

Sustainable Career Development: Enchasing Psychological Well-Being and Reducing Resistance to Change

Katerina Argyropoulou^{ORCID}, Aspasia Sissy Karavia, Olympia Chaidemenaki

Department of Educational Studies, School of Philosophy, National & Kapodistrian University of Athens, Athens, Greece
Email: kargirop@eds.uoa.gr

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Abstract

This paper aims at highlighting sustainable career development which can help university students effectively respond to the complexity of the labor market and career development challenges. Given that so far little is known regarding the degree to which higher education students possess and develop sustainability in their career, a cross-sectional survey was conducted to investigate the relationships that occur among sustainable career development, resistance to change and psychological well-being. The survey was administered to 196 undergraduate university students in Athens, Greece. Results demonstrated that sustainable career development; namely, life/career management, future life/career projects and identity awareness predicts psychological well-being and resistance to change. Implications for career counseling interventions and further research are provided.

Keywords

Higher Education, Sustainable Career Development, Sustainable Career Resistance to Change, Psychological Well-Being

1. Introduction

Our century is characterized by rapid and incessant economic and social change. Thereby, terms such as transition, complexity, uncertainty, adaptation, harmonization and sustainability are becoming increasingly important, weakening, respectively, terms such as linearity, security, certainty and stability. In this sense, emphasis is placed on human diversity, uniqueness, and purposiveness in work while career is seen as a means to create a life of personal meaning and social impact (Karavia & Argyropoulou, 2024). There is also a greater recognition of ca-

reer affordances: the self-directed nature of modern careers suggests that individuals can determine precisely what constitutes a “good” career for them, and how to create and maintain person-career fit (Schweitzer, Lyons, & Smith, 2023). This reality seems to have led career counseling to rethink the roles that career plays and adapt its paradigms and best practices on a global scale (Hartung & Di Fabio, 2024). Therefore, it is important for modern career guidance services to motivate individuals to engage in activities to shape active lives that contribute to human, equitable and sustainable global development and promote social justice and decent work for all (Guichard, 2022). In other words, they must pursue ongoing sustainability in their careers.

This approach recognizes the beneficial effects of sustainable careers, which aim at strengthening the subject’s personal and professional identity, his/her personal assets and strengths, goals and motivation, through the individualization of future life and career plans and in the context of a wider socio-economic reality (Argyropoulou, 2022a). It is noted that individuals evolve in distinct ways in their careers based on both personal characteristics and their interaction with their environment. According to De Vos *et al.* (2020) a sustainable career is reflected in three indicators: personal well-being and health, a sense of satisfaction and success in career development and an increase in productivity. This conceptualization suggests that career sustainability describes the purpose, the meaning, and the satisfaction that a career can provide (Argyropoulou *et al.*, 2020a).

Against this background, career counseling practice should place more emphasis on its preventive-educational role with the aim of supporting clients (e.g., university students) to act proactively (McIlveen, 2015) in order to confront the self-directed nature of modern careers, which suggests that individuals can craft a unique path forward, to ensure their needs are met, within the demands and constraints of their environment (Ge, Gao & Yu, 2023). Prevention is articulated in three levels: Primary, secondary, and tertiary prevention. Primary prevention is focused on both avoiding the emergence of a problem before it begins and on promoting strengths. The preventive perspective is more effective when the efforts to decrease risks are combined with the efforts to increase resources (Di Fabio & Duradoni, 2020).

We contend that this aim can be realized by helping university students to develop sustainable development behaviours in their careers in order to reduce resistance to their career trajectories’ unexpected changes and challenges and to promote psychological well-being.

2. Sustainable Career Development

Career sustainability has become a key focus in the scientific field of career counseling and guidance. Its conceptual foundation aligns with three major Sustainable Development Goals (SDGs) of UNESCO, deriving from the 2030 Agenda concerning good health and well-being of employees (Goal 3) as well as quality education (Goal 4) and promotion of decent work (Goal 8) (Di Fabio & Rosen, 2020).

The theoretical background of sustainability in career is based on the Psychology of Sustainability and Sustainable Development, promoting a way of thinking and acting that expands the traditional concept of sustainability and establishes an interdisciplinary reflection framework that supports the well-being of individuals and societies (Di Fabio, 2017). Within this context, there is a focus on deeply examining psychological processes at multiple levels, including within individuals, within environments, among individuals, among environments, and between individuals and their surroundings, including the natural world, from the past to the present, and into the future (Rosen & Di Fabio, 2023).

According to literature, sustainable careers are described as a sequence of career experiences (jobs, job tasks, career choices and decisions) that emerge through a variety of continuity patterns over time, crossing different social spaces, characterized by individual action and subjective interpretations towards career management issues and parameters (Van der Heijden et al., 2020). Such conceptualization seems to suggest that sustainable careers are now perceived as a cyclical, self-regulating process that provides opportunities for “dynamic learning”. To understand what makes a career sustainable, we adopt the perspective of De Vos and colleagues (2020), who identify three key dimensions for analyzing career sustainability: the individual, the context, and time. First, the individual is the central actor in defining a sustainable career, making choices that shape their professional journey over time. Second, careers are influenced by multiple contexts, including the work environment, personal life, occupational sector, labor market, and broader societal and cultural factors. Lastly, because careers evolve over time, it is essential to consider what contributes to sustainability across the lifespan.

Against this background, we introduced the concept of sustainable career development (Argyropoulou, 2021) to describe a process that is *dynamic*, *continuous*, and *reflective*—rather than a fixed career characteristic. This process involves: (a) Harmonizing multiple Subjective Identity Forms (SIFs) (Guichard, 2009); (b) Encouraging personal growth and adaptability in fluid career contexts (Savickas, 2015); (c) Fostering social responsibility and alignment with authentic values (Di Fabio, Maree, & Kenny, 2018); (d) Promoting a balance between life and career roles as individuals navigate their future personal and professional aspirations. More specifically, the multiple subjective forms of identity refer to the individual roles that the person assumes and that, as a result, influence their life and career plans. Self-awareness and environmental awareness contribute to the ability to manage complex problems and decisions, with which the individual is called to respond to their personal needs based on personal and professional values, the personal meaning and the life purpose they have identified for themselves. Furthermore, the notion of social responsibility highlights the awareness of personal responsibility towards the society as a whole, while authentic values are linked to the construction of authentic meanings and the importance of purpose for individuals and societies. Finally, balancing life and career roles describes the harmonious and comprehensive integration of work and the time outside of work,

so that individuals can realize their potential in all areas of life in which they play a role (Argyropoulou & Mouratoglou, 2022). For example, a student who actively participates in internships, volunteer work, and ongoing self-reflection through journaling or mentoring sessions exemplifies long-term professional involvement. By constantly reassessing academic choices, personal beliefs, and career aspirations in response to real-world experiences, students can better match their personal and professional development with larger social and economic settings.

Our approach extends career sustainability concepts by emphasizing individual agency and action to explore how people shape their identities through an evolving intrapersonal process. Rather than viewing career sustainability from a human resources (HR) perspective, we focus on the career agent—the individual who cultivates reflexivity to actively shape and manage their present and future career trajectory (Argyropoulou et al, 2020b). This process is retrospective (looking to the past) and prospective (envisioning the future), so the career actor not only “knows how to do something”, but also “knows how to be”, as well as “how to become” in order to maintain a sustainable career. We therefore bring added conceptual depth to this emerging and important concept, asking questions such as, *how can individuals actively shape a meaningful and sustainable career that contributes to personal well-being, social equity, and long-term development?*

The pursuit of sustainable career development is reshaping career counseling approaches, aiming to engage clients in the process of career exploration by developing goals with a social content, and acquiring environmental knowledge (managing complex environments to meet personal needs and values, giving meaning and a sense of purpose in life), as well as awareness of their personal responsibility towards others. Consequently, the concept of sustainable career development is applied by practitioners as a lens through which people’s ongoing endeavors are viewed on a personal level (as individuals), on work level (as members of the labor market) and on a social level (as members of the wider society) (Argyropoulou & Lorentzos, 2021).

3. Resistance to Change

The concept of change is a multidimensional concept, which involves multiple variables, both dependent and independent. A change may be internal or exogenous, it may even be expected or imposed and can be distinguished between active or passive supportive management (Argyropoulou, 2022b). The increasing importance of change in the workplace makes it essential to assess an individual’s personal orientation toward change and integrate this information into overall evaluations and decision-making. More specifically, as individuals become increasingly aware of their personal orientation toward change, they gain valuable insights that enable them to make adjustments and strengthen their relationship with their career (Oreg et al., 2009). Resistance to change is thus a natural defense mechanism as the individual attempts to avoid an unexpected situation in his or her life and career. However, resistance to change is not merely a negative reaction

to an undesirable existing situation; it also reflects a general negative disposition or behavior that a person exhibits even toward the possibility of change occurring (Oreg, 2003). If change is accepted as beneficial, resistance to change can be seen not as an obstacle, but as a tool or means for growth and adaptation (Oreg, 2006).

The literature on resistance to change suggests that individuals differ to the extent to which they seek and negotiate change. Although many people manage change according to their own frame of reference, they often experience others' approach to change based on personal norms and the reactions these generate (Oreg, 2003). For example, some individuals seek stable and sustained planning (recurring activities/routine) to manage life transitions, while others feel more comfortable navigating environments with a strong element of uncertainty, which requires the development of coping strategies to address challenges. Similarly, some people experience strong emotional reactions such as stress and anxiety when faced with unpredictable events, while others focus on the challenges of transitions rather than their long-term benefits (short-term focus). Finally, some individuals exhibit cognitive rigidity, firmly adhering to their views and struggling to adjust their attitudes when faced with life's challenges. Together, all four of the above dimensions highlight a variety of reasons that predispose individuals to orient or resist change or even avoid it altogether (Oreg et al., 2009).

So, resistance is an individual's behavioral response to a perceived or actual threat to their baseline status, which may be preceded and amplified by mistrust, fear, and communication barriers, influencing the implementation, quality, and sustainability of change (DuBose & Mayo, 2020). Resistance, as a human reaction, arises in the face of uncertainty, perceived threats, or a lack of awareness regarding the rationale behind a change (Baker, 2007). As career environments are becoming more dynamic and prone to change, resistance to change is becoming increasingly important in career counseling and guidance. Consequently, individuals are increasingly required to negotiate transitions in their career. In this sense, resistance to change is considered a useful element for collecting information on how individuals manage challenges or negotiate adjustments in their educational and career lives (Oreg, 2018). Resistance to change differ from other career stress factors by focusing specifically on the reactions and behaviors exhibited in response to an impending or ongoing change process, distinguishing it from general job-related stressors or broader concerns about career prospects (Kavanagh, 2004). And by stating general career related stress factors can be more generalized like uncertainty about future career opportunities, performance anxiety or broader labor market insecurities (Furxhi, 2021).

Against this background, the context of change is becoming increasingly important in employment, where stability is gradually becoming the exception, and therefore, individuals are increasingly required to adapt to an ever-changing professional environment. Therefore, career counseling needs to enhance people's awareness of their personal orientation towards change, in order to provide them with valuable information that will be used to direct their careers towards sustain-

able pathways. However, individuals must continually reflect on internal and external cues, negotiate changes, and adapt accordingly (Retkowsky *et al.*, 2023). Sustainable career development cannot be achieved and maintained indefinitely without ongoing effort, as both individuals and their circumstances change over time. Considering the multiple career-related challenges which arise for higher education students, both during and after graduation, it is self-evident how important it is to help them develop the appropriate attitudes to manage change as a way for them to successfully deal with transitions, to enhance their employability and finally, to be successful both at work and in life (Sidiropoulou-Dimakakou *et al.*, 2015).

4. Psychological Well-Being

Psychological well-being is a multidimensional concept that includes autonomy, self-acceptance, environmental awareness, personal development, positive relationships with others and purpose in life (Ryff, 2014). Autonomy reflects an individual's capacity for independent thought and action, while self-acceptance involves a positive evaluation of oneself and one's life. Similarly, effectively managing complex environments to respond to life situations describes the concept of environmental knowledge, while establishing quality bonds with others refers to the creation of healthy interpersonal relationships. A sense of purpose emerges when individuals set meaningful goals and perceive their lives as valuable. Lastly, personal growth is achieved through a continuous desire to evolve, learn, and remain open to new experiences (Argyropoulou *et al.*, 2022).

According to the literature, the relationship between psychological well-being and career development provides a psychological foundation that encourages higher levels of participation in the career exploration process. Similarly, it seems to be associated with the adoption of proactive behaviors aimed at managing challenges and developing long-term career plans (Argyropoulou, *et al.*, 2021). Finally, it is associated with a number of positive outcomes, such as meaning-making in the workplace and enhanced work orientation, supportive environments and positive relationships creation, collaboration, learning and personal development, adopting flexible plans and/or maintaining high motivation to achieve goals (Percy *et al.*, 2024)

For this reason, young people need to learn how to navigate new experiences related to various career issues in the present, enabling them to take actions and engage in interactions that shape their future. This will enhance their career, personal life, and psychological well-being. Consequently, higher education institutions can attract and retain high-quality students (Hewitt-Dundas & Roper, 2018) and train graduates capable of meeting the growing demand for building active, meaningful careers. These graduates will be equipped to conceptualize themselves as sustainable projects and contribute meaningfully to society. Universities should, therefore, consider offering 'additional' modules within degree programs that focus on issues such as sustainability, managing change, and cultivating well-

being.

5. Scope and Research Hypotheses

Through a multidisciplinary framework, we attempt to investigate the relationships that occur among sustainable career development, resistance to change and psychological well-being, taking under consideration that sustainable career development highlights the individual's dynamic interaction with the environment, resistance to change provides useful information when an individual is trying to cope with adjustments in their work and psychological well-being has a positive influence on career development. In addition, differences such as the level of career sustainability, resistance to change and psychological well-being between working and non-working students, as well as gender differences, are points of interest in the research. There is a gap in the existing literature which we intend to fill through this study.

6. Method

6.1. Participants

The sample of the study consisted of 196 undergraduate (Bachelor) students of the Department of Educational Studies of the University of Athens, Greece from which 63 (32.1%) were males and 133 (67.9%) were females. The female overrepresentation is partly a result of the type of studies. Common obligatory subjects for all students are Ancient Greek, Philosophy, Theory and Methodology of Teaching, Educational Assessment, Career Guidance, Educational Psychology etc. The majority of the students on the sample were between 18-25 years old. Today's generation, which attends higher education institutions, is the most diverse and multicultural generation. It is the only generation that has not experienced life outside of digital technology, and is marked by the economic crisis of the 2010s, the Covid-19 pandemic and the ongoing energy/environmental crisis (Vrettou & Argyropoulou, 2023). In terms of year of study, 52.6% are freshmen, while 47.4% are seniors. From the total sample, 107 (54.6%) declared they had occupational experience as compared with those who declared that they had not ($n = 89$, 45.41%).

6.2. Measures

For the data collection employed were:

The Sustainable Career Development Scale (SCDS; Argyropoulou, 2021; Mouratoglou, Argyropoulou, & Charokopaki, 2022) was used to assess the level of participants in career sustainability. The 25-item scale has reached adequate psychometric properties in study with adults ($N = 207$). Three dimensions were supported by exploratory and confirmatory factor analyses. *Life/career management*: consists of twelve items and represents the individual's ability to navigate and effectively manage his/her life/career (e.g. "I am aware of the importance of career management skills in my interaction with the environment"); *future life/career projects*: comprises of five items that mainly refer to self-awareness in terms

of feelings, values, needs, strengths and weaknesses, as well as of the individual's roles and priorities in life (e.g. "I have a clear picture of my future goals and objectives"); *identity awareness*: is formed by eight items and represents individual's ability to identify his/her future, life/career plans (e.g. "I can identify my strengths and weaknesses"). Items are scored on a 5-point Likert-type scale in which participants responded to each item employing a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). Alpha estimates in this sample were high for the total scale ($\alpha = 0.92$) as well as for the sub-scales (0.86, 0.82, 0.82) respectively.

Resistance to Change Scale—Greek Version (Vakola, 2013). Derived from the original scale the Greek version of the Resistance to Change Scale (RCS, Oreg, 2003) is composed of 17 items measured via a 5-point Likert scale, ranging from 1 = absolutely false to 5 = absolutely true. The instrument is articulated in four dimensions, namely: *Routine Seeking* (e.g., I will take a routine day over a day full of unexpected events any time), *Emotional Reaction to Imposed Change* (e.g., If I were to be informed that there is going to be a significant change regarding the way things are done at work, I would probably feel stressed), *Short-term focus* (e.g., Once I make a decision, I'm not likely to change my mind), and *Cognitive Rigidity* (e.g., I do not change my mind easily). The reliability coefficients for the original RCS dimensions ranged between 0.74 and 0.84 (Cronbach's alpha = 0.87 for the RCS total score). The psychometric properties of the Greek version were assessed and showed acceptable results for the total scale ($\alpha = 0.84$) as well as for the four sub-scales (0.74, 0.86, 0.82, 0.75) respectively.

Psychological Well-Being—Greek Version. Derived from the original scale (PWB, Diener, 2009), which was translated and adapted into Greek by Dr. Andronikos Kaliris, of the Department of Psychology of the National and Kapodistrian University of Athens. The scale is composed of 8 items through a 7-point Likert scale, ranging from 1 = totally disagree to 7 = totally agree. The scale is one-dimensional (e.g., I am optimistic about my future, I have a purposeful and meaningful life). When scoring the scale, the sum of the individual responses is calculated. The reliability adaptation of PWB (Cronbach's α) was 0.84.

Demographics. A questionnaire was employed to gather data on students' gender, age, year of studies (freshmen, seniors) and status of employment (distinguishing between working and non-working students).

6.3. Procedure

A cross-sectional survey was carried out from October to December 2024 at the Department of Educational Studies of the National and Kapodistrian University of Athens. Cluster sampling was applied as participants represented entire classes. Questionnaires were completed during a regular class. Participants were initially informed orally about the study. Specifically, they received information about the purpose and the content of the study, as well as about the measures that would be administered. No award was given for participation in the study. Participants were

assured that anonymity and confidentiality would be maintained throughout all the research stages. The research adhered to the ethical requirements stipulated in the Code of Conduct for responsible research issued by the National and Kapodistrian University of Athens in Greece.

6.4. Data Analysis

SPSS version 29.0 was used to analyze data. Normality of data distribution was confirmed as the quotients of kurtosis and skewness with their corresponding standard errors were less than the number 3.29 (Roussos & Efstathiou, 2008). The reliability of the Sustainable Career Development Scale (SCDS), Resistance to Change Scale (RCS) and Psychological Well-Being Scale (PWB) were verified using Cronbach's alpha coefficient. Descriptive statistics (means, standard deviations) were computed for all scales as well as ANOVA and t-test in order to examine differences in variables levels between groups. Product-moment correlation coefficient (Pearson's r) was also applied to investigate relationships among variables. Finally, linear regression analysis was established to estimate the relationship (variability levels) between RCS, SCDS and PWB.

7. Results

7.1. Descriptive Statistics and Correlations among SCDS, RCS and PWB

The correlations, means and standard deviations for the study variables are provided in **Table 1**.

Table 1. Descriptive statistics and correlations among SCDS, RCS and PWB.

Variable	1	2	3	4	5	6	7	8	M	SD
Life/career management	-	0.67**	0.64**	-0.11	-0.02	-0.25**	-0.26**	0.60***	3.49	2.72
Future life/career projects		-	0.63**	0.04	0.00	-0.45***	-0.01	0.56***	3.40	2.30
Identity awareness			-	-0.06	-0.03	-0.33***	-0.01*	0.62***	3.90	2.71
Routine Seeking				-	0.40**	0.18*	0.45**	-0.12	2.72	1.94
Emotional Reaction					-	-0.03	0.69**	-0.06	3.75	2.19
Short-term focus						-	0.01	0.22**	3.65	2.05
Cognitive Rigidity							-	-0.25**	2.85	1.14
Psychological Well-Being								-	5.06	2.81

Note: * $p < .005$, ** $p < 0.01$, *** $p < 0.001$.

Concerning sustainable career development levels, the highest score appeared at the dimension of identity awareness ($M = 3.90$, $SD = 2.71$). Relatively high scores were also found for resistance to change at the component of emotional reaction to imposed change ($M = 3.75$, $SD = 2.19$) such as at psychological well-being dimension ($M = 5.06$, $SD = 2.81$). Finally, score on routine seeking of resistance to change was the lowest of all dimensions ($M = 2.72$, $SD = 1.94$).

Moderate to high positive and negative correlations occurred among most variables at the 0.01 and the 0.01 level of significance. An overview of **Table 1** shows that there is a highly positive relationship between life/career management and psychological well-being ($r = 0.60$) and between identity awareness and psychological well-being ($r = 0.62$). A moderate relationship displayed between future life/career projects and psychological well-being ($r = 0.56$) while a negative relationship occurred between future life/career projects and short-term focus ($r = -0.45$). Furthermore, identity awareness among short-term focus presented a moderate negative relationship ($r = -0.33$) respectively. Finally, a small negative relationship was shown between cognitive rigidity and psychological well-being ($r = -0.25$) and between cognitive rigidity with life/career management ($r = -0.27$). No significant relationships were found between sustainable career development, resistance to change, psychological well-being and participants' age.

7.2. Gender, Level Studies, Working Status and SCDS, RCS and PWB Dimensions

To find out whether Greek SCDS, RCS and PWB scores differed significantly between male and female students, year of studies (freshmen, seniors) and working and non-working students of the sample, two-tailed t test comparisons were applied. The results of the comparisons indicate that the differences in the mean scores of male and female students are not statistically significant in relation to the two dimensions of SCDS; Specifically, life and career management, as well as future life and career projects—such as Routine Seeking (RCS), emotional reaction, short-term focus, and cognitive rigidity—are associated with psychological well-being. However, there is a statistically significant difference between genders at the SCDS dimension identity awareness where males scored higher than females ($M_{men.} = 4.01$, $SD_{men.} = 0.57$, and $M_{fem.} = 3.85$, $SD_{fem.} = 0.77$, $t = 1.39$, $p < 0.01$). In addition, no statistical significance was found between working and non-working students for Greek SCDS RCS and PWB scores. Similarly, there is no statistically significant difference between freshmen and seniors' students for Greek SCDS RCS and PWB scores.

7.3. Linear Regression Analysis in Order to Make Predictions of the Dependent Variable with the Help of Independent Variables

As has been observed, the three dimensions of SCDS; namely, life/career management, future life/career projects and identity awareness obtained the highest correlations among psychological well-being and thus, were suitable as possible dependent and independent variables for our linear regression analysis. Subsequently, linear regression analysis was established to estimate the relationship (variability levels) between SCDS and PWB. Adjusted coefficient R^2 (0.46) demonstrated that the 46% of the overall effect on dependent variable PWB is explained by the independent variables (Life/career management, Future life/career projects, Identity awareness) of SCDS. Analysis of variance (ANOVA) is a

significant predictor of the forces generated ($F = 57.46$, $p < 0.001$). Life/career management revealed a significant predictor ($\beta = 0.27$, $p = 0.000$) for PWB such as the dimension future life/career projects ($\beta = 0.16$, $p = 0.032$) as well as identity awareness ($\beta = 0.34$, $p = 0.000$) (**Table 2**).

Table 2. Linear regression model for the effect of sustainable career development on psychological well-being.

Prediction Variables	Model 1		
	B	SE B	β
(PWB)	2.000***	0.25	
Life/career management	0.30***	0.08	0.27
Future life/career projects	0.13*	0.06	0.16
Identity awareness	0.39***	0.08	0.34
R2		0.465***	
F		57.46***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Furthermore, the three dimensions of SCDS; namely, life/career management and future life/career projects and identity awareness obtained a moderate negative correlation among short-term focus (RCS dimension) focus and thus, were suitable as possible dependent and independent variables for our linear regression analysis. Subsequently, linear regression analysis was established to estimate the relationship (variability levels) between SCDS and short-term focus (RCS dimension). Adjusted coefficient R2 (0.59) demonstrated that the 59% of the overall effect on dependent variable short-term focus is explained by the independent variables (Life/career management, Future life/career projects, Identity awareness) of SCDS. Analysis of variance (ANOVA) is a significant predictor of the forces generated ($F = 60.62$, $p < 0.001$). Identity awareness revealed a significant predictor ($\beta = -0.31$, $p = 0.000$) for short-term focus. However, life/career management ($p = 0.327$) and future life/career projects ($p = 0.250$) do not predict short-term focus (**Table 3**).

Table 3. Linear regression model for the effect of sustainable career development on short-term focus (RCS dimension).

Prediction Variables	Model 2		
	B	SE B	β
(short-term focus)	2.186***	0.43	
Life/career management	-0.12	0.14	-0.10
Future life/career projects	-0.14	0.10	-0.11
Identity awareness	-0.39***	0.10	-0.31
R2		0.505***	
F		60.62***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Finally, as the cognitive rigidity (RCS dimension) had a small negative relationship with life/career management (SCDS dimension) we proceeded to a third model of a linear regression analysis to estimate the relationship (variability levels) between life/career management and cognitive rigidity. Adjusted coefficient R² (0.05) demonstrated that the 5% of the overall effect on dependent variable cognitive rigidity focus is explained by the independent variable life/career management of SCDS. Analysis of variance (ANOVA) is a significant predictor of the forces generated ($F = 6.72, p < 0.001$). Life/career management revealed a significant predictor ($\beta = -0.01, p = 0.000$) for cognitive rigidity (Table 4).

Table 4. Linear regression model for the effect of Life/career management (SCDS) on Cognitive rigidity (RCS).

Prediction Variables	Model 3		
	B	SE B	β
(cognitive rigidity)	4.186***	0.51	
Life/career management	-0.02	0.13	-0.01
R ²		0.55***	
F		6.72***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

8. Discussion

This study was carried out to explore the relationships that occur between sustainable career development, resistance to change and psychological well-being within a population of Greek university students. Significant positive correlations were found between the subscales of SCDS with PWB. In accordance with this result, these strong correlations confirm, initially, the suggestion of Argyropoulou (2021) that sustainable career development encompasses the benefits of well-being (Tonkin et al., 2018) such as a general sense of satisfaction or success with one's career (Müller & Scheffer, 2022) and a sense of fulfillment with life (Ryan & Deci, 2001). In this context, sustainable career development serves as a primary preventive approach, helping individuals build resources for their well-being and prosperity. This enables them to engage with their environment, work productively, and ultimately contribute to society (Argyropoulou, 2023). Primary prevention is focused on both avoiding the emergence of a problem and on promoting strengths (Di Fabio & Duradoni, 2020). Therefore, sustainable career development provides a dynamic balance between the individual and the environment over time and enhances the maintenance of psychological well-being through the utilization of personal resources.

Furthermore, the negative correlation of identity awareness and life/career management of SCDS and short-term focus such as cognitive rigidity of RCS suggests that an individual's ability to manage their life/career and to identify his/her future, life/career plans is not aligned with resistance to change. In other words,

students in higher education who manage their careers in sustainable ways are moving towards change and seeking to effectively negotiate their career development. This concept includes not only preparing young people for existing jobs but also encouraging them to participate in actions that address global challenges (Guichard, 2022). For this reason, career interventions need to focus on helping individuals prepare to answer the question: “*What forms of active engagement can I pursue to contribute to sustainable career development?*”

In respect of gender comparison, no statistically significant differences were found between males and females in relation to the two factors of SCDS, namely, life/career management and future life/career projects. However, statistically significant differences were found between males and females in relation to the factor of identity awareness of SCDS. This finding supports that men have a clearer sense of the future in terms of their careers and their life plans (Di Fabio, Maree & Kenny, 2018). This result also aligns with research indicating that women face additional challenges in career decision-making, with societal and environmental norms potentially creating obstacles in the process of self-awareness and/or self-efficacy (Karavia, 2019). The observed gender difference in identity awareness could be ascribed to social preconceptions, gender roles, or differing socialization experiences. Women may face cultural expectations or prejudices that undermine their confidence and clarity about future professional options. Career counselors should therefore provide personalized interventions for female students to create more self-awareness, improve decision-making abilities, and boost self-efficacy, ultimately assisting them in overcoming these socially constructed barriers. Furthermore, no statistically significant differences were found between males and females in relation to RCS and PWB dimensions.

Comparing also, the SCDS, the RCS and the PWB scores of working and non-working students, no statistically significant difference was found. The lack of statistically significant differences can likely be explained by the socio-political context in Greece, which fosters a similar approach and general attitude toward career-related issues, leading people to face the same challenges and behave similarly, regardless of their backgrounds, beliefs or initial career aspirations (Karavia, 2013). Similarly, there is no statistically significant difference between freshmen and senior students for Greek SCDS, RCS and PWB scores, which shows that undergraduate students come to realize from a young age their interaction with the environment, respond to the opportunities presented and adapt to the ongoing challenges and roles in order to become employable (Kim, Lee, & Jin, 2024). In this sense, Greek university students seem to become active agents in the management of their career paths which, in combination with the social and wider environmental system, contributes to the students’ actively managing their careers and balancing their lives (Argyropoulou, 2022a).

According to the regression analysis, sustainable career development, namely, life/career management, future life/career projects and identity awareness predicts psychological well-being. This finding supports that sustainable career develop-

ment facilitates the flourishing of a person's talents, not only at an intra-personal level, but also at an inter-personal level, taking into account the quality of one's personal life, the well-being of the environment in which one lives, and the well-being of the different environments and contexts with which one interacts (personal, social, organizational, physical) (Di Fabio, 2018). Career counseling could contribute to the establishment of a culture of well-being and sustainable development (Guichard, 2022) by offering interesting opportunities to promote career and personal life, and therefore sustainable career development in the context of social harmonization and well-being (Di Fabio & Tsuda, 2018). Furthermore, sustainable career development, namely, life/career management, and identity awareness, predict RCS, short-term focus and cognitive rigidity, respectively. According to this finding, these two dimensions emerge as inhibiting factors in adapting to changing conditions and demands, necessitating strategies for flexibility and the redefinition of career and personal goals. The shift toward change could enhance undergraduate students' understanding of the challenges they may encounter in various aspects of their academic journey and provide valuable insights as they make career adjustments or strive to improve the person-work fit (Oreg *et al.*, 2009). Career counselors need therefore to recognize the individual's internal journey in integrating change into their life and career, with the goal of fostering sustainable intentions for both their own future and that of society.

9. Limitations and Conclusion

This study was conducted at a Greek university. Future research should include diverse samples, such as adolescents, students, and both employed and unemployed individuals, to explore their career progress and development. Studies conducted in other countries could provide more robust evidence regarding the construct validity of the sustainable career development scale. Additionally, future research aiming at further supporting the validity of SCDS should include convergent validity, providing additional data concerning its relations with career adaptability, self-efficacy in career or psychosocial strengths. Finally, it would be of great interest to examine the climate crisis impact on the Greek university students' sustainable career development dimensions since they develop their careers in ever-changing environmental challenges.

Sustainable career development is a promising intervention that could potentially be used to assist individuals in understanding a greater amount of information related to their career development and progress, forming a planning attitude that includes both self-learning and practical initiatives in exploring their career paths (Argyropoulou, 2024). Counseling interventions can play a catalytic role in fostering sustainable career development by cultivating personal resources and capabilities. These resources not only serve as a protective factor for coping with career challenges (Guichard, 2013), but also form a promising foundation for positive individual-environment interaction. It is noteworthy that the development of curricula should address the three dimensions of SCDS (life/career man-

agement, future life/career projects and identity awareness), in the educational setting. For students who are resistant to change, interactive workshops using experiential learning methodologies, role-playing scenarios, and guided change management simulations could effectively nurture flexibility, adaptability, and proactive coping abilities within university career centers. Indeed, career counseling programs at Greek universities should incorporate a focus on the dimensions analyzed in the current study. It is essential for higher education students to develop the ability to reflect critically, fostering talents that are adaptable, innovative, and capable of driving sustainability in their careers. This aligns with the core principles of higher education (Pegg et al., 2012). The challenge in the context of counseling interventions lies in exploring and identifying the personal meaning of sustainable career development for university students. Factors such as personal resources, strengths, goal setting, and motivation play a crucial role in shaping individualized future life and career plans (Argyropoulou et al., 2020a). Career counseling should help Greek university students discover ways to leverage their personal resources for sustainable career development and embrace change, effectively preparing them to navigate the major challenges humanity faces today while maintaining their psychological well-being. By embedding adaptability and continuous self-assessment habits during university years, students are better equipped to navigate future job markets, sustain high levels of job satisfaction, and achieve progressive career growth. Career counselors can highlight and communicate the new perspective of sustainable career development in a dynamic, holistic, proactive, and educational manner (Schweitzer, Lyons, & Smith, 2023).

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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