levels of career adaptability are more future oriented than participants with lower levels of career adaptability. Specifically, they presented higher levels of hope and optimism toward the future, and higher tendency to cope positively with stress and difficult situations (resilience). Involving high-school students, Soresi, Nota, and Ferrari (2012), observed that adolescents with higher levels of adaptability showed lower perceived internal and external career barriers, a broader range of career interests, and higher quality of life than adolescents with lower levels of career adaptability. In another study with Italian high-school students, career adaptability was associated with problem-solving and career decision status. Specifically, Soresi et al. (2012) observed that adolescents with higher levels of career adaptability felt more career decided, more projected toward the future, and more competent as regards the construction of their future career intentions and the transformation of their intentions into goal-oriented behaviors.

Lastly, considering time perspective, one component of career adaptability, Ferrari, Nota, and Soresi (2010) found that middle and high school students with higher levels of time perspective were more greatly involved in the decisional process and more committed in school.

With undergraduate students, Duffy (2010) observed similar findings. He examined the relationship between career adaptability and sense of personal control, and found that individuals with a greater sense of personal control have more career adaptability, and consequently may be able to more easily navigate the world of work more proactively.

Adults and Career adaptability. Considering that precariousness and insecurity now characterize the modern world of work and that work contracts are mostly short-term, atypical, and contingent (Savickas, 2012), career adaptability is a crucial workers' features to deal with career transition (Savickas, 2008). Moreover, it is a resource that may support people to prepare for and cope with career transitions. As this regards, using qualitative procedures, McMahon, Watson, and Bimrose (2012) examined career pathways through the stories of career transitions (e.g. work-to-work, retirement) managed by 36 older women from Australia, England and South Africa. The interviews were analyzed using qualitative descriptors of dimensions of career adaptability. The authors highlighted the role of career confidence, control, curiosity, tendency to be proactively prepared for future (concern) and cooperation in career transitions.

Career adaptability may be particularly helpful in transitions that imply a shift from unemployment to reemployment. It seems to impact on the process of looking for a job and also seems to affect the choice of strategies and the quality of reemployment (Koen, Klehe, Van Vianen, Zikic, & Nauta, 2010).

In this connection, some researchers - especially in the European and North American contexts - have involved unemployed youths and adults in the search for a new job. For

example, Weber and Mahringer (2006) found that the level of career adaptability of a group of unemployed adults predicted their behavior of active search for a job, so much so that it influenced the number of job offers received and the quality of the jobs they reemployed in. McArdle, Waters, Briscoe, and Hall (2007), involving a group of unemployed Australian, observed that career adaptability, conceptualized as an aggregate of boundary less mindset and proactive personality; identity, conceived as identity awareness or career curiosity and career self-efficacy; and social support, predicted directly the employability, and through the latter, self-esteem, job search behavior during unemployment, and quality of re-employment at 6-month follow-up. Such results suggest that adaptability and vocational identity affect a person's employability level, which impacts on the person's ability to better tolerate a period of unemployment, to positively approach the work market, and find a new job. Van Vianen and collaborators investigated the role of career adaptability in searching for a job by studying groups of diverse individuals (Klehe, Zikic, van Vianen, Koen, & Buyken, 2012). In the first survey conducted by Zikic and Klehe (2006) they involved 215 unemployed adults, aged about 45 years, with good training (67% of them had a degree), and with good socio-economic status, which afforded them the time to explore and plan for their future. The authors found that career planning and vocational exploration predicted employment status and quality of reemployment six months later. In an additional study, Koen et al. (2010) involved a group of 248 young unemployed, with different educational backgrounds (only 26% of participants had an university degree), and with a longer period of unemployment (about 22 months). They observed that career planning, career control and confidence predicted, eight months later, the quality of re-employment, operationalized as need-supplies fit, work satisfaction and low turnover intensions. Same results were found also in a sample of immigrants: career planning and career confidence predicted perceived work satisfaction, career development, and turnover intentions (Zikic & Klehe, 2006). Koen et al. (2010)

conclude that career adaptability may affect the way people search for a new job. They observed that those with higher levels of adaptability used targeted search strategies to a greater extent, whereas those with low levels of adaptability more frequently resorted to random strategies, which implied a 'trial-and-error' type of search. Higher levels of career planning and greater acceptance of responsibility can help use focused job-search strategies aiming to find professional options and objectives before starting the actual job search. This would focus attention only on those jobs that are most suitable to one's needs, competencies and interests; decision making mirrors the assurance with which an individual is certain of what career to go in for; career exploration means mental openness toward collecting information in an explorative way; career confidence implies concentration in job searching, as well as the scope of looking for a job whilst determined to find re-employment.

Examining the relationship between adaptability, time perspective, hope and optimism, Santilli, Ginevra, Nota, and Soresi (2012) observed that young unemployed with higher levels of career adaptability had higher time perspective; specifically, they planned frequently their future in the medium- and long-period, describing more in detail their career activities, perceived better possibility of progress in their professional sphere in the long term (next 10 years), and took on greater responsibility for their choices. Moreover, the authors found that participants with higher levels of career adaptability characterized also for higher levels of optimism and hope. In addition, Rossier, Zecca, Stauffer, Maggiori, and Dauwalder (2012) found that career adaptability mediated the relationship between different personality dimensions, particularly neuroticism and conscientiousness, and work engagement, concluding that career adaptability played a crucial role in work-related outcomes, such as career success, work satisfaction, and work engagement.

Adaptability becomes then an important variable also, and especially, among individuals with more difficulties, such as those with impairment, who are increasingly

required to cope with barriers and challenges and manage transitions and changes. In this connection, Nota and Soresi (2012) have studied 92 persons with mild disability and as many without disability and clearly highlighted that in both groups those with higher levels of adaptability showed greater propensity to positively consider future situations that might involve changes of course, improving themselves, and strengthening their competencies. Higher levels of adaptability are also associated with higher levels of hope and optimism, and it seems clear that it can predict the quality of life of individuals both with and without disability.

The studies summed up underline that adaptability is an important resource throughout the lifespan and that it acquires special relevance at times of school-work or work-work transitions. People that show greater adaptability typically seem better able to anticipate possible novel situations and get ready in advance for change by acquiring new abilities and strengthening their network of supports. That would certainly facilitate making more advantageous decisions capable to positively influence sense of control over one's own life, psycho-physical wellbeing, and perceived quality of life.

Positive Variables

Positive psychology variables, specifically hope, optimism, future orientation and resilience, are particularly relevant in current time where people have to construct their future in a continuously changing context, where linearity of professional trajectories is not any more useful for future planning (Savickas et al., 2009). They will be required to be prepared to take into account these changes and face them accordingly, and to anticipate non-linear developmental trajectories (Savickas et al., 2009); to face unexpected challenges and barriers, to activate and maintain energies and resources (Nota, Soresi, Ferrari, & Ginevra, 2014) in order to reach a satisfying quality of life.

The attention to these variables underline the preventive structure of Life Design approach to stimulate positive person-environment interactions, promote proactive career behaviors, focus on developing and applying different resources for positive career development.

In this section the constructs of hope, optimism, future orientation, and resilience will present and then studies focus on adolescents and adults will describe.

Hope

Hope has been conceptualized in a variety of ways within the counseling literature. Snyder and his colleagues (Snyder, Harris, et al., 1991; Snyder, Irving, & Anderson, 1991) conceptualized hope as a cognitive set that is directed at goal attainment and is defined as 'the perceived capacity to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways' (p. 249).

Averill, Catlin, and Chon (1990) conceptualized hope as primarily an emotion rather than a cognitive construct. Similarly, Scioli et al. (1997) considered it as an affective variable that sustains action and affects thoughts and behaviors. Hayes, Beevers, Feldman, Laurenceau, and Perlman (2005), defined hope 'the extent to which the person describes an expectation that the future will be better and progress can be made on problems area, as well as commitment to change' (p. 413). It is an emotion rooted from biological, psychological and social resources, that occurs when an individual is focused on an important positive future outcome (Scioli, Ricci, Nyugen, and Scioli 2011).

Optimism

Scheier and Carver (1985) defined optimism as a stable predisposition to 'believe that good rather than bad things will happen' (p. 219). Although studies conducted with preadolescents are fewer than those conducted with adolescents and adults, optimism has been showed to play a role in facilitating positive development, in educational and

professional future design, and in improving adaptive behaviors and a general sense of well-being (Carver and Scheier 2013; Oberle, Schonert-Reichl, and Zumbo 2011; Wright and Masten 2005).

Dispositional optimism was originally conceptualized as a unitary trait representing a single bipolar continuum, with optimism at one end of the spectrum and pessimism at the other (Scheier, Carver, and Bridges 1994). In other studies, dispositional optimism consists of two separate sub-traits reflecting positively-framed optimism and negatively-framed pessimism (Chang, D'Zurilla, and Maydeu-Olivares 1994; Segerstrom, Evans, Eisenlohr-Moul 2011). In accordance with this consideration, Bryant and Cvengros (2004) stated that people are capable of both optimism and pessimism, as when an individual defensively expresses pessimism in public, but is privately optimistic. Across domains and time, people should cope with anxiety related to future goals by adopting the strategy of defensive pessimism, showing low expectations toward the future even considering past achievements, at the same time showing optimism stemming from prior successes (Benyamini 2005). Likewise, it is possible that a person may be pessimistic in pursuing goals in the short term, but optimistic with respect to broader or more far-reaching outcomes, and this could be explained by the lack of correspondence between the two constructs in previous studies (Marshall, Wortman, Kusulas, Hervig, and Vickers 1992).

Future Orientation

Although future is substantially non-predictable, human beings have developed the ability to think about and put forward multiple possible future scenarios (Atance & O'Neill, 2001). Future orientation refers to thoughts, ideas and feelings individuals have on their future (Stoddard, Zimmerman, & Bauermeister, 2010).

Future orientation skills develop throughout adolescence starting from 11-12 years old, together with an increase in independence, self-regulation and personal identity. It is in

this period of life that future goals become more detailed, pre-adolescents start focusing on educational and professional goals, and relating them to the real world (Arnett, 2000). Future orientation and thinking of possible futures are related to behavioral flexibility and more effective planning for achieving goals (Schacter, Addis, & Buckner, 2008). It seems, then, crucial in future decision making and an integral part of our self-construction (Conway, 2005).

Resilience

Resilience, as originally suggested by Holling (1973), refers to the return rate to equilibrium upon a perturbation, to the capacity of ecosystems characterized by alternative attractors to persist in the original state subject to perturbations (Scheffer, 2009). More recently, Masten and Obradović (2006) defined resilience as the ability to resist or quickly recover strengths and energy and to 'set themselves in motion' while challenges are threatening stability, vitality and development.

Resilience has been then conceptualized as one of the competencies that individuals will develop in our society to face emergencies or turbulences (Folke, Carpenter, Walcker, Scheffer, Chapin & Rockström, 2010). Norris, Stevens, Pfefferbaum, Wyche and Pfefferbaum (2008) consider resilience as a protective and helpful factor when facing risks. According to them, risk is a permanent condition; it requires, then, being aware that, although devoting considerable efforts, it will not always be possible to activate coping strategies in time and for any potential threat.

Nowadays, several threats and high levels of risks are related to social and work uncertainties, which motivate an attention to work resilience. Resilience is then considered not only in terms of propensity to face extraordinary and traumatic events, as it was the case in the past, but also as a useful means in order to face future uncertainties and challenges (Sapienza & Masten, 2011).

Adolescents and positive variables. A positive perspective to development recognizes that all adolescents have strengths and that youth will develop in positive ways when these strengths are aligned with resources for healthy development in the various settings in which adolescents live and interact. There is always change and, as well, at least some potential for systematic change (i.e., for relative plasticity), across the life span (Baltes, Reuter-Lorenz, & Rösler, 2006). Such plasticity represents a fundamental strength for the adolescent period (Lerner et al.2005), in that it reflects the potential that systematic changes may result in more positive functioning and positive development. The positive youth development perspective emphasizes the manifest potentialities rather than the supposed incapacities of young people-including young people with vulnerability.

A useful framework to understand the individual and contextual variables' influence on positive youth development outcomes is the developmental system's theory (Lerner, 2004; Overton, 2013). The mutual interaction between individual characteristics and the context, described in terms of person-environment relationships is the focus of the positive youth developmental theory (Lerner, 2004). In an adaptive development these mutual relations provide advantages both for the individual and the context and will result in an adaptive development of individuals interests, values, and needs from the contexts (Baltes et al., 2006; Gestsdóttir & Lerner, 2008). The intentional adjustment that is achieved through the integration of individual strengths with the environment resources include goals setting, optimal use of resources and strategies to achieve these goals and change the actions taken in the presence of barriers that are not effective in order to achieve goal (Gestsdóttir & Lerner, 2008; Urban, Lewin-Bizan, & Lerner, 2010; Zimmerman, Phelps, & Lerner, 2008).

The dissemination of positive psychology and the emphasis on the people's strengths from international organizations such as the World Health Organization (2011) have emphasized the role that variables such as hope, optimism, future orientation and resilience

can play in people's lives. They seem to be characterized as fundamental elements on which focus the approaches that emphasize the positive development.

Niles, Amundson, and Neault (2011), e.g. example, have considered hope as a crucial variable for career development, for example because it allows envisaging possibilities in any situation and encourages the individual to undertake actions. The research confirmed that hope is in relation to a wide range of indicators of psychosocial well-being and career outcomes in preadolescence. Specifically, it is associated with higher levels of life satisfaction, personal adaptation, adaptive achievement and fewer behavioral problems and depressive symptoms (Gilman, Dooley, and Florell 2006; Hagen, Myers, and Mackintosh 2005; Kenny, Walsh-Blair, Blustein, Bempechat, and Seltzer 2010). In addition, hope is associated to academic success and adaptation to school life, higher levels of academic self-efficacy, mastery goal orientation, vocational identity, and higher satisfaction for educational plans (Gilman et al. 2006; Kenny et al. 2010).

Other studies highlighted higher levels of optimism in preadolescents are related with higher levels of subjective well-being (Vacek, Coyle, and Vera 2010), self-efficacy (Weber, Puskar, and Ren 2010), less distress (Huan, Yeo, Ang, and Chong 2006; Orejudo, Puyuelo, Fernandez-Turrado, and Ramos 2012), fewer depressive symptoms and a lower number of suicidal ideation (Murberg 2012), lower levels of aggression and higher levels of assertiveness (Puskar, Sereika, Lamb, Tusaie-Mumford, and McGuinness 1999), higher academic achievement and school performance (Ferrari, Santilli, and Ginevra 2014). Optimism is also related to hope, resilience, and time perspective. Optimistic preadolescents are more likely to design their life, make decisions about purpose in life and values that are linked with their future wishes, and are more future-oriented.

According to Stoddard and colleagues (2010), lack of future orientation may lead to a lack of hope toward themselves and their future. Due to a limited future orientation, pre-

adolescents may also perceive their actual behaviors as disconnected from their future goals, thus facilitating and fostering a propensity toward risk behaviors. Robbins and Bryan (2004) found that youths characterized by limited future orientation were more likely to use marijuana, had more alcohol-related problems, including higher frequency and quantity, and a limited perception of risks associated with alcohol and drug use behaviors (Steinberg, 2007). Additionally, Adelabu (2008) found that youths with lower levels of future orientation had lower academic achievement and school functioning than youths with higher future orientation. As far as gender is concerned, results in the literature suggest that boys and girls are characterized by similar values when taking into account their future orientation (Anthis, Dunkel, & Anderson, 2004). Furthermore, pre-adolescents who are future oriented and link their future to past and present experience are more protected against impulsive and unhealthy behaviors because this attitude increases the ability to foresee negative consequences of their actions and behaviors (Luyckx, Lens, Smits, & Goossens, 2010) and hence to refrain from those actions. As such, these individuals both in academic achievements and in their careers tend to be more successful than present-oriented individuals (Simons, Vansteenkiste, Lens, & Lacante, 2004).

Additionally, according to Tusaie, Puskar, and Sereika (2007), 14 to 18 year old adolescents' thoughts show also a relationship between the resilience they perceive when facing adverse situations and their levels of optimism. More specifically, it seems that resilience in adolescents is partially related with positive responses to the ability of asking for support (Donald & Clacherty, 2005). Furthermore, resilient young people exhibit higher levels of adaptive competences: Academic achievement, peer relations, and conduct such as compliance or following rules versus aggressive or disruptive behaviour (Masten & Tellegen, 2012). Masten and colleagues, using age-appropriate instruments, measured the adaptive function of resilience and found that both adolescents and adults showing higher levels of

resilience are characterized by higher levels of adaptive behavior in work, romantic relationships, parenting, and higher civic engagement (Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999; Masten & Osofsky, 2010).

Adults and positive variables. Research highlighted that hope, optimism, future orientation, and resilience, are related to health and work outcomes (Scioli et al., 2011; Snyder, 2004). Kanner, Coyne, Schaefer, and Lazarus (1981), for example, suggested that hope influences the perception of major life events concluding that hopeful people are able to cope with more difficult life events, and are thus less vulnerable to trouble situations. According to Scioli et al. (1997) hopeful individuals, who experience chronic illness or aversive life situations, as individuals with intellectual disability experience more health. Carr (2004) states that hope is an important emotion for subjective well-being. In line with this, Sheldon and Hoon (2013) underlined the role of the future anticipation in quality of life theories. They found that hope was related to the quality of life in individuals with depression. Regarding work outcomes, Peterson and Byron (2008) underlined that employees who have positive psychological characteristic are likely to be more productive. Ouweneel, Le Blanc, Schaufeli, and van Wijhe (2012) invited 59 employees of a Dutch university to fill a diary questionnaire for five consecutive working day, twice a day, before and after work, founding that hope significantly correlated with three dimensions of work engagement, that are vigor, dedication and absorption, on a daily level.

Hong and Choi (2013) stated that employment positive resources, as a positive psychological stimulus, are important conditions for reaching economic success for low SES job seekers, and it sustains the job search process and maintenance of own work. In other words, they are essential resources that enable people to continue having confidence in the 'possible-self' against barriers and remain being involved in their work paths (Oyserman, Bybee, Terry, & Hart-Johnson, 2004).

A recent meta-analysis conducted by Avey, Reichard, Luthans, and Mhatre (2011) confirmed that these positive resources are associated with desirable outcomes such as job satisfaction, organizational commitment, psychological well-being, collaborative behaviors and positive work results. At the same time thet are negatively associated with undesirable attitudes such as cynicism, the intention to change jobs, work stress, anxiety and maladaptive behaviors in the workplace (Santilli, Nota, Ginevra, & Soresi, 2014). Chen and Lim (2012), involving 179 professionals who had lost their jobs, managers, executives and technicians, have found that their levels of hope, optimism, future orientation and resilience were positively associated with more levels of perceived employability, coping strategies focus on problem solving and active job search.

People with such characteristics are likely to generate more positive self-talk that boosts their self-image and promote self-agency. With such positive frame of mind, people develop a positive view about themselves, world and future, which prompts them to seek out and attend to experiences that positively reflect on themselves to maximize their psychological well-being (Mak, Ng, & Wong, 2011). They are more likely to accept challenges and adopt more active coping strategies rather than passive-avoidant coping strategies (Horton & Wallander, 2001). Furthermore, they present an energetic approach to life, are curious and open to new experiences, and have interpersonal insight (Tugade & Frederickson, 2004).

Research Project

Introduction

Theories and models presented in the previous chapters lead to formulate a comprehensive framework that highlights the importance of career adaptability, hope, optimism, future orientation, resilience, and satisfaction with life.

In the first chapter was presented the theoretical model of vocational guidance of the 21st century and the Life-Designing model that aims to help individuals to enact a career story that supports adaptive and flexible responses to developmental tasks, vocational traumas, and occupational transitions. In the second chapter was emphasized the importance of adaptability in contemporary work market to anticipate choices, deal with transitions, and explore new possibilities. In the same chapter, it was also analyzed the role of psychological variables to help individuals to develop positive life trajectories. Overall, the studies presented in the previous chapters lead to support that the career adaptability, hope, optimism, future orientation, and resilience should get special attention in vocational guidance and career counseling activities. In view of this, the present research project aims to investigate the relationship between described constructs and the quality of people's lives.

Specifically, in the present research project, new measures were developed to assess hope, optimism, future orientation and resilience, and the relation between variables was analyzed. Also, a career intervention program was designed focusing on how to increase adaptability, positive vision about future and satisfaction with life..

Research project phases

The research project was organized in three phases. The first phase was aimed to develop measures to assess hope, optimism, future orientation and resilience. The second

phase was focused to study the relationship between hope, optimism, future orientation, resilience, and quality of life. The third phase was aimed to the development of an on-line career intervention program derived from principles of Life Design to encourage youth to invest in their future and its design.

First phase: Psychometric properties of assessment instruments

In this first phase, the research activity, was aimed to: (1) develop the Vision About Future scale in order to assess youth levels of hope and optimism; (2) develop Design My Future scale, in order to assess youth future orientation and resilience.

Participants

Overall, to analyze the psychometric proprieties of assessment instruments were involved 3707 students, 1974 (53.2%) boys and 1732 (46.8%) girls, aged between 12 and 15 attending the final year of middle school (M_{age}=14.53; DS= .56).

Procedure

Participants were involved in educational guidance research projects managed by LaRIOS Laboratory of the University of Padua during 2012-2015. Students voluntarily participated, with their parents signing the consent form, for career counseling and vocational guidance activities, which were implemented at middle school. Also, they were told their answers would have been used to draw up personalized reports that they would have confidentially received. Individual counseling was available to students upon request.

Data Analysis

Scales constructions were implemented by generating a range of items to represent the dimensions and selecting a response format (Heppner, Heppner, Lee, Wang, Park, & Wang, 2006).

Afterwards, psychometric requirements (validity and reliability) of preliminary version of the instrument were assessed (Constello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Cohen (1988), suggest exploratory and confirmatory factor analyzes to examine the construct validity. Exploratory factor analysis (EFA) could be described as orderly simplification of interrelated measures. EFA, traditionally, has been used to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome. By performing EFA, the underlying factor structure is identified. Confirmatory factor analysis, instead, (CFA) is a statistical technique used to verify the factor structure of a set of observed variables.

Factor analysis is divided into a series of steps that involve:

(a) Assumptions: Normality, Linear relations, Factorability that can be examined via Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity.

(b) Methods of extraction. Among the numerous techniques present in literature, the method of analyses that shared variance amongst the items, Principal axis factoring (PAF), is used more often for theoretical explorations of the underlying factor structure and is considered the most suitable to test the psychometric properties of an instrument (Constello & Osborn, 2005).

(c) Determining the number of factors to extract. Criteria for determining the number of factors are: 1) Kaiser's criterion, suggested by Guttman and adapted by Kaiser, considers factors with an eigenvalue greater than one as common factors (Nunnally, & Bernstein, 1994); 2) Cattell's (1966) scree test.

(d) Factor rotation is the process for interpreting factor matrixes. The goal of factor rotation is to rotate factors in multidimensional space to get a solution with best simple structure. There are two types of factor rotation: orthogonal and oblique.

(e) Factor loadings indicate how strongly the factor influences the measured variable. In order to label the factors in the model, researchers should examine the factor pattern to see which items highly load on which factors and then determine the commonality of items. Whatever the items have in common will indicate the meaning of the factor

CFA allows the researcher to test the hypothesis that a relationship exists between observed variables and their underlying latent constructs. The researcher uses knowledge of the theory, empirical research, or both of them, postulates the relationship pattern (a priori) first and then tests the hypothesis statistically (Barberanelli, 2003).

Specifically, CFA relies on several statistical tests to determine the model adequacy to data fitting. . The chi-square test indicates the amount of difference between expected and observed covariance matrices. A chi-square value close to zero indicates little difference between the expected and observed covariance matrices. In addition, the probability level must be greater than 0.05 when chi-square is close to zero. The Comparative Fit Index (CFI) is equal to the discrepancy function adjusted for sample size. CFI ranges from 0 to 1 with a larger value indicating better model fitting. Acceptable model fit is indicated by a CFI value of 0.90 or greater (Hu &Bentler, 1999). Root Mean Square Error of Approximation (RMSEA) is related to residual in the model. RMSEA values range from 0 to 1 with a smaller RMSEA value indicating better model fitting. Acceptable model fitting is indicated by an RMSEA value of 0.06 or less (Hu & Bentler, 1999). If model fitting is acceptable, the parameter estimates are examined. The ratio of each parameter estimate to its standard error is distributed as a z statistic and is significant at the 0.05 level if its value exceeds 1.96 and at the 0.01 level it its value exceeds 2.56 (Hoyle & Panter 1995). Unstandardized parameter estimates retain scaling information of variables and can only be interpreted with reference to the scales of the variables. Standardized parameter estimates are transformations of

unstandardized estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. Standardized estimates correspond to effect-size estimates.

Multiple Group Confirmatory Factor Analysis (MG-CFA) investigates the degree to which measures are invariant across groups (Chen, 2008), so to compare latent constructs that are not directly observable between different groups (languages, ethnic-groups, gender), or points in time. A scale is said to have measurement invariance, or measurement equivalence, across groups if subjects with identical levels of the latent construct have the same expected raw-score on the measure. Structural equation modeling (SEM) investigates the invariance of the relations between underlying constructs (latent variables) and observed responses (manifest variables). Different levels of measurement invariance may be defined: configural, weak, strong, and strict invariance. Configural invariance implies that the number of latent variables and the pattern of loadings of latent variables on indicators are similar across the groups. Weak or metric invariance implies that the magnitude of the loadings is similar across the groups. This type of measurement invariance is required in order to meaningfully compare the relationships between latent variables across different groups. Strong or scalar invariance implies that not only the item loadings but also the item intercepts are similar across the groups. This form of measurement invariance implies that there are no systematic response biases and is required in order to meaningfully compare the means of latent variables across different groups (Chen, 2008). Last, some authors require strict invariance before means can be compared (Wu, Li, & Zumbo, 2007). Strict invariance implies that the residual variances are similar across groups.

Three strategies are usually present for estimating reliability: (a) test-retest reliability (i.e., calculating a reliability estimate by administering a test on two occasions and calculating the correlation between the two sets of scores), (b) equivalent (or parallel) forms reliability (i.e., calculating a reliability estimate by administering two forms of a test and calculating the

correlation between the two sets of scores), and (c) internal consistency reliability (i.e., calculating a reliability estimate based on a single form of a test administered on a single occasion using one of the many available internal consistency equations; Nunnally & Bernstein, 1994).

Vision About the future

Specifically, two main studies, with two independent samples of preadolescents were conducted to develop and validate VAF. In the first study, items for three constructs of hope, optimism and pessimism were generated and administered to a small group of preadolescents to verify items appropriateness and understandability. Then in a large sample of preadolescents the factor structure of the scale was tested by using item analysis and exploratory factor analysis (EFA), confirmed the factor structure on a holdout sample using confirmatory factor analysis (CFA), and further assessed convergent and discriminant validity by testing hypothesized relationships with existing measures. In the second study, measurement invariance across gender among preadolescents was provided.

Participants

Participants were 1513 Italian preadolescents, 821 (54.3%) boys and 692 (45.7%) girls, aged 11 to 15 years (M_{age} = 13.96, SD = .63). This sample of 1513 participants was split randomly into two groups. Sample A was used to test the factor structure of the 20 items and to reduce these to a smaller number for the final scale (EFA). Sample B was retained as a holdout sample to confirm the factor structure of the scale (CFA) and to test construct validity. Sample A contained 759 preadolescents (411 boys and 348 girls), with a mean age of 13.41 years (SD = .69). Sample B consisted of 754 preadolescents (410 boys and 344 girls), with a mean age of 13.39 years (SD = .56). No gender χ^2 (1) = .008, p =. 930 and age t(1511)

= .54, *p* = . 588 differences were observed between these two groups, suggesting no bias in the samples as a result of the split.

To test measurement invariance 490 Italian preadolescents, aged 11 to 15 years (M_{age} = 13.39, SD = .41), for a total of 246 (50.2%) boys and 244 (49.8%) girls were involved in the study.

Measures

The Children Hope Scale (CHS; Snyder et al., 1997). The scale was used to assess hope. It comprises 6 items. According to Snyder's cognitive model of hope it is composed by two subscales: (1) Agency (or willpower; 3 items; e.g. 'I am doing just as well as other kids my age') and (2) Pathways (or way power; 3 items; e.g. 'I can think of many ways to get the things in life that are most important to me'). Participants are asked to rate how much each statement described them on a 6-point scale. Cronbach's alpha ranged from a low of .70 to a high of .86, with a median alpha of .77. For this sample Cronbach's alpha were .60 for agency, .70 for pathway, and .72 for the total score.

Life Orientation Test-Revised (LOT-R; Schierer et al., 1994). The instrument was used to analyze dispositional optimism and pessimism. The LOT-R is a 10 items self-report measure assessing expectancies for positive (4 items, e.g. 'In uncertain times, I usually expect the best') versus negative (4 items, e.g. 'If something can go wrong for me, it will') outcomes. Respondents indicated the extent to which they agreed with each item using a 5-point scale (0 = strongly disagree, 4 = strongly agree). Cronbach's alphas were .78 and .68 for the two subscales. For this sample Cronbach's alpha were .63 and .60, respectively.

The Satisfaction with Life Scale (SLS; Diener, Emmons, Larsen, & Griffin, 1985). It is a five-item scale used to assess global life satisfaction. Total score ranges from 5 to 25, with higher scores indicating greater satisfaction with life. An example of item is 'I am satisfied with my life'. In a study carried out to adapt and validate the Italian version of the scale, Di

Maggio (2014) observed a mono-factorial structure, accounting for 55.73% of the total variance and Cronbach's alpha of .80. In this study, Cronbach's alpha was .81.

Career Adapt-Abilities Scale (CAAS- Soresi, Nota, & Ferrari, 2012). It consists of 24 items, the same as in the Career Adapt-Abilities Scale-International Form 2.0 and Italian-Form (Savickas, & Porfeli, 2012; Soresi, Nota, & Ferrari, 2012). Participants responded to each item on a scale ranging from 1 (not strong) to 5 (strongest). The 24 items combine into a total score indicating career adaptability, and are also divided into four subscales that measure specific adapt-ability resources: 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'). The CAAS-Italy for preadolescents showed good reliability ranging from .69 to .81 for the four subscales, and .91 for the total score. For this sample Cronbach's alpha were .77, .69, .75, and .81 for the four subscales, and .91 for the total score.

Results.

*Preliminary Analysis***.** An examination of the asymmetry and kurtosis values revealed all 21 items were satisfactory (all values were ≤ 1).

*EFA and Item Reduction***.** A series of exploratory (principal-axis) factor analyses were conducted to assess the underlying basic factor structure of the scale and identify any potential items to delete. A direct oblimin rotation was conducted, as all underlying domains were expected to correlate. Bartlett's test of sphericity ($p < .001$) and the Kaiser-Meyer-Olkin measure (.92) indicated that the 20 items were suitable for an EFA. The final run of PAF on the two-factor oblique solution with 16 items accounted for 43.76% of total variance (see Table 1). The first factor was composed by 7 items, accounted for 18.80% of the variance, and referred to hope. The second factor was composed by 5 items, accounted for 13.10% of the variance, and referred to pessimism. The third factor was composed by 4 items, accounted

for 11.85% of the variance, and referred to optimism. Factor loadings ranged from .45 to .72, and the internal reliability coefficients (α) were .83, .78, and .78 respectively. See Table 1 for items, factor loadings and communalities.

Table 1

Items, Component Loading, and Communality Estimates

Items				*Communality*
Item 20	**72**	.01	05	.47
item 19	**70**	06	03	.46
item 14	**68**	.17	06	.47
item 4	**59**	10	.10	.42
item 16	**58**	.06	.09	.43
item 1	**48**	03	.17	.36
item 9	**45**	.03	.14	.32
item 11	.06	**72**	01	.53
item 17	.04	**71**	.04	.51
item 7	.07	**61**	.04	.38
item 6	07	**57**	02	.32
item 12	03	**53**	07	.28
item 8	.11	.07	**.88**	.68
item 15	21	.09	**.57**	.55
item 5	20	00	**.48**	.41
item 2	22	14	**.47**	.41

CFA. Two factory structural model were tested: (a) a three-factor correlated model (H1: 16-3) and (b) a hierarchical model, that predicted that the 16 items could be clustered into the three factors and that the three first-level factors could be combined into a single second-order factor (H2: 16-3-1). The three-factor correlated model (H1: 16-3) showed good fit: $\chi^2(101, n = 754) = 273.90$; $p < .001$; CFI = .98; NNFI = .98; RMSEA =.048 (CI$_{90}$ =.041–.054); SRMR = .05. All factor loadings were significant (p < .001) and ranged from .43 to 81. This values show that the three factors are well represented by the items. Moreover, each item's R^2 values were greater than 20% for all items, with the exception of one item, ranging between .18 and 57. According Kelley (2008) these values may be considered adequate.

The hierarchical model (H2: 16-3-1) had the same degrees of freedom and chi-square of the three first-order factors model (H1: 16-3); thus both models had identical goodness-of-fit coefficients. In addition, three first-order factors significantly saturated on the second-order factor (standardized loadings of first–order factors were .91, -.36, and .90 for hope, pessimism and optimism, respectively). This model (H2) is also plausible because of common variance shared by the three first-order factors. Moreover, three first-order factors significantly saturated on the second-order factor, suggesting that hope, optimism and pessimism can be considered as indicators of a single global dimension reflecting an orientation toward future (Bryant & Cvengros, 2004; Snyder et al., 1991; Sun & Shek, 2012). In the sample B the α values were .83 for hope, .74 for pessimism, and .80 for optimism.

Construct Validity. Convergent and discriminant validity of the VAF were tested by examining measures of hope (CHS), pessimism and optimism (LOT-R), life satisfaction (SWLS) and career adaptability (CAAS). Pearson product–moment correlations between the VAF and all measures are presented in Table 2. Examination of scatterplots indicated linear relations between all variables. Generally, the VAF factors scores correlated with scores on measures of hope, pessimism and optimism, life satisfaction and career adaptability in the hypothesized direction and association strength. Specifically, for hope and optimism subscales of VAF there were moderate to strong

positive associations respectively with agency, pathway and hope total score (CHS) e with optimism scale (LOT-R). Moreover, for pessimism there was a positive and moderate correlation with pessimism scale (LOT-R).

Measurement Invariance. The confirmatory factor analysis of the baseline model presents in Model 1, showed that the three-factors solution yielded was stable for boys and girls. The equal factor loadings across groups resultant from Model 2, revealed that each item of the scale have the same discrimination parameters for boys and girls. Equal intercepts resultant from Model 3, showed an equivalent difficulty parameters for each item across the groups. Equal factor variance and covariance definite in Model 4, showed that the entire covariance structure is invariant across groups and has the same parametric structure. Lastly, equal latent means resultant form Model 5 showed that means of factors are significantly different across groups. Table 3 shows the statistics fit model for each measurement invariance analysis.

Table 2

Correlations among VAF, LOT-R, CHS, SLS, and CAAS

VAF	CHS			LOT-R		SLS	CAAS			
	Agency	Pathway	Hope	Optimism	Pessimism	Life Satisfaction	Concern	Control	Curiosity	Confidence
Hope	.445**	.621**	.621**	.604**	-.370**	.484**	.435**	.421**	.336**	.420**
Pessimism	-.074	-.124**	-.116**	-.169**	.405**	-.219**	-.196**	-.223**	-.114**	-.224**
Optimism	.355**	.509**	.504**	.561**	-.407**	.490**	.377**	.458**	.344**	.404**

Note: ** p < .01

Table 3

Fit indices for the nested sequence in the multiple factor analysis and latent mean level differences

Model	χ^2	df	p	$\Delta\chi^2$	Δdf	p	RMSEA	RMSEA 90%$_{CI}$	CFI	ΔCFI	NNFI	SRMR	Latent mean Boys	Latent mean Girls
Model 1	311.41	202	< .001	-	-	-	.047	.036-.057	.979	.000	.975	.050	-	-
Model 2	327.21	215	< .001	15.80	13	.260	.046	.036-.056	.979	.000	.977	.054	-	-
Model 3	345.97	228	< .001	18.76	13	.131	.046	.036-.056	.977	-.002	.976	.053	-	-
Model 4	348.76	234	< .001	2.79	6	.835	.045	.035-.054	.977	.000	.977	.058	-	-
Model 5	367.29	231	< .001	21.32	3	<.001	.049	.039-.058	.974	-.003	.973	.054	-	-
Hope mean invariance	346.66	229	< .001	.69	1	.405	.046	.035-.055	.977	.000	.976	.053	3.84	3.78
Pesssimism mean invariance	36.21	229	< .001	14.24	1	<.001	.048	.039-.058	.975	-.002	.974	.054	2.18	1.93
Optimism mean invariance	348.51	229	< .001	2.54	1	.111	.046	.036-.056	.977	.000	.976	.053	3.56	3.42

Design My Future

Taking into account suggestions on the relationship between future orientation and resilience (Folke et al., 2010), together with the context in which preadolescents are currently required to develop their future goals and following with Life Design approach, a new assessment instrument, Design My Future, was developed with the goal of taking into account both future orientation and propensity to resilience in Italian preadolescents. Three different studies involving were conducted. With the first, items were developed and the factor structure verified; the second confirmed instrument's multidimensional structure and evaluated its discriminant validity. The third study was conducted to verify the invariance of factorial structure across gender.

Participants

Participants were: 802 Italian middle school students, 449 boys and 353 girls, aged 11 to 14 years (M_{age} = 12.83, SD = .49) in the first study; 342 Italian middle school students, aged 11 to 14 years (M_{age} = 12.53, SD = .76), for a total of 178 (52%) boys and 164 (48%) girls were involved in

the second study; 560 Italian middle school students aged 11 to 14 years (M_{age} = 12.97, SD = .51), for a total of 280 boys and 280 girls in the third study.

Measures

The Satisfaction with Life Scale (SLS; Diener, Emmons, Larsen, & Griffin, 1985)**.** In this study, Cronbach's alpha was .81.

Career Adapt-Abilities Scale (Ferrari, Soresi, & Nota, 2012). For this sample Cronbach's alpha were .77, .69, .75, and .81 for the four subscales, and .91 for the total score.

Results

*Preliminary analyses***.** An examination of the asymmetry and kurtosis values revealed all 21 items were satisfactory (all values were ≤ 1).

*Construct validity***.** A principal axis factoring (PAF) analysis was conducted on the 21-items scale to estimate the number of factors. The factorability was supported by Bartlett's test of sphericity, χ^2 (210, N = 802) = 5374.99, p < .0001, and the Kaiser-Meyer-Olkin measure of sampling adequacy of .93. The final run of PAF on the two-factor oblique solution with 21 items accounted for 38.50% of total variance (see Table 5). The first factor was composed of 13 items, accounted for 22.79% of the variance, and referred to as future orientation. The second factor was composed of 8 items, accounted for 15.72% of the variance, and concerned resilience.

*Intercorrelations among factors***.** The intercorrelation between the two factors was .56.

*Internal consistency***.** Cronbach's α internal-consistency reliability for the two factors was as follows: Future Orientation .88, and Resilience .83.

*Confirmatory factor analysis***.** The hypothesized two-factor correlated model (H: 21-2) showed good fit: χ^2(188, n = 342) = 600.90; p < .001; CFI = .95; NNFI = .94; RMSEA =.06 (CI_{90} =.06–.07); SRMR = .06. The alternative model (A2: 21-1) showed a fit of: χ^2(189, n = 342) = 1159.20, p < .001, CFI = .90, NNFI = .89, RMSEA =.10 (CI_{90} =.10–.11), SRMR = .075. The hypothesized 21-2 model fit the data best, because it had the lowest χ^2, the highest CFI (.95), and the lowest RMSEA (.06). Regarding the hypothesized two-factor model, all of the factor loadings

were significant (ranging from .37 to .75, $p < .001$), suggesting that the two factors were well represented by the items. The R^2 index indicates the squared multiple correlations and shows the amount of variance accounted for by each item (see Table 4).

Table 5

Standardized solution by confirmatory factor analysis for the two-factor-model: Matrix Δx and indices R^2

	Matrix Δx	R^2
Item 2	.43	.18
Item 10	.50	.25
Item 9	.56	.31
Item 21	.51	.26
Item 14	.57	.32
Item 1	.50	.25
Item 12	.59	.34
Item 6	.49	.24
Item 19	.57	.33
Item 18	.59	.34
Item 7	.37	.14
Item 3	.51	.26
Item 11	.47	.22
Item 13	.75	.56
Item 17	.74	.55
Item 4	.60	.37
Item 16	.63	.39
Item 20	.61	.38
Item 5	.46	.21
Item 15	.56	.31
Item 8	.38	.15

Table 4

Items, Component Loading, and Communality Estimates

Items	1	2	Communality
2. I like to daydream about what my future holds for me.	**.68**	-.11	.41
10. The idea of being able in the future to realize my dreams, passionate me right now.	**.67**	.03	.47
9. Building a positive future for me is something that I think often.	**.67**	.00	.44
21. I often think about how I wish things were going in the future.	**.63**	-.05	.38
14. I like to think about what I can do to have a good future.	**.61**	.11	.44
1. I often think when I will grow up.	**.60**	-.12	.34
12. About my future I have many ideas and hopes.	**.57**	.11	.39
6. I like to think about where I will be in a few years.	**.57**	-.06	.30
19. When I think about my future I pay attention to the type of person I'd like to be.	**.57**	.04	.34
18. Imagine my future makes me feel optimistic.	**.52**	.19	.39
7. I think that my future will depend on how much I will do actively.	**.50**	-.03	.24
3. Look ahead and think about what will happen in the future makes me feel full of energy.	**.49**	.17	.33
11. I always commit to achieve what is important to me.	**.43**	.24	.34
13. I think I'm a strong person.	-.10	**.77**	.54
17. I think I'm a person who does not get discouraged easily.	-.07	**.76**	.53
4. I consider myself a strong person.	-.07	**.68**	.42
16. I consider myself able to deal with anything that might have happened.	.06	**.63**	.43
20. I think I'm able to challenge the difficult situations that may arise in the future for me.	.12	**.61**	.44
5. Even if I am under pressure, I can concentrate and think lucidly.	.01	**.50**	.26
15. I believe to achieve my goals.	.24	**.46**	.39
8. In anything I am committed to the maximum.	.24	**.35**	.24

Associations between Design My Future, Career Adapt-Abilities Scale and Satisfaction with Life Scale. Table 6 shows correlations among the instruments. As expected, future orientation and resilience were positively associated with life satisfaction and career adaptabilities. The discriminant correlations, however, varied enormously (range = .27 to .45).

Table 6

Correlations among Design my Future, Career Adapt-Abilities Scale and Satisfaction with Life Scale

Design My Future	Career Adapt-Abilities Scale				Satisfaction with Life Scale
	Concern	**Control**	**Curiosity**	**Confidence**	**Life Satisfaction**
Future Orientation	.272**	.417**	.300**	.336**	.281**
Resilience	.356**	.265**	.239**	.448**	.428**

*Note. ** p < .001*

Measurement invariance. The initial model, freely estimated for both groups, revealed a acceptable fit χ^2 (376, n = 560) = 638.41; p <.001; CFI = .935; NNFI = .928; RMSEA =.077 (CI_{90} =.07–.08). Measurement invariance was tested equating the loadings and the intercepts. As shown in Table 7, no significant fit changes based on the RMSEA Model Test emerged (The RMSEA value of the nested model fell within the 90% RMSEA confidence interval of the comparison model). Using the CFIΔ test, CFI changes were less than 0.01 when cross-group constraints were imposed (Cheung & Rensvold, 2002). These tests showed invariance of factors when measured across the two groups. Variance and covariance homogeneity across the two groups was not established. Lastly, latent means invariance across boys and girls was not found. Further evaluation yielded significant differences in the latent factor means, as shown in Table 7. More specifically, boys showed higher levels of resilience than girls.

Table 7

Fit indices for the nested sequence in the multiple factor analysis and latent mean level differences

Model	χ^2	df	p	$\Delta\chi^2$	Δdf	p	RMSEA	RMSEA 90% CI	CFI	ΔCFI	NNFI
Configural invariance[1]	1015.60	376	< .001	-	-	-	.077	.072- .083	.935	-	.928
Weak invariance[1]	1085.06	395	< .001	-	-	-	.079	.073-.084	.930	.005	.926
Strong invariance[1]	1138.34	414	< .001	-	-	-	.079	.073-.084	.927	.003	.926
Homogeneity of variance/covariance[2]	1157.19	417	< .001	18.86	3	< .001	.080	.075- .085	.925	.002	.925
Latent mean invariance[2]	1174.05	416	< .001	35.71	2	< .001	.081	.076- .086	.923	.004	.923
Latent mean invariance: Future Orientation[2]	1138.43	415	.076	.09	1	.76	.079	.074- .084	.930	.003	.930
Latent mean invariance: Resilience[2]	1163.03	415	< .001	24.69	1	< .001	.081	.076- .086	.920	.007	.920

Note. [1]Evaluated with the RMSEA model test. [2]Evaluated with χ^2 difference test.

Discussion of the first phase

The performed analyzes indicate that the Vision About Future and Design my Future have good psychometric indices that allow their use in the Italian context.

Regarding construct validity, the results of the exploratory and confirmatory factor analyzes are in line with the hypothesis. Specifically, Vision About Future provides an orienting framework useful to measure positive orientation toward future composed of three separate but interrelated dimensions, hope, optimism, and pessimism, that contribute uniquely to the construct. Instead, Design My future suggests factor structure characterized by two-correlated subtest regarding future orientation and resilience.

The measures present good reliability and moderate correlation between factors.

Moreover, correlational analyses conducted with Career Adapt-Aabilities Scale, and Satisfaction with Life Scale, show hope, optimism, future orientation, and resilience as related but distinct from career adaptability, and life satisfaction.

Both instruments allow to discriminate the differences associated with gender. Specifically, significant differences have been observed in pessimism, with boys showing higher scores than girl. No gender differences were instead observed in hope and optimism. These results are in accordance with Ey et al. (2005) studies' and dissimilar to results obtained by Orejudo, Puyuelo, Fernández-Turrado and Ramos (2012), who showed high levels of pessimism for the girls.

There is no agreement in the literature on the role of gender in hope and optimism (Ciarrochi, Parkera, Kashdanb, Heavenc & Barkus, 2015; Patton, Tollit, Romaniuk, Spence, Sheffield, & Sawyer, 2011), to the point that both Boman and Yates (2001) asserted that it is not possible to define any clearly gender differences in dispositional optimism and hope in adolescents. Moreover, in line with Newman's (2002) and Connor and Davison's findings (2003), boys presented higher ability than girls to deal with difficulties and uncertainties that they may experience in their futures.

The questionnaire's psychometric indices that were observed supports the use of Vision about Future and Design My Future in counseling and career counseling activities designed to support pre-adolescents in the process of co-constructing and designing their paths, and to promote personal and professional skills useful in the current world of work (Savickas et al., 2009).

The Second phase: Verifying constructs relations.

After examining the psychometric requirements of measures, in the second phase, considering the forgoing studies and the Life Design approach, which emphasizes on the role of career adaptability, hope and optimism to deal with the challenges of today society, it was analyzed the relationship between career adaptability, hope, optimism, and resilience on youth and adults' life satisfaction.

In the literature, career adaptability is infact related to several personal characteristic including personality traits (Oncel, 2014; Rossier, Zecca, Stauffer, Maggiori, & Dauwalder, 2012; van Vianen, Klehe, Koen, & Dries, 2012), positive expectations and dispositions regarding the future (Wilkins, Santilli, Ferrari, Nota, Tracey, & Soresi, 2014), confident view of the self and strong agency beliefs (Hirschi, 2009; Hou, Wu, & Liu, 2014; Tolentino et al., 2014; Tolentino, Garcia, Restubog, Bordia, & Tang, 2013; van Vianen et al., 2012; Zacher, 2014), as well as optimistic evaluation of the context (Hirschi, 2009; Soresi, Nota, & Ferrari, 2012), encouraging emotional dispositions (Hirschi, 2009; Johnston, Luciano, Maggiori, Ruch, & Rossier, 2013; Pouyaud, Vignoli, Dosnon, & Lallemand, 2012) and emotional intelligence (Coetzee & Harry, 2014). In the career context, this concept has also been positively connected to employment status (Guan et al., 2013; Guan et al., 2014), career satisfaction and career success (Maggiori et al., 2013; Tolentino et al., 2013; Wilkins et al., 2014;), person-environment fit perceptions (Guan et al., 2013), job search self-efficacy (Guan et al., 2013; Guan et al., 2014), self-rated career related performance and competences (Guan et al., 2013; Guo et al., 2014), as well as work engagement (Rossier et al., 2012). It is also linked to low work stress (Johnston et al., 2013) and low career anxiety (Pouyaud et al., 2012). More broadly, career adaptability is

positively related to outcomes such as general well-being (Maggiori et al., 2013), life satisfaction (Hirschi, 2009; Santilli et al., 2014), and quality of life (Soresi et al., 2012).

Hope is linked with other important variables in the life. For example Valle, Huebner, and Suldo (2006) found that hope was positively correlated with people's global life satisfaction, and Amundson, Niles, Yoon, Smith, In, and Mills (2013) observed that hope is also associated with positive career related variables such as vocational identity, career decision self-efficacy and career-related beliefs. Hirschi, Abessolo and Froidevaux (2015) were able to see a significant relationship between hope and career exploration. Therefore, Kenny, Blustein, Haase, Jackson, and Perry (2006) have emphasized that hopeful youth are characterized by higher motivation toward reaching goals, higher school achievement and higher satisfaction for their educational plan. Hope is thus an important aspect to consider in relation with career adaptability and life satisfaction in young adolescents (Ginevra, Sgaramella, Santilli, Ferrari, Nota, & Soresi, in press.; Nota et al., 2012).

Optimism also reports positive relationships with a number of significant variables in the life. For example, higher scores on optimism correlate with a lower psychological maladjustment, aggressiveness, with higher assertiveness, life satisfaction, self-esteem, positive humor, and even a stronger immune system (Chang, 2001; Extremera, Durán, & Rey, 2007; Malinauskas & Vaicekauskas, 2013). Patton, Bartrum, and Creed (2004) found that optimism predict career goals, career planning and career exploration in a group of high school students. Rottinghaus, Day, and Borgen (2005) reported positive correlations between optimism and career adaptability, and found that higher optimistic and adaptable university students showed higher comfort with and were more engaged in their educational and career planning.

Lastly, Sun and Shek (2012) observed that hope and optimism can be considered as

internalized constructs referring to possible outcomes of beliefs toward future. Moreover, these positive beliefs toward future are associated with positive expectations about the future and to positive health outcomes.

Taking into account all of these factors, this second phase of research was focus to test the influence of career adaptability on positive dispositions regarding the future and if this may favor a general subjective well-being to face difficulties and to achieve important future goals in three different group: adolescent, workers with disability and parents with children with disability.

1. Career Adaptability, Hope, Optimism and Life Satisfaction in Italian and Swiss youngers

According to Hirschi (2009), who observed direct relationships between career adaptability and life satisfaction, and taking in consideration the studies carried out by Scioli (2010) who observed relationships between personal social resource and hope and optimism, was hypothesized that career adaptability, directly and indirectly, through a positive orientation toward future (hope and optimism), predicted life satisfaction in Swiss and Italian youngers. Specifically, was predicted that the conceptual model would be comparable across countries.

Participants

The sample consisted of 1,259 Youth, 618 boys and 651 girls (M_{age} = 14.35, SD = 2.34). This total sample included 726 Italian participants (M_{age} = 14.09, SD = 1.49), 371 boys and 355 girls, and 533 Swiss participants (M_{age} = 14.19, SD = 1.72), 247 boys and 286 girls. Concerning the Swiss sub-sample, 409 were Italian-speaking and 124 French-speaking, coming from two out of the four Swiss linguistic regions. No age [F(1, 1258) = .622, p = .430] and gender [χ^2(1) = 2.893, p = .053] differences were observed between Swiss and Italian youngers.

Measures

Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012*).* For the present study, the Italian and French validated versions were used (Rossier et al., 2012; Soresi et al., 2012). For this study Cronbach's alpha for four subscales were .78, .66, .72, and .80.

Visions About Future (VAF; Ginevra et al., in press.). For this research the Italian validated version was used. VAF was translated in French by a team of three career counselor specialists and back translated in English. This back-translation was compared with the original Italian-version by the authors of this scale who made several suggestions. The French-version revised accordingly. A multi-group analysis confirmed that the Italian and French versions reached, configural (χ^2 (129) = 451.80, CFI = .976, NNFI = .970, RMSEA = .078), weak (χ^2 (147) = 490.45, CFI = .975, NNFI = .972, RMSEA = .075), and strong invariance (χ^2 (129) = 593.25, CFI = .969, NNFI = .969, RMSEA = .079). In this study, Cronbach's alpha was .88 for hope subscale and .78 for optimism subscale.

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). For this study was used the frequently used Italian- and French-version of the SWLS that is a five-item scale used to assess global life satisfaction (Blais, Vallerand, Pelletier, & Brière, 1989; Santilli & Soresi, 2013). For this study, Cronbach's alpha was .80.

Procedure

The Italian-speaking part of Swiss Youth filled out the questionnaire in the presence of a researcher in the IT classroom of the middle-school they attended. Extra explanations on difficult questions were given to students who asked for them. The French-speaking part of Swiss youngers completed the questionnaire in their classroom. The youths were instructed by the researcher during a psychology course, in presence of their teacher. They were given additional

information on the aim of the research after they completed the questionnaire.

The research followed the ethical rules of the Swiss Society of Psychology and of the American Psychological Association.

Results

Preliminary Analysis. Means, standard deviations, and inter-correlations for each country are reported in Table 8. Positive correlations were observed among career adaptability, orientation toward future and life satisfaction across two groups. Correlations were lower for the Italian sub-sample. Three preliminary analysis of variance (ANOVA) were also run to verify whether any gender and nationality differences would emerge in career adaptability, orientation toward future, and life satisfaction. ANOVAs revealed a significant but negligible main effect of gender on orientation toward future, $F(1, 1259) = 5.164$, $p = .023$, $\eta^2 = .004$, and a significant but small effect of nationality on both career adaptability, $F(1, 1259) = 34.319$, $p = < .001$, $\eta^2 = .027$, and orientation toward future $F(1, 1259) = 49.572$, $p = < .001$, $\eta^2 = .038$ Italian youngers reporting slightly higher levels of career adaptability and orientation toward future. These results confirm the importance of distinguishing countries when testing an overall model linking career adaptability, orientation toward future, and satisfaction with life.

Table 8

Descriptive statistics, and Correlations across groups

	1	2	3	Italian sub-sample		Swiss sub-sample	
				M	*DS*	*M*	*DS*
1. Career Adaptability	-	.189***	**.397*****	90.82	10.58	86.96	12.80
2. Orientation toward future	**.526*****	-	.201***	45.84	8.53	42.27	9.07
3. Life satisfaction	**.350*****	**.544*****	-	24.93	5.28	24.74	5.96

Note. Correlations for the Italian sub-sample are above the diagonal and correlations for the Swiss sub-sample are below the diagonal. Correlation above .30 in absolute magnitude are in bold. *** $p < .001$.

The measurement and structural model. A two-step approach to SEM was employed (Anderson & Gerbing, 1988). First, a measurement model was evaluated using a multi-group approach for the Italian and Swiss sub-samples. Specifically, the invariance of the measurement model was tested, using a covariance matrix with 8 variables as input data. Specifically, item parcels to form multiple observed indicators representing each latent construct were created (4 for career adaptability, 2 for orientation toward future, and 2 for life satisfaction). As suggested by Kishton and Widaman (1994), internal-consistency approach was used, which creates parcels that use the factors as the grouping criteria. So, four parcels for career adaptability were created (concern, control, curiosity and confidence) and two parcel (hope and optimism) for orientation toward future. Instead, for life satisfaction, items for each of the latent constructs were assigned using

the item-to-construct balancing technique (Little, Cunningham, Shahar, & Widaman, 2002), creating two parcels.

Overall, the baseline measurement model had good fit indices χ^2 (34) = 80.15, CFI = .992, NNFI = .986, RMSEA = .046. Next, all factor loadings were constrained to be equal between the two groups. The results show that the model imposing equality constraints across groups provided a good fit χ^2 (39) = 91.10, CFI = .990, NNFI = .986, RMSEA = .046. Moreover, no significant fit changes were observed according to the Satorra-Bentler chi-square difference test and CFI test ($\Delta\chi^2$ = 10.95, Δdf = 5, p = .052, ΔCFI = .002).

In the second step, EQS structural modeling was testsed to evaluate the conceptual model. Firstly, the hypothesized model across Italian and Swiss groups was tested simultaneously without imposing any equality constraints. The baseline model produced a good fit to the data χ^2 (34) = 80.15, CFI = .992, NNFI = .986, RMSEA = .046. As is often the case in the psychological literature (e.g., Standage, Duda, & Ntoumanis, 2005), the baseline model in the present study was not fully identical across groups. Specifically, one regression coefficient differed across the two groups. The path from career adaptability to life satisfaction was significant for Italian (b = 1.05, p < .001), but not for Swiss (b = .008, p > .05) youngers. This path in Swiss sample was released and the model was re-estimated χ^2 (35) = 80.64, CFI = .992, NNFI = .987, RMSEA = .046. This path was not constrained in subsequent steps of invariance testing.

Lastly, the nested structural model was tested using the scaled difference chi-square test (ΔSBχ2; Satorra and Bentler, 2001) and using the CFIΔ test (Byrne & van de Vijver, 2010; Cheung & Rensvold, 2002). The model which constrained the paths from career adaptability to orientation toward future and from orientation toward future to life satisfaction was significantly

worse than the baseline model according to the Satorra-Bentler chi-square difference test and CFIΔ test ($\Delta\chi^2 = 90.88$, $\Delta df = 2$, $p < .001$, $\Delta CFI = .018$). Thus, significant group differences exist in the conceptual model across Italian and Swiss youngers. The standardized regression path coefficients for Italian and Swiss groups are presented in figure 1.
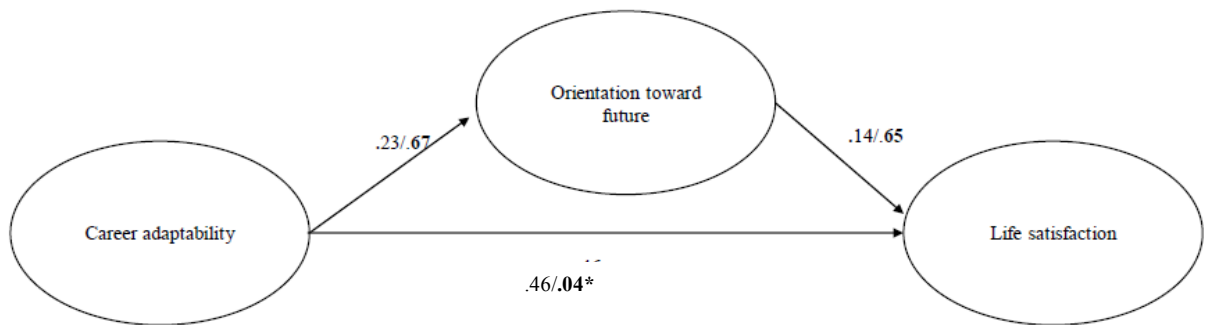
Figure 1.

Standardized regression path coefficients for the Italian and Swiss sub-samples. Regression path coefficients for the Swiss group are in bold. All coefficient were significant except the path indicated with an '*' that was non-significant for the Swiss sub-sample.

Conclusion

These results supported a partial mediation in the Italian Youth showing that career adaptability is, directly and indirectly, related to life satisfaction. In the Swiss Youth, results supported a full mediation, showing that career adaptability is indirectly related to life satisfaction trough positive orientation toward future (hope and optimism). These results suggest that the context may have an effect on how career adaptability has an impact on general life satisfaction. In Switzerland, middle school students are included in different paths, which are vocational or high education oriented, depending mainly of their school performances. This means that at age 15, two third of the compulsory Swiss

students have to choose a concrete profession and to start an apprenticeship, in a limited range of possibilities. Consequently, even students who are confident in their career adapt-abilities can still be dissatisfied with life if they feel stuck in their early career prospects. On the contrary vocational choices are usually made later in Italy. Contextual specificities of the educational and vocational system might explain why orientation toward the future is especially important for Swiss Youth that have to prepare the school-to-work transition (Masdonati & Fournier, 2015). Thus this study illustrates the importance of considering the social and cultural context when studying that type of models that might not always be generalizable across countries.

2. Career adaptability, hope and life satisfaction in workers with intellectual disability

In relation to current socio-economic situation that is impacting in particular at-risk workers, such as individuals with disability, and based on Life Design approach, which emphasizes the role of career adaptability, agency and pathway thinking to deal with the current work world, the present study aimed at analyzing the relationship between career adaptability and agency and pathway on workers with intellectual disability life satisfaction. According to Scioli et al. (2011), who stated that hope, or agency and pathway, is affected by psychological and social resources, as career adaptability is, and to Maggiori et al. (2013), and Hirschi (2009), that observed direct relationships between career adaptability and life satisfaction, was hypothesized that career adaptability, directly and indirectly, through hope, or agency and pathway thinking, predicted life satisfaction in workers with disability. The proposed model, a partial mediated structural model (Model A), was contrasted with two alternative models, a fully mediated structural model (Model B) and a non mediated structural model (Model C).

Participants.

The study involved 120 adults with mild intellectual disability, 60 men and 60 women, mean age 30.4 years (SD = 8.32). Women's mean age was 30.6 (SD = 8.20); men's mean age was 30.12 (SD = 8.49). All participants had been selected according to the criterions of having a primary diagnosis of mild intellectual disability, assessed using Raven's Colored Progressive Matrices test (RCPM; Belacchi, Scalisi, Cannoni, & e Cornoldi, 2008) and working in competitive settings for at least six months. The participants were working as salespersons, gardeners, warehouse clerks, assistant librarians, office clerks, or door attendants. All participants were of a Caucasian ethno-cultural background, resided and worked in North-east Italy.

Measures

Career Adapt-Abilities Scale-Italian Form (Ferrari, Nota, & Soresi, 2012). For this sample Cronbach's alpha for four subscales were .71, .73, .73, and .75 respectively.

The Adult Trait Hope Scale (Snyder et al., 1991). The Adult Trait Hope Scale was used to assess agency and pathway thinking (hope). It comprises 12 items, with four-filler items. It is composed by: (1) Agency (or willpower; 4 items; e.g. 'I energetically pursue my goals') and (2) Pathways (or waypower; 4 items; e.g. 'I can think of many ways to get the things in life that are important to me'). Participants are asked to rate how much each statement describes them on a 4-point scale. A pilot study with adults with intellectual disability, confirmed the factorial structure with loadings ranged from .48 to .72. Cronbach's alpha were .70 and 77 for the two subscales. For this sample Cronbach's alpha were .60 and .70 for the two subscales.

The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). In this study, Cronbach's alpha was .75.

Procedure

Participants were identified by contacting local neuropsychiatric and work inclusion services (SIL—Servizio per l'Inserimento Lavorativo) for four provinces of the Veneto region, located in Northeast Italy. Both the neuropsychiatric- and SIL staff helped us identify participants that would make up a homogeneous group, in terms of the following variables: gender, age, and ID level. Once selected, participants with ID were contacted by a psychologist, who then interviewed them individually in a local provincial service employment office, making direct arrangements with the participants to agree on an interview date and time that would not interfere with their work schedules.

With respect to ID level, participants who have adequate communication skills and/or who were judged by researchers/ caregivers as being able to understand questions and/or use a Likert-type response format were interviewed. After participants had given their consent to participate in the study, they were informed that their responses would be kept confidential and that they could interrupt the interview session any time they wished. Whenever doubts or difficulty arose, as suggested by Hartley and MacLean (2006), the items were repeated and explained, maintaining standardized administrations of Likert type scales.

Results

Preliminary analysis. Means, standard deviations, and inter-correlations are summarized in Table 1. Moderate and positive correlations were observed among career adaptability, agency and pathway and life satisfaction. T tests revealed no significant gender differences as regards concern $t(118) = .570$, $p = .511$, control $t(118) = −.749$, $p = .456$, curiosity $t(118) = −.696$, $p = .488$, confidence $t(118) = -1.330$, $p = .186$, agency $t(118) = −.710$, $p = .479$, pathway $t(118) = −.749$, $p = .548$, and life satisfaction $t(118) = .071$, $p = .944$ (see Table 9).

Table 9.

Means, standard deviations, and intercorrelations.

	2	3	4	5	6	7	Men M	Men SD	Women M	Women SD
1. Concern	.402**	.533**	.402**	.498**	.403**	.429**	21.10	4.19	20.65	4.46
2. Control	–	.663**	.525**	.364**	.284**	.324**	22.15	4.03	22.72	4.26
3. Curiosity		–	.632**	.378**	.384**	.362**	21.63	4.36	22.20	4.55
4. Confidence			–	.449**	.366**	.314**	23.43	4.08	24.38	3.74
5. Agency				–	.525**	.485**	12.33	2.68	12.63	1.88
6. Pathway					–	.258**	11.72	2.78	12.00	2.35
7. Life satisfaction						–	19.22	3.72	19.17	4.01

Note: $^{**}p < .001$, $^{*}p < .05$.

Measurement model. The hypothesized measurement model had a very good fit with the observed data, χ^2 (17) = 32.91, CFI = .97, NNFI = .95, RMSEA = .08, SRMR = .06. The standardized path estimates of the manifest indicators (ranging from .57 to 1) were all statistically significant.

Structural model The partially mediated model (Model A) had a good fit to the data χ^2 (17) = 35.23, CFI = .97, NNFI = .95, RMSEA = .089, and SRMR = .06. The fully mediated model (Model B) had an acceptable fit to the data χ^2 (18) = 40.12, CFI = .96, NNFI = .94, RMSEA = .093, and SRMR = .07. The no mediated model (Model C) had not an acceptable fit to the data χ^2 (18) = 51.30, CFI = .93, NNFI = .88, RMSEA = .12, and SRMR = .21.

The partially mediated model (Model A) provided a marginally better fit to the data than the fully mediated model (Model B), $\Delta\chi^2$(1) = 4.89, p = .027; and ΔCFI = .01, and a better fit than the no mediated model (Model C), $\Delta\chi^2$(1) = 27.42, p = .001; and ΔCFI = .04. Moreover, all three paths comprising the partially mediated model were significant (see Fig. 2).

Figure 2.

Significant Standardized Parameter Estimates in the Partially Mediated Model.
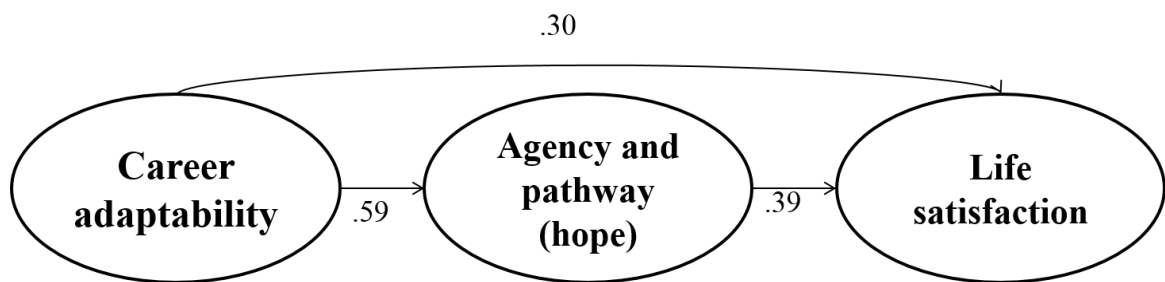
Conclusion

Based on life design, the present study examined the relationship between career adaptability, hope and life satisfaction in a group of workers with intellectual disability. Specifically, was hypothesized that hope, that is agency and pathway, partially mediated the relationship between career adaptability and life satisfaction. These results supported a partial mediation, showing that career adaptability is, directly and indirectly, related to life satisfaction.

Results obtained reflect other studies that have shown that career adaptability influences the determination to start and sustain behaviors aimed at achieving goals (agency) and the plans for goal achievement (pathway) that lead to more life satisfaction.

Together, these results are in line with Life Design approach, which sustains that people with low levels of career adaptability and agency and pathway thinking are less likely to struggle for their future, to abandon to hopelessness and resignation, reducing their disposal to cope with adversity (Savickas, 2013).

3. **Career adaptability, Resilience and Life Satisfaction in Parents of Children with Intellectual Disability**

Studies in the literature on parents of children with disability have underscored, and at the same time contributed to disseminate a negative view of the conditions and perspectives they experience and at the same time conveyed a similar view about their children (Blacher, Baker, & Berkovits, 2013). Parents of children with intellectual disability (ID), more particularly, have been described as especially weak, unable to manage difficult situations, and even 'guilty and responsible' for their own and their children's life condition (Farber, Jennè, & Kirk, 1963). It is only in the 1980s that studies started describing positive characteristics associated with these individuals and undertaking a positive perspective when looking at them. However, only in the late 2000s a real shift was seen and markedly different analyses started being performed. In these analyses, although more exposed to an increased risk for psychological distress, parents of children with ID are at the same time described as reporting positive experiences.

A growing trend towards a positive psychology approach focusing attention to strengths and abilities, rather than on weaknesses, and on adaptive rather than on maladaptive functioning (Lloyd & Hastings, 2009) influenced these studies. Several positive psychological constructs (e.g., self-efficacy, optimism, hope, resilience) have been then investigated as potentially protective factors for parents of children with ID, given that they are positively related with positive outcomes, such as life satisfaction and prosocial parenting behavior (e.g., nurturance, warmth, intimacy) and with a more limited distress and depression level in parents (Blacher, Baker, & Berkovits, 2013; Sarriá & Pozo, 2015; Kashdan et al., 2002).

Attention to positive resources is also in line with Life Design that underscores the relevance of fostering the development of strengths because these can make a difference in the

professional and personal life of those who in the current context are more at risk, such as parents of children with ID.

Besides challenges associated with unemployment and under-employment and with more common work transitions, these parents face more financial challenges for their children's health care. They are reasonably more concerned about their children's education and future career. Individuals with disability are, in fact, more at-risk in the current work market (Eichhorst et al., 2010; Savickas et al., 2009).

Taking into account this approach, the present study focused on two variables, career adaptability and resilience, which may reveal crucial for parents of children with ID in coping with personal and career challenges and in the level of life satisfaction they experience.

Research Aims

Based on Rossier (2015) and Prince-Embury (2006) suggestion of the role of adaptability on resilience, a fully mediational model between career adaptability and life satisfaction, through resilience, was tested.

Participants

The study involved 152 parents of children with ID, 62 fathers (40.8%) and 90 mothers (59.2%) whose mean age was 51.25 years ($SD = 7.57$). More specifically, fathers' mean age was 53.75 ($SD = 8.81$) while mothers' mean age was 49.99 ($SD = 6.57$). Their children (67.3% boys and 32.7%) had a mean age of 15.04 ($SD = 2.83$). All participants shared a Caucasian ethno-cultural background and resided in North-east Italy.

Measures.

Career Adapt-Abilities Scale-Italian Form (Soresi, Nota, & Ferrari, 2012). For this sample Cronbach's alpha for the four subscales were .86, .82, .88, and .89 respectively. Cronbach's alpha for the total adaptability score was .94.

The Connor Resilience Scale (CD-RISC; Campbell-Sills & Stein, 2007). The CD-RISC is a unidimensional self-administered questionnaire of 10 items designed as a Likert scale with five response options (0 = *never*; 4 = *almost always*), and the highest scores indicating the highest level of resilience. An example of items is 'I consider myself able to achieve goals despite obstacles'. The alpha value of the instrument was .85. In a study carried out to adapt and validate the Italian version of the instrument in a group of parents, Santilli, Nota, Soresi, & Ginevra (2014) observed a mono-factorial structure, accounting for 42.30% of the total variance and a Cronbach's alpha of .86. For the current sample, was found an internal consistency estimates of .88

The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). In a study carried out to adapt and validate the Italian version of the scale in a group of parents, Santilli et al. (2014) observed a mono-factorial structure, accounting for 55.73% of the total variance and a Cronbach's alpha of .85. In this study, Cronbach's alpha was .87.

Procedure. Participants were identified by contacting local neuropsychiatric and social and health services of the Veneto region, located in Northeast Italy. Both the neuropsychiatric and social and health services' staff helped us identifying participants that would make up a homogeneous group according to specifically given criteria: children age and disability level. Once selected, psychologists contacted participants. The survey was sent out to all families selected and parents involved in this study returned the survey completed in prepaid envelopes.

Parents were asked to read the instructions for each instrument before beginning self-evaluation and informed they would be given a personalized report on their individual results once data had been processed. Individual counseling was available to parents upon request. Administration lasted approximately 60 minutes.

Participants, who gave their consent to participate in the study, were also informed that both children and families information were protected by professional confidentiality, and they would not be contacted in person for research purposes.

Results

Preliminary Analysis. Means, standard deviations, and inter-correlations are summarized in Table 10. Moderate and positive correlations were observed among career adaptability and life satisfaction, and among resilience and life satisfaction (see Table 10). Strong and positive correlation were observed among career adaptability and resilience. In addition, the variance inflation factors (VIFs) have been checked to test the model; they ranged from 1.00 to 2.02, much lower than the recommended 5.0 (Hair, Ringle, & Sarstedt, 2011) thus suggesting that multicollinearity was not a concern.

Three *T tests* revealed no significant gender differences as regards career adaptability $t(150) = .506$, $p = .703$, resilience $t(150) = .379$, $p = .917$, and life satisfaction $t(150) = .055$, $p = .774$ (see Table 10).

Table 10.

Means, Standard Deviations, and Intercorrelations

			Father		Mother	
	2	3	M	SD	M	SD
1. Career adaptability	.711**	.382**	90,47	13,12	89,40	12,53
2. Resilience		.415**	40,18	6,34	39,78	6,41
3. Life satisfaction			22,53	5,66	22,48	6,15

Note: ** $p < .001$

Measurement model. The hypothesized measurement model had good fit with the observed data, χ^2 (24) = 42.190, CFI = .97, RMSEA = .08, SRMR = .03. All loadings of the measured variables on the latent variables (ranging from .61 to .94) were all statistically significant ($p < .001$). It appeared that all latent variables had been adequately operationalized by their respective measured variables. Thus, the measurement model was used to test the mediation effect in the structural model.

Structural model. The hypothesized fully mediated model (Model A; see Figure 3) had a good fit with the data χ^2 (25) = 43.141, CFI = .97, RMSEA = .07, SRMR = .03.

The results for the partial mediated model (Model B) were identical to the measurement model, showing a good fit to the data. However, the partially mediated model (Model A) did not provide a marginally better fit to the data than the fully mediated model (Model B), $\Delta\chi^2$(1) = 0.951, p = .33.

The bootstrapping analysis highlighted that career adaptability (ß = .36, 95% CI [.152, .579]) had a significant indirect link (i.e., did not include zero) with life satisfaction through the mediating role of resilience.

Figure 3.

Significant Standardized Parameter Estimates in the Fully Mediated Model
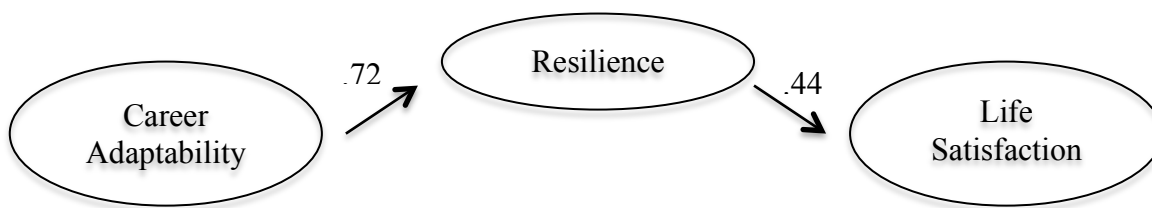
Conclusion

Results obtained are consistent with other studies showing career adaptability influence on the ability of coping with stressful demands and that it also leads to higher levels of satisfaction for quality of life experienced (Fergus & Zimmerman 2005; Luthar, 2006; Olsson, 2008; Prince-Embury, 2006; Rossier, 2015). This means that career adaptability may favor the ability to resist or quickly recover strengths and 'set it in motion again', when facing challenges threatening stability, vitality or growth in parents of children with ID. These challenges may well concern not only extraordinary or traumatic events (Sapienza & Masten, 2011) but also difficulties associated with life routines, financial challenges for their children's health care, challenges related to their children's education, social and work uncertainty in the current social context (Eichhorst et al., 2010; Nota et al., 2014; Savickas et al., 2009). This in turn may also foster parents' propensity to give a positive to adversities and to succeed in what it is important for them, thus stimulating even greater feelings of life satisfaction.

Taken together, these results suggest that cognitions about life events, difficulties and challenges encountered by parents taking care of a child with ID are more pertaining with psychological wellbeing than with the events themselves (Kashadan et al., 2002). It seems that career adaptability and resilience do not entail less stressful events, but they rather bear the perception of being capable of positively addressing adversities, less negative appraisal of events and thus a positive perception of subjective quality of life.

The third phase: A Life-Design-Based On-line Career Intervention for Early Adolescents

Subsequently to the development of new measures to assess hope, optimism, future orientation and resilience, and studied the relationship between career adaptability, positive variables, and quality of life, in the third a career intervention program derived from principles of Life Design was designed to encourage youth to invest in their future and its design.

In collaboration with LaRIOS Laboratory, an online career interventions '1,2,3…Future!' was developed considering that today's career problems require supports and services different from those traditionally used, such as matching people to jobs (Savickas, 2008). Using technology in career intervention offers one such novel approach. Technology and the Internet could support career counselors in providing high-quality services at reasonable prices through use of computerized tests, materials, evidence-based protocols, and other information that can be quickly accessible to clients (Sampson & Osborn, 2015). Technology could also enable career counselors to assist clients' with life planning by delegating to the computer person-environment matching activities and information dissemination about training opportunities and educational plans. Career intervention activities that help contain costs and reach a large number of people is becoming increasingly important (Soresi, Nota, Sgaramella, Ferrari, Giannini, Ginevra & Santilli, 2014) and using technological innovations could promote real progress toward reaching this goal (Richards & Viganò, 2013).

The Pew Research Center Report, 'Internet and American Life Project' (Rainie, 2010), suggested that technological innovations offer the possibility of involving younger generations in important activities in an interactive way. Likewise, Gati and Asulin-Peretz (2011) pointed out that a major challenge career counselors will face in the twenty-first century concerns the use of

new technologies. They asserted that it is necessary to invest in on-line career self-assessments and self-help interventions and investigate how these can be included within the career counseling process. Therefore, in collaboration with LaRIOS Laboratory (Vocational Guidance and Career Counseling Research Laboratory, Universiy of Padova) an initial test of an on-line career intervention program derived from principles of Life Design was developed and conducted. The on-line program was designed to encourage early adolescents to invest in their future and its design, increase their career curiosity and life satisfaction, and formulate career aspirations by considering issues such as the importance of education, self-determination, and the role of relationships in career planning and decision making.

On-line Career Programs for Middle School Students

Most computer-assisted career guidance systems (CACGS) developed in the second half of the twentieth century aimed to provide information about different occupations and educational alternatives. These guidance systems are characterized as interactive because an individual can operate independently to retrieve information useful for self-assessment (e.g., interests and skills) and career exploration (Brown, 2003). CACGS have been created for and tested mainly with high-school and university students, although a few such systems exist for middle-school-age youth (Hughes & Karp, 2004).

One CACGS for youth is DISCOVER (American College Testing Program-ACT, 1991), which provides self-assessments of interests, values, and abilities, as well as information about hundreds of occupations so that users can generate lists of occupations that match their self-assessment information. A second on-line program, Believe It: A Career Development Intervention For Young Women (Kovalski & Horan, 1999), comprises two 50-minute meetings developed to change four irrational career beliefs: a) children should be dependent on adults for

their career choices; b) for every person there is only one job in the world that will lead to happiness; c) choosing a career involves making final decisions at specific points in time; d) certain jobs are more appropriate for men, while other jobs are better suitable to women. A third program, Mapping Vocational Challenges (Turner & Lapan, 2005), contains three modules. In the first, Career Exploration, career information is presented through job cards displayed on the computer screen, with information about educational requirements, working conditions, and so forth; in the second, Career Mapping, students are invited to complete the occupational map of their interests; in the third, Interpretation Module, a report is issued that summarizes adolescents' responses and presents recommendations for further career exploration, education, and training. Finally, a fourth program, Computer-Assisted Career Group Guidance (Bozgeyġklg & Doğan, 2010), comprises three steps. In the first step, slides present the meaning of interests, skills, and personality traits, occupational development process, higher education options, and occupational fields. In the second step, students focus on skills and interests associated with educational options. In the third step, in relation to their career and educational preferences, participants are provided with information useful for their decisions

A strength of these programs is the use of audio-visual materials, such as slides, videos, and cartoons that focus attention on some important variables of career decision making like interests, values, irrational ideas, and skills. Yet, in general, almost all these programs have their basis in traditional person-environment fit models. In so doing, they support middle-school students' career decision making through gathering information about personal characteristics, educational programs, and occupations, and so encouraging self-assessment and interest–occupation match (Bozgeyġklg & Doğan, 2010). Alternatively, LaRIOS Laboratory wants develop a computer-based program, divided into three parts, and so called '1, 2, 3…Future!' that

would incorporate principles of Life Design with its focus on intentionality, adaptability, and narratability.

A Life-Design-Based On-line Career Program: '1,2,3…Future!'

Rather than promoting person-occupation matching, the '1,2,3…Future!' program aims to advance goals of Life Design. Specifically, it aims to help students begin a process of career construction by prompting 'meaningful activities that further self-making, identity shaping, and career constructing' (Savickas, 2012; p.15). It also aims to foster career goal setting and planning that consider educational pathways and occupational possibilities, as well as other spheres of life, like leisure and social relationships. Considering past studies that highlighted the importance to plan training to improve self-efficacy in young adolescents in not less of ten hours, was decided to focus only on concern, control, and curiosity.

Following Brown and Krane's (2000) recommendation, the '1,2,3… Future' program includes written exercises designed to help youth focus on strengths and goals, individualized interpretation of assessment results, and the presence of supportive and caring adults that offer encouragement. To design the program, guidelines for effective on-line career interventions were also followed (Proudfoot et al., 2011). These guidelines included (a) referring to validated theoretical models; (b) producing good-quality websites; (c) including authorship information, such as the identity of program developers; (d) considering ethical issues such as confidentiality and security of the site; (e) ensuring professional support of previously trained teachers and career counselors; and (f) creating interactive programs (feedback and exercises) and multimedia channels (text, graphics, images, and videos).

The program '1, 2, 3 ….Future!' (for more information, see http://larios.psy.unipd.it) comprised three two-hour sessions (six hours in total), each with a video and specific activity for

student held in the computer room of the participants' schools. The project was implemented by operators (teachers and career counselors with a specific post-graduate training in vocational guidance and career counseling) who had been specifically trained by the LaRIOS Laboratory's practioners five three-hour meetings focused on the basic ideas of the Life Design approach, the variables under observation in the program, and ways for involving the students and running the activities (e.g., how to present the activities to the students, how to welcome the students, how to run and supervise each activity).
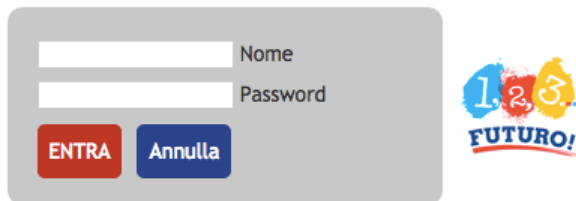
Image 1. Online Intervention program home page

Each meeting began with a 15-minute video in which specific variables on which the students would later be asked to reflect, such as interests, values and future projects are proposed. The aim was to focus their attention on the importance of these variables. The participants were then administered on-line questionnaires, invited to rate themselves on those

same variables, and urged to identify their strengths. In order to identify professional goal setting and to find pathways to achieve one's goals, then students used these strengths in the third meeting.

Per partire con il programma...

inserisci negli spazi qui sotto il nome e la password che ti sono stati dati e clicca sul bottone ENTRA; procedi seguendo le istruzioni che troverai dopo che sarai entrata/o nel programma **1, 2, 3... Futuro!**

Nome
Password
ENTRA   Annulla

1,2,3. FUTURO!

Ogni volta che hai concluso una "tappa" ...

(cioè una serie di questionari), potrai chiudere il programma seguendo le istruzioni al termine dell'ultimo questionario della serie. Successivamente, quando reinserirai il tuo nome e password, accederai automaticamente alla tappa successiva.

Image 2. Online intervention program login page

In the first session, as supported by Savickas et al. (2009) and Savickas (2013), with the first 15-minute video 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 that having more interests and values could help their career construction and their future life, in which most likely they have to do more jobs at the same time, or change their jobs more frequently; the importance of having more than one source of satisfaction were examined (Savickas et al., 2009). Lastly, the concept of prestige was introduced and, in particular, the idea that the quality of the work carried out can increase self-esteem and a positive self-view in the life context. After the video, measures which present adequate psychometric properties for the Italian context (Santilli & Soresi, 2013) are proposed to the

students, in order to help them broaden the range of interests, values, and prestigious activities to consider in their projects (for interests, for six Holland's categories, *My interests,* α values were between .60 and.80; for career values such as altruism, work in group, economic security, etc., *My work and values scale,* α values ranged between .70 and .88; for prestige, for six Holland's categories *My career prestige* α values were between .60 and .82).

In the second session, referring to Savickas et al. (2009), a video highlights the importance of investing in education and training, considering that we live in the 'knowledge society' and explaining some features of it (such as the importance of studying different disciplines to enrich professional lives, creating dynamics and evolving trajectories). After the video, the students are invited to answer to three questionnaires, validated in the Italian context (Nota, Ferrari, & Santilli, 2012), in order to help them to identify their strengths associated with the investment in education, the tendency to think about different future projects, and the presence of positive attitude (for investment in education, such as time planning, self-control, concentration, etc., *I, School and Studying Scale,* α values ranged between .77 and .83; for propensity to think about different future projects, such as make plans, take responsibility for own choices, explore new opportunities, etc., *Design My Future Scale,* α values were between.71 and .81; for positive attitudes, hope, optimism, resilience and future perspective, *Vision about the future scales,* α values ranged between .70 and.90;). At the end of second session, each student obtains a personalized report, which describes the variables measured, with bar graphs representing the strengths of the students addressed in the first and second meeting. To favor careful analysis and re-elaborations, the students are asked to read the report, draft a written synthesis of the strengths emerged for each variable, and write an overall brief description of themselves in the light of all this, in an interactive way with the computer. Based on that, they

are also invited to write down different education and career activities they may consider in their career plans. The students can print or save their personalized reports and their work.

Image 3. First report page

In the third session, referring to Savickas et al. (2009), Soresi et al.(2014), Vondracek, Ford, Porfeli (2014), a video provides the definition of goal, examples of goals, and the advantages associated with having multiple goals and multiple ways to focus on personal goals.

After the video, students are then encouraged to write down two goals in line with their strengths and their future aspirations, also in other areas of their life (love relationships, leisure activities, contribution to society) where they could make the most of their strengths. The students are invited to 'aim high' ('If I studied more…'). Lastly, they are asked to write down other professional activities that could help them achieve their goals and compare them in light of their strengths (which are shown in their personalized report).

Relazione di orientamento

Parte seconda

Cara **SARA SANTILLI**,

siamo alla seconda parte della tua relazione di orientamento.
Stiamo completando il nostro lavoro, ma non siamo alla fine di ciò che potresti ancora fare per progettare al meglio il tuofuturo.
Ti sei già impegnata molto, quindi puoi già fare un bilancio.
Come sai le professioni a cui hai pensato ricordando i tuoi obiettivi e che hanno ottenuto i punteggi più elevati sono le seguenti:

PROFESSIONE	PUNTEGGIO
medico	50.5
economista	45.5
insegnante	31.5

Come avrai certamente notato quella più promettente è la professione di medico, ma anche le altre non sono male, perchè hanno a che fare con cose per te importanti.
Tieni presente che per fare quelle professioni, dovrai ancora studiare ed impegnarti molto di più di quanto generalmente si fa nella scuola media…

Ora che siamo arrivati alla fine, prima di salutarti, vogliamo rivelarti cosa abbiamo fatto per individuare le professioni più vantaggiose per te.
Per prima cosa ci siamo chiesti quali sono i tuoi punti di forza e verso quali attività i tuoi obiettivi professionali tendevano ad orientarsi; abbiamo anche considerato quanta fatica in più pensi di poter effettivamente fare nel tentare di progettare anche qualcosa di più impegnativo, ma, forse, più vantaggioso ed interessante per te.
La "graduatoria" delle tue "professioni future" che siamo riusciti a formulare è quella che già conosci.

Image 4. First second part report page

Training program evaluation

The reason for evaluating is to determine the effectiveness of a training program. Therefore, much thought and planning need to be given to the program itself to make sure that it is effective. Recently, in psychology and other social sciences where practice is important, the calls for evidence-based practice have become more pronounced (APA Presidential Task Force on Evidence-Based Practice, 2006). In this research, the call for demonstrating the effectiveness or efficacy of interventions has been a significant focus. These issues are not without debate (Wendt & Slife, 2007). The domains of counseling psychology (Wampold, Lichtenberg & Waehler, 2002) and specifically vocational counseling (Whiston, Sexton & Lasoff, 1998; Whiston, Brecheisen & Stephens, 2003) and career guidance (Bimrose, Barnes & Hughes, 2005; Niedlich, Christ, Korte, Berlinger & Aurich, 2007) have also been concerned with the efficacy and effectiveness of counseling and other interventions.

Regarding effectiveness interventions evaluating strategy in the field of vocational guidance and career counseling, Young and Valach (2009) suggest to use multiple criteria, the integration of qualitative and quantitative techniques, and the use of several outcomes, in order to examine the behaviors, education object, as part of a complex systems.

Additionally, Fouad (2007) highlighted that the final aim of the career interventions should be to help clients to make advantageous professional and educational choices to allow them to experience greater professional and personal satisfaction. For these reasons, a career guidance program is effective if it increases the quality of life of the people and if the new knowledge developed is maintained over time and generalizable to other contexts.

Specifically, to evaluate the effectiveness of the on-line intervention, repeated-measures

analyses of variance over time as a function of treatment condition and gender were carried out. The independent variables were treatment condition (on-line vs. traditional intervention) and gender (boys and girls). Pre–post measurement was the repeated measurement factor (time; O'Brien, Kaiser, Kister, 1985). The effect size was assessed using the partial eta squared (η^2p), which evaluates the percentage of variance explained by each variable. Conventionally, the threshold values for the index η^2p are .01, .06 and .14, which indicates respectively, a small, moderate and large effect size (Green & Salkind, 2003).

Participants

Participants included were 87 boys (43.5%) and 113 girls (56.5%) with a mean age of 13 years and attending 16 different classes of 10 public Northeast Italian middle schools. Eight classes of five public schools agreed to carry out the program '1,2,3…Future!' and 100 students of these classes (98%) participated (on-line intervention group). Eight classes of five other public schools accepted the proposal to conduct a traditional vocational guidance program and 102 students (97%) participated (traditional intervention group). From this group were selected 100 students to match at the on-line intervention group. The on-line intervention group was made up of 100 students (39 boys and 61 girls; M_{age} = 13.24; SD = 1.60), and the traditional intervention group 100 students (48 boys and 52 girls; M_{age} = 13.12; SD = 1.51). No significant gender differences were identified between the on-line intervention group and the traditional group, χ^2 (1) = 1.721, p = .190, and age, t (161) = 1.627 p = .105.

Measures

Future aspirations. In a biographical data form, participants were asked once at the beginning and once at the end of the intervention to complete the statement: 'About my future what I desire most is...' Responses were content analyzed by considering the following

categories derived from the Life Design approach (Savickas et al., 2009): Self-determination and attention to choice process; description of work activities rather than a specific job; future dreams, expectations, and goals; strengths; focus on life satisfaction; attention to relationships; investment in training. *Career adaptability.* The career adaptability dimensions of concern, control, and curiosity were measured at pre- and post-intervention. Absent a single instrument able to measure these dimensions among middle-school students, three indicators were used. To measure concern, the propensity to focus pathways to pursue, Gati and colleagues' (2011) Career and Education Decision Status Scale was used. Participants were asked to respond to two questions on a 6-point Likert-type scale (1 = Not at all decided; 6 = Very decided): 'How decided are you about your future school?', ' How decided are you about your future job?' In the present study, Cronbach's alpha was .65 for the on-line intervention group and .66 for the traditional intervention group. In a pilot study Cronbach's alpha of these two items was .66 and positive correlations with level of hope students had about their future (Santilli & Soresi, 2013).

To measure control*,* the propensity to feel responsible for the construction of one's own professional life, the 5-item Locus of Control subscale of the Ideas and Attitudes on School-Career Future - Middle School Version (Soresi & Nota, 2001) was used. Participants reported on a 5-point scale how much each statement described their usual way of thinking and behaving (1 = Does not describe me at all; 5 = Describes me very well). Sample items include: ''I don't know what to think when I have to decide which is the best school for me' and ''I can't imagine what I will do when I grow up.' In the present study, alpha was .78 for the on-line intervention group and .75 for the traditional intervention group.

To measure curiosity, the propensity to explore career options and search for information, nine items of the Career Adapt-Abilities Scale-Italian Form (Soresi, Nota, &

Ferrari, 2012) were used. Participants responded to each item on a 5-on-point Likert-type scale, how strongly they developed the proposed abilities (1 = Not strong; 5 = Strongest). Sample items are: 'Imagine how my future will be,' 'Consider different ways of doing things.' Cronbach's alpha was .82 for the on-line intervention and .80 for the traditional intervention group. In a pilot study, focus on middle school student's curiosity, these nine item were used and the alpha was .79 and they correlated positively with student's life satisfaction (Santilli & Soresi, 2013).

Satisfaction with life. The five-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) was used to assess global life satisfaction. In the present study, Cronbach's alpha was .86 for the on-line intervention group and .85 for the traditional intervention group.

Procedure

A quasi-experimental, pretest–posttest design was used to assess the effectiveness of the on-line career program. Pre-test and post-test data from the two equivalent groups were compared following the interventions (Clarke, 1995).

On-line intervention group. Participants carried out the program '1,2,3…Future!'.

Traditional intervention group. During the same period in which the on-line group completed the '1, 2, 3… Future!' intervention, a second group engaged in activities traditionally carried out in Italian middle schools and required by the Italian school programs (MIUR, 2014; Soresi, 2000). Students in the traditional intervention group responded to the same measures of interests, values, and study motivation used in the on-line intervention group (*My interests*, Santilli & Soresi, 2013*; My work and values scale,* Nota, Ferrari, & Santilli, 2012*; I, School and Studying Scale,* Nota, Ferrari, & Santilli, 2012). Based on their responses, they received a personalized report with suggestions about future school programs and job activities associated

with their interests, values, and study motivation. These reports were discussed with students in groups and individually upon the student's request. In the group activities, the importance of considering personal characteristics and context possibilities for career choice were discussed. A range of information about local schools and job opportunities were also provided. Such activities required about 5-6 hours.

Results

Two vocational guidance practioners examined all answers to the question, 'About my future what I most desire is ....' (future aspirations). The percentage of agreement between the two coders was over 95% for all categories. Table 11 shows the categories and examples for each.

Table 12 lists the means, standard deviations, and intercorrelations among the measures for the total sample at pretest and posttest, means and standard deviations for participants in the traditional intervention and on-line intervention groups at pretest and at posttest. A MANOVA was conducted to determine if there were significant differences between treatment group conditions before the interventions on the dependent variables of concern, control, curiosity, life satisfaction, and future aspirations. The analysis revealed significant differences between the two groups (on-line vs. traditional intervention), Wilks's λ =.929, $F(1, 195)$, p=.010. At the univariate level, a significant difference in Control emerged $F(1, 198) = 5.662$, p=.001. Specifically the traditional intervention group reported higher mean values at pretest than did the on-line intervention group. A t-test analysis conducted in order to evaluate gender differences between dependent variables showed no significant difference at the pretest between boys and girls (p> .05).

Table 11.

Sample Participant Future Aspirations by Life-Design Variable Category

Life-Design Category	Sample Future Aspirations
Self-determination and attention to choice processes	'Choosing the right school that I want to attend ' 'Choose the good work that I will do ' 'Being able to do the job that I want and that I have chosen'
Description of work activities rather than a specific job	'Keeping up with the kids. helping people in difficulty' 'Knowing many languages, travel, use languages to help others ' 'Working with animals '
Indication of future dreams. expectations and goals	'Realizing my dreams and those of my parents' 'Realizing what I desire more' 'Achieving my goals and do what I desire'
Refer to strengths	'Doing a job where I can use my skills' 'Improve my strength' 'A job that reflects my interests and my values'
Focus on quality of life	'To live a happy life' 'Be happy despite difficulties' 'Live happily in a green house. continuing to pursue my music interest'
Attention to relationships	'Helping other people' 'Build a lovely family' 'A job that allows me to be comfortable with my family'
Investment in training	'Engage in study' 'Attend college and a master specialization' 'Achieving good work and study results '

Table 12

Correlations Among the Measures and Means and Standard Deviations.

Measure	1	2	3	4	"More traditional" intervention group				Online intervention group				Tot			
					Pre		Post		Pre		Post		Pre		Post	
					M	*DS*	*M*	*DS*	*M*	*DS*	*M*	*DS*	*M*	*DS*	*M*	*DS*
1. Concern	–	.17*	.32**	.57**	6.73	2.60	7.52	2.67	6.92	1.92	9.13	2.28	6.83	2.26	8.33	2.48
2. Control	.10	–	.16*	.15*	21.26	2.64	20.65	2.89	20.26	3.27	22.16	2.56	20.76	2.96	21.41	2.73
3. Curiosity	.14*	.26**	–	.27**	31.36	4.81	31.55	5.27	31.36	4.84	35.38	4.91	31.36	4.83	33.47	5.09
4. Life Satisfaction	.10	.28**	.41**	–	13.73	2.84	13.84	2.91	13.02	3.25	14.89	2.53	13.38	3.05	14.37	2.72

Note. Intercorrelations for pretest (n=100) are presented below the diagonal, and intercorrelations for posttest (n = 100) are presented above the diagonal.

A repeated-measures MANOVA was conducted to verify gender (boys vs. girls), treatment condition (traditional vs. on-line), and time (pre- and post-intervention) differences on any of the dependent variables. As seen in Table 3, the repeated-measures MANOVA showed a main effect for treatment condition (between variable), Wilks's λ = .886, $F(5, 194)$ = 6.135, p =.001, η^2_p = .114. Specifically, the on-line intervention group presented more concern, control, curiosity, life satisfaction, and future aspirations than did the traditional group. The MANOVA also showed also a main effect for time (within variable), Wilks's λ = .602, $F(5, 194)$ = 25.126, p =.001, $\eta^2 p$ = .345. Specifically, the post-intervention means were higher than the pre intervention means. A main effect for gender was not observed, Wilks's λ = .954, $F(5, 192)$ = 2.316, p =.06. Significant interaction for gender x time was not observed, Wilks's λ = .826, $F(5, 192)$ = 6.535, p = .51.

Significant interaction was yielded for gender x treatment condition, Wilks's λ = .983, $F(5, 191)$ = .826, p = .005, $\eta^2 p$ = .075. At the univariate level, the following variables revealed significant differences: Curiosity, $F(1, 196)$ = 8.749, p = .003, $\eta^2 p$ = .002 and Life Satisfaction $F(1, 196)$ = 13.420, p = .001, $\eta^2 p$ = .043. Bonferroni-corrected post-hoc revealed that, regardless of the

time (pre- and post-intervention measurements), boys of the on-line intervention condition produced higher mean scores on curiosity and life satisfaction than did girls.

Significant interaction was yielded also for Treatment condition x Time, Wilks's λ = .657, $F(5, 197)$ = 13.230, p = .001, $\eta^2 p$ = .172 as seen in Table 3. At the univariate level, the following variables revealed significant differences: Concern, $F(1, 196)$ = 56.91, p = .001, $\eta^2 p$ = .070, Curiosity, $F(1, 196)$ = 29.090, p = .001, $\eta^2 p$ = .107, Life satisfaction, $F(1, 196)$ = 23.439, p = .001, $\eta^2 p$ = .062, future aspirations $F(1, 196)$ = 20.317, p = .001, $\eta^2 p$ = .115. Bonferroni-corrected post-hoc comparisons revealed that, regardless of gender, students in the on-line intervention group showed more concern, curiosity, life satisfaction, and categories used to describe their future aspirations than did the traditional intervention group. Lastly, no significant interaction was yielded for Gender x Treatment condition x Time, Wilks's λ = .983 $F(5, 191)$= .839, p = .502.

Discussion of the third phase

The results indicated that students in the on-line intervention group showed higher levels of concern, control, curiosity and life satisfaction than did those in the traditional intervention group. Results seem encouraging taking into account the partial eta squared values, which were between .06 and .14 and that can be considered medium. The students from the on-line intervention group also indicated future aspirations that take into greater account some key aspects of the Life Design approach, such as self-determination and attention to choice processes, description of work activities rather than a specific occupation, indication of dreams/expectations/goals about their future, strengths, life satisfaction, attention to relationships, and investment in training.

In general, these results agree with Harris-Bowlsbey (2013) who said that the use of computer-assisted career guidance systems with adolescents, in order to focus on professional goals, could stimulate more investment in their future. These findings also suggest that it is possible to devise a low-cost intervention based on the Life Design approach that focuses on career

adaptability, and therefore strengthen a series of individual resources to handle developmental tasks to prepare for career future and cope with the difficult times that we are going through.

General Conclusion

Within Life Design, careful attention is given to new and important dimensions such as adaptability, hope, and optimism, viewed as key resources for future workers positively projecting themselves toward their own future, managing and anticipating professional transitions and successfully dealing with current labor market. The career adaptability favorites the development of hope, optimists, future orientation, and resilience that in turn, motivates individual to set career goals as they foresee favorable outcomes occurring and thus are stimulated to implement actions that will achieve these goals (Patton, Bartrum, & Creed, 2004).

Additionally, as suggest by Savickas (2013) without a positive orientation toward future, adolescents can not constructively engage in educational and professional planning and similarly adults cannot be constructively involved in actions tailored to their career progression and to overcome work transitions.

Specifically, the first phase of the present research was aimed to develop new measures to investigate hope, optimism, future orientation, and the resilience. The second phase, was aimed to analyze the relationships between adaptability, hope, optimism, future orientation, resilience and life satisfaction. Finally, the third phase of the project was aimed to develop and tests the effectiveness of an on-line career intervention based in life design principle. Concerning the first phase, the results showed that Vision About Future and Design My Future self-report questionnaires are valid and reliable measures, which support they use in the Italian context. This allowed to proceed in the research project with the second and the third phase and to use validated instruments to analyze the relationships between the constructs and to evaluate the effectiveness of the online training.

As regards the second phase of the research, the studies' results show that career adaptability influences positive dispositions regarding the future (Öncel, 2014). This means that, being career adaptable, or considering oneself able to construct their own future career

intentions and to cope with career transitions, may favor a general subjective well-being to face difficulties and to achieve important future goals (Konstam, Celen-Demirtas, Tomek, & Sweeney, 2015). As regards the direct relationship between career adaptability and life satisfaction, results obtained in three different studies are in line with those of other studies with adolescents (Hirschi, 2009) but also with adults (Maggiori et al., 2013). This indicates that, disregarding age, career adaptability positively contributes to general life satisfaction.

This indicates that, disregarding age, career adaptability positively contributes to general life satisfaction. This may be due to the fact that the ability to cope with educational, vocational, or career challenges, by exploring different possibilities, options, and opportunities, for example, is an important resource throughout childhood and adulthood and contributes to well-being by increasing life satisfaction. On the contrary, people with less resources might have much more difficulties to cope with the challenges of the contemporary labor market; people with less resources being also less capable of taking advantage of the contextual opportunities (Nota & Rossier, 2015).

In addition, these results emphasize the idea that the socio-economic crisis, we are going through, requires innovative ways which support the psychological development of human resources (Luthans & Youssef, 2007). In this respect, Wilkinson (2006) argued that the so-called 'war for talent' that characterized the work market until a short time ago, now appears an inappropriate enterprise approach, because the skills that companies should seek in their workforce should regard not only work performances and competences but also variables that increase today's workers' life satisfaction, such as adaptability, hope, optimism, future orientation, and resilience. The investment in human capital could lead to an increase in hiring opportunities, especially for individuals that so far have been identified unable to satisfy high performance levels and productivity standards, such as people with disability (Stensrud, 2007ab).

The results achieved have support the development of an on-line career intervention program derived from principles of Life Design.

The on-line program '1,2,3…Future!' was designed to encourage early adolescents to invest in their future and its design, increase their career curiosity and life satisfaction, and formulate career aspirations by considering issues such as the importance of education, self-determination, and the role of relationships in career planning and decision making.

The results are encouraging: it is possible to conclude that the training is effective in increasing levels of career adaptability and life satisfaction in middle school students. They also suggested that intervention increased students' narratives future aspirations that can help them to design a meaningful life-career.

Implications for practice. The instrument developed in the first phase could be helpful in investigating thoughts, ideas and feelings middle school students have about their propensity to hope, optimism, future orientation and resilience. These new measures could also be used in pre- and post-test sessions to verify the effectiveness of career education programs aimed at strengthening hope, optimism, the orientation to the future and resilience in middle school students. Finally, they could be used in research aimed at examining hope, optimism, future orientation and resilience indicators, and psychosocial and professional issues in pre-adolescents.

Important implication of the second phase is that it emphasizes that career counseling models should take the context into account, as does the social cognitive theory of career (Lent, Brown, & Hackett, 1994) or the life design paradigm (Savickas et al., 2009). This implies, as suggested by Hirschi (2010), that counselors should pay a particular attention to the specific contextual demands regarding career development of people, instead of focusing mainly on age or grade level to determine appropriate career interventions. Savickas et al. (2009) remind us of the important question when we provide services to individuals: 'How may individuals best design their own lives in the human society in which they live?' It is also important for individuals in a

global society to be aware of multicultural perspectives in order to competently develop career/life style they prefer. Therefore, we should pay attention to the cultural context in which the individual exists.

It could be useful to realize career education activities that can help to increase career adaptability, which in turn can predict employment and re-employment quality, and favor the development of a positive motivational state towards future (Koen, Klehe, and Van Vianen, 2012),

These career education activities can facilitate information and data gathering, as well as knowledge about jobs and opportunities in one's own life context, in order to have a realistic idea of the different possibilities and a better understanding of the work market. These interventions should be aimed at stimulating the use of these skills and attitudes to construct people's professional life.

Furthermore, Masdonati and Fournier (2015) consider that the school-to-work and work-to-work transition process as it occurs in modern Western societies, need to develop interventions that focus on the relationship between individuals and their specific life context. The meaning of career in traditional Eastern society might be different from that in modern Western society. However, there might be similarities when we explore the meaning of career life in the current societies (Maree, 2015).

The third phase carried out has shown that it is possible to realize a project involving career counselors and teachers trained on the important issues of the Life Design approach. This also facilitates the dissemination of a culture of updated design professionals, and the ability to manage a program such as the one presented with large groups of students interested in thinking about their future. Programs like this can thus be used in school contexts to provide inexpensive effective services (Harris-Bowlsbey, 2013), so that families may bear the costs if school funds are no longer available. Thanks to these programs, practitioners could identify situations that may be more at risk, considering in particular the boys. They could also check with these students if there is the need for further activities, such as face-to-face career counseling sessions.

Limitations and directions for future studies. The present research project is limited in a number of ways. First of all, the different studies involved young people and adults who have voluntarily joined the activities promoted by the LaRIOS laboratory (Laboratory of Research and Intervention in vocational guidance and career counseling), University of Padova. However, they are not representative of other types of persons who may contact a vocational guidance and career counseling service. For this reason, future research should involve adolescent and adults who really experience different situations, to improve results generalization.

Furthermore, the research project is limited from the absence of some information related to demographic characteristics of the samples, such as socio-economic family index (SES).

Although results obtained in the first phase of the present research provide preliminary evidence to support the psychometric properties of the measure in Italian preadolescents, future works should strive to examine the Vision About future and Design My future with diverse ethnic groups that are presents in Italian schools, such as students that come from either Africa or Est Europe, and within additional countries with different biological, psychological and social resources that could affect the idea of a general positive future attitude (Bruininks & Malle, 2005). Future research should then verify whether investigations involving differently aged participants (e.g., children and adults) with the aim of identifying variables associated with career planning paths. t Extending validation studies from children to adults will help earlier detecting levels of hope, optimism, future orientation and resilience, which may interfere with career designing and setting up preventive career counseling actions focus to help individuals to think about more possible futures.

Finally, test-retest measures should be also introduced in further research studies.

As regards the second phase, relations between career adaptability and positive variables were studied. The first limitation of these studies consists in the findings and reflections reported herein that refer that models could be theoretically influenced by the

context. Hopefully future research will recruit participants from other regions and countries, aiming to study and test the model in different contexts, in order to verify its generalizability. Moreover, with regards to the dimensions of career adaptability, it may be important to carry out examinations of the four sub-components instead of the simple general career adaptability, in order to evaluate potential differential effects that these dimensions (concern, control, curiosity, confidence) have on satisfaction. Future research could also consider other positive psychology variables, such as courage, and study their role in career construction and life design of young and adults, as well as conduction longitudinal studies, to examine if these characteristics, in relation with career adaptability, help over time to develop vocational identity.

As regard to on line career program '1,2,3 ... Future!', it was developed for students in their last year of middle school and a future research, interested in the assessment of on-line career counseling interventions, should involve students of different ages. Furthermore, it must be taken into account that the satisfactory assessment of training efficacy should not be limited to recording changes that occur only a few weeks after program completion. Future research should also include 6- and 12-month follow-ups to check if the students maintain and generalize the abilities focused on in the intervention. It would be important to replicate the work using an instrument that specifically measures middle school students' adaptability. Future research could also consider the impact that an on-line career counseling intervention may have on other variables linked to the Life Design approach. Also, could be important assessing the impact of intervention effectiveness with different technology tools (PC, tablet, smartphone) through which the program is delivered. Despite the present study's limitations, the current results seem to confirm that this on-line program increases the career adaptability of young adolescents, namely the identification of educational and professional paths to be taken, accountability and future investment, curiosity about work, occupations, career paths, and life satisfaction.

Furthermore, the questionnaire used to the training evaluation, are based on self-reported information and multi-trait multi-method matrix design should be used to examine how self-report and informant-report scores correlate. Finally, despite of the fact that participants were randomly assigned to the on-line intervention and control group, a more sophisticated experimental design could have a greater scientific rigor and allow to control some effects that can reduce the internal validity of the intervention.

Despite the limitations, the results encouraged further research projects. International collaboration with Mark Savickas and Paul Hartung, Northest Medical University (NEOMED) to study and validate qualitative measures to support the narration of the stories of people's lives. Specifically, a study was scheduled to assess the validity of My Career Story (Savickas e Hartung, 2012), an autobiographical workbook designed to simulate career construction counseling. The MCS contains a series of questions designed to tell the life story and reveal the life theme that are then related to a current career problem. Reflecting on the question's answers aims to promote key life-design goals of narratability and intentionality.

Furthermore, the relation between career adaptability, positive youth variables and life satisfaction will be analyzed in an international prospective, considering different European context and the common uncertainty feelings of youth to live in a present of precariousness with the fear to be not able to plan the future. Specifically, a cross cultural work, a collaboration started during the first ECADOC Summer School (European doctoral school specializing on Career Guidance and Counselling) with KU Leuven, Belgium and University of the Free State, South Africa, will be conducted with the aim of analyze the relationship between career adaptability and life satisfaction and the influence of positive variables (hope, optimism, future orientation and resilience) on this relationship in young adolescents of different European countries. A mix method study that involves Italian and South African middle school students was planned in order to assess in a

quantitative a qualitative way the mediational role of hope and optimism in the relationship between career adaptability and life satisfaction and happiness.

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Appendix

VISION ABOUT FUTURE

Istruzioni

Qui ci sono delle frasi che descrivono pensieri che hanno avuto alcuni alunni di scuola Media. Leggi una frase alla volta e segna se anche a te è capitato di pensare così.

Ricorda che:

1 = significa **No, io non penso mai** così;

2 = significa **Solo poche volte** io penso così;

3 = significa Si, io **abbastanza spesso** penso così;

4 = significa Sì, io **spesso** penso così;

5 = significa Si, io **molto spesso** penso così.

	1	2	3	4	5
1. Penso che otterrò ciò che desidero di più.	☐	☐	☐	☐	☐
2. Penso di essere più ottimista della maggior parte dei miei compagni.	☐	☐	☐	☐	☐
3. Penso che un giorno vedrò realizzati anche i miei più grandi desideri.	☐	☐	☐	☐	☐
4. In futuro lavorerò con persone che mi stimeranno molto.	☐	☐	☐	☐	☐
5. Penso che anche se incontrerò delle difficoltà continuerò ad essere ottimista.	☐	☐	☐	☐	☐
6. Fra qualche anno smetterò di sognare e sperare.	☐	☐	☐	☐	☐
7. Difficilmente troverò un lavoro veramente adatto a me	☐	☐	☐	☐	☐
8. Penso di essere una persona ottimista.	☐	☐	☐	☐	☐
9. In futuro riuscirò bene anche ciò che oggi non riesco a fare	☐	☐	☐	☐	☐
10. Penso che mi capiteranno certamente più cose positive che negative.	☐	☐	☐	☐	☐
11. Le speranze per il mio futuro sono poche.	☐	☐	☐	☐	☐
12. In futuro dovrò accontentarmi di ciò che mi capiterà.	☐	☐	☐	☐	☐
13. Penso che riuscirò a superare bene anche i momenti difficili.	☐	☐	☐	☐	☐
14. So che un giorno vedrò realizzati i miei desideri.	☐	☐	☐	☐	☐
15. Penso di avere tanto entusiasmo ed ottimismo.	☐	☐	☐	☐	☐
16. In futuro sarò impegnato/a in progetti molto importanti.	☐	☐	☐	☐	☐
17. E' inutile sognare: in futuro non riuscirò a fare quello che ho in mente.	☐	☐	☐	☐	☐
18. Penso che alla fine sarò molto soddisfatto di me.	☐	☐	☐	☐	☐
19. Penso che per me le cose andranno sicuramente bene.	☐	☐	☐	☐	☐
20. Ho la certezza che in futuro riuscirò a fare qualcosa di interessante per me.	☐	☐	☐	☐	☐

DESYGN MY FUTURE

Istruzioni

Qui di seguito sono riportate delle frasi che descrivono pensieri e comportamenti di alcuni alunni delle scuole medie.

Leggi una frase alla volta e segna quanto spesso è accaduto anche a te di pensare o comportarti così.

Tieni presente che:

1 = significa **No, io non penso mai** così;

2 = significa **Solo poche volte** io penso così;

3 = significa Si, io **abbastanza spesso** penso così;

4 = significa Sì, io **spesso** penso così;

5 = significa Si, io **molto spesso** penso così.

	1	2	3	4	5
1. Penso spesso a quando sarò grande.	☐	☐	☐	☐	☐
2. Mi piace anche sognare ad occhi aperti su ciò che il mio futuro mi riserverà.	☐	☐	☐	☐	☐
3. Guardare avanti e pensare a cosa accadrà in futuro mi fa sentire pieno/a di energia.	☐	☐	☐	☐	☐
4. Mi considero una persona forte.	☐	☐	☐	☐	☐
5. Anche se sono sotto pressione riesco a concentrarmi e a pensare con lucidità, con attenzione.	☐	☐	☐	☐	☐
6. Mi piace pensare a dove mi troverò tra qualche anno.	☐	☐	☐	☐	☐
7. Penso che il mio futuro dipenderà molto da quanto io mi darò effettivamente da fare.	☐	☐	☐	☐	☐
8. In qualsiasi cosa mi impegno al massimo.	☐	☐	☐	☐	☐
9. Costruire un futuro positivo per me è qualcosa a cui penso spesso.	☐	☐	☐	☐	☐
10. L'idea di poter in futuro realizzare i miei sogni mi appassiona sin d'ora.	☐	☐	☐	☐	☐
11. Mi impegno sempre molto per raggiungere ciò che mi sta a cuore.	☐	☐	☐	☐	☐
12. A proposito del mio futuro ho molte idee e speranze.	☐	☐	☐	☐	☐
13. Penso di essere una persona forte e che non si scoraggia facilmente.	☐	☐	☐	☐	☐
14. Mi piace pensare alle cose che potrò fare per avere un buon futuro.	☐	☐	☐	☐	☐
15. Sono convinto/a che posso farcela ad ottenere ciò che mi propongo.	☐	☐	☐	☐	☐
16. Mi considero in grado di affrontare tutto ciò che potrebbe capitarmi.	☐	☐	☐	☐	☐
17. Penso di essere una persona che non si scoraggia facilmente.	☐	☐	☐	☐	☐
18. Immaginare il mio futuro mi fa sentire ottimista.	☐	☐	☐	☐	☐
19. Quando penso al mio futuro punto l'attenzione sul tipo di persona che voglio essere.	☐	☐	☐	☐	☐
20. Penso di essere in grado di affrontare anche le situazioni difficili che potrebbero verificarsi per me in futuro.	☐	☐	☐	☐	☐
21. Penso spesso a come vorrei che andassero le cose in futuro.	☐	☐	☐	☐	☐