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Contextual and Psychological Determinants of Career Decision-Making: Validation, Interventions, and Implications for Sustainable Employability in Young Adults at Risk of Fragility

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Abstract

Young adults in contemporary societies face increasingly uncertain school-to-work transitions shaped by economic volatility, structural labour-market fragilities, and accelerating technological change. These pressures are particularly pronounced in Italy, where persistent regional disparities and high NEET rates intensify the challenges associated with career development. Despite extensive research on career decision-making, significant gaps remain in understanding how contextual supports, psychological resources, and cognitive-linguistic vulnerabilities interact over time to shape career decidedness and sustainable employability.

This cumulative dissertation addresses these gaps through four interconnected studies that integrate psychometric validation, longitudinal modelling, and applied intervention design. Studies 1a and 1b provide the first Italian validation of two key instruments - the *Career Decidedness Scale* and the *Facilitating Conditions for School Motivation Scale* - offering reliable tools to assess career-related constructs within the Italian educational context. Study 2, a three-wave longitudinal investigation, tests a Social Cognitive Career Theory (SCCT) based model demonstrating that facilitating conditions indirectly strengthen career decidedness through career decision-making self-efficacy, with career optimism functioning as a significant moderator. These findings underscore those contextual resources shape career development primarily when internalized as increased agency and positive future expectations.

Building on this evidence, Study 3 presents the Erasmus+ project *SupportSphere*, a multi-level intervention targeting the VET sector - one of the most vulnerable youth populations in Europe. The project translates SCCT insights into a practical framework by strengthening teacher and peer supports to enhance students' psychological resources. Study 4, conducted within the regional *E-FRALIT* programme funded by Fondazione Cariverona, expands the theoretical model by demonstrating how psycho-linguistic interventions improve self-efficacy, future orientation, and employability among young adults with fragile literacy or linguistic skills.

Taken together, the studies converge on a unified conclusion: career decidedness emerges from the dynamic interplay between individual psychological resources, contextual affordances, and cognitive-linguistic foundations. The dissertation contributes theoretically by refining SCCT in light of multi-level and fragile-youth perspectives; methodologically by providing validated Italian instruments; empirically by offering rare longitudinal evidence; and practically by

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designing and evaluating scalable interventions for both educational and vulnerable populations.

Overall, the research supports a comprehensive, systemic perspective on youth career development and underscores the need for integrated policies and guidance practices that address both personal resources and environmental structures to foster sustainable and inclusive employability.

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1. Introduction

Across contemporary societies, the transition from adolescence to adulthood is increasingly shaped by economic volatility, rapid technological change, and intensified labour-market competition. These macro-level transformations have progressively undermined linear and predictable career trajectories, making it more difficult for young people to construct stable future plans and to navigate educational and vocational choices with confidence (Savickas et al., 2009; Fouad & Bynner, 2008; Khattab et al., 2022). Young adults are now confronted with a complex and uncertain landscape characterised by precarious employment prospects, unstable opportunities, and heightened performance expectations—conditions that increase uncertainty and psychological strain in career-related choices and complicate the construction of coherent long-term career pathways (Blustein et al., 2019; Bargmann et al., 2022). Empirical studies consistently indicate that prolonged exposure to these pressures contributes to fragmented career orientations, reduced engagement in vocational exploration, and increasing difficulty in sustaining stable future aspirations over time (Schoon & Silbereisen, 2009; Nurmi, 2004).

In Italy, these challenges are further intensified by long-standing structural weaknesses in the labour market, including persistent youth unemployment, limited intergenerational mobility, and pronounced regional inequalities. Research has documented that Italian young adults frequently experience the future as constrained and unpredictable, with economic insecurity narrowing both their career aspirations and the temporal horizon of their life projects (Leccardi, 2005; Parola & Felaco, 2020). These vulnerabilities are reflected in the persistently high proportion of young people not in education, employment, or training (NEET), which remains among the highest across European countries (Hirschi, 2011; Eurostat, 2022). NEET status has been consistently associated with reduced psychological well-being, heightened risk of social exclusion, and persistent difficulties in achieving sustainable labour-market integration (Furlong, 2006; Bell & Blanchflower, 2011). Evidence also suggests that persistent difficulties in making confident and stable career decisions may represent a key psychological risk factor contributing to prolonged disengagement from education and work, particularly within structurally constrained contexts (Gati et al., 2011; Uthayakumar et al., 2010). Taken together, these findings highlight the need for research and interventions aimed at strengthening young adults' capacity for adaptive, informed, and future-oriented career decision-making.

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From a psychological perspective, the development of a coherent career orientation and the ability to make confident career decisions constitute central developmental tasks during adolescence and early adulthood, with far-reaching implications for academic persistence, subjective well-being, and long-term employability (Super, 1990; Hirschi et al., 2011). Career decision-making difficulties have been consistently associated with elevated stress levels, reduced life satisfaction, and diminished engagement in preparatory behaviours such as career exploration and planning (Gati et al., 2011; Lipshits-Braziler et al., 2015). Importantly, these processes do not emerge solely from individual characteristics such as optimism, self-regulation, or adaptability; rather, they develop through ongoing interactions between personal resources and contextual environments, including family support, teacher encouragement, school climate, and peer relationships (Lent et al., 2002; Kenny et al., 2006; Metheny & McWhirter, 2013). These contextual influences—often conceptualised as facilitating conditions—can either enable or constrain adaptive career development trajectories depending on their quality, accessibility, and alignment with individual needs (Restubog et al., 2010; Garcia et al., 2015).

Recent longitudinal evidence further suggests that facilitating conditions influence career decision-making primarily through psychological mechanisms, particularly career decision-making self-efficacy, rather than through direct effects on career decidedness. Environmental support appears to enhance decisional clarity only when it is internalised into perceptions of competence and agency (Abu Hamam et al., 2024; Sartori et al., 2023). In this sense, career decision-making self-efficacy emerges as a central mechanism in shaping decisional commitment and stability, highlighting the non-linear and multi-layered nature of career development processes. These findings also emphasise the importance of reliable and culturally validated instruments capable of capturing both psychological and contextual dimensions of career decision-making. The recent validation of the Italian version of the Career Decidedness Scale represents a significant step in this direction, providing a psychometrically sound tool adapted to the characteristics of Italian youth (Abu Hamam et al., 2024).

In parallel, integrative perspectives on sustainable career development emphasise that employability cannot be reduced to the possession of skills alone, but instead emerges from the

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dynamic interplay between personal resources, identity development, well-being, and opportunity structures across the life span (De Vos et al., 2020; Lent & Brown, 2013). Empirical evidence from Italian samples confirms that career-related psychological resources play a pivotal role in shaping both subjective well-being and proactive career behaviours, even under conditions of labour-market instability (Santilli et al., 2019; Tommasi & Sartori, 2024). Overall, fostering young adults' capacity to make informed and future-oriented career decisions requires integrative theoretical models that account for both individual psychological resources and contextual affordances. Within the Italian context—characterised by high NEET rates, labour-market fragilities, and regional inequalities—strengthening career decidedness represents both a key developmental task and a broader societal priority.

Context and Relevance of the Problem

The increasing instability of educational systems and labour-market conditions has profoundly reshaped the developmental tasks associated with career construction during young adulthood. Building on the broader socio-economic transformations outlined above, it is essential to clarify how contextual pressures interact with individual psychological resources in shaping career decision-making processes (Savickas et al., 2009; Fouad & Bynner, 2008; Bargmann et al., 2022). In contexts characterised by economic uncertainty and weakened institutional pathways, young adults are increasingly required to assume responsibility for educational and vocational choices under conditions of limited predictability and heightened risk (Schoon & Silbereisen, 2009; Nurmi, 2006).

Across theoretical and empirical traditions, the ability to make confident and coherent career decisions is recognised as a central developmental task during adolescence and early adulthood, with critical implications for academic persistence, identity development, and long-term employability (Super, 1990; Savickas et al., 2009; Hirschi, 2011). Difficulties in this domain are associated with elevated psychological distress, reduced life satisfaction, and lower engagement in preparatory behaviours such as career exploration and planning (Gati et al., 2011; Lipshits-Braziler et al., 2016; Levin et al., 2020). These challenges are particularly salient in contexts marked by structural uncertainty, where young people may struggle to translate available opportunities into coherent vocational plans (Koen et al., 2012; A Koen et al., 2012).

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Contemporary research increasingly supports integrative models in which contextual support influences career outcomes through psychological mechanisms, particularly career decision-making self-efficacy (Restubog et al., 2010; Santilli et al., 2017; Santilli et al., 2020). Within the Italian context, these dynamics are further complicated by the presence of structural and cognitive vulnerabilities. Individuals with fragile literacy skills, learning difficulties, or linguistic disadvantages often encounter barriers in accessing and processing career-related information, as well as in articulating aspirations and engaging in reflective decision-making (Nota et al., 2014; Tommasi et al., 2023). These factors may increase the risk of persistent indecision, disengagement, and reduced future orientation.

A further issue concerns measurement. Until recently, the Italian context lacked validated instruments capable of reliably assessing key constructs such as career decidedness and facilitating conditions for school motivation. The validation of the Italian versions of these scales represents an important methodological advancement, enabling more precise and culturally grounded assessment of both psychological processes and contextual affordances involved in career decision-making (Abu Hamam et al., 2024).

Taken together, these considerations highlight the importance of adopting integrative models that account for the interaction between psychological resources and contextual influences in career development. In the Italian context—characterised by high NEET rates and labour-market fragilities (Eurostat, 2021, 2022; Bell & Blanchflower, 2011)—strengthening young adults' capacity for adaptive career decision-making represents a key individual and societal priority.

Contextual and Dispositional Determinants of Career Decision-Making

Career decision-making during adolescence and young adulthood is shaped by the interplay between contextual conditions and individual psychological resources. Within this perspective, family, school, and peer environments represent key sources of support that influence how young people interpret educational demands, regulate effort, and approach vocational choices over time (Bean et al., 2003; Daly et al., 2009; Kristjansson & Sigfúsdóttir, 2009; Wentzel et al., 2018; Eccles & Roeser, 2011). Their role becomes particularly salient in contexts characterised by labour-market instability and reduced predictability, where young adults are

required to navigate educational and vocational transitions under heightened conditions of uncertainty (Schoon & Silbereisen, 2009; Nurmi, 2006). Within the family domain, parental support consistently emerges as one of the strongest predictors of adaptive educational and career outcomes. Empirical evidence indicates that parental encouragement, emotional warmth, monitoring, and constructive expectations are associated with stronger academic self-concept, higher self-efficacy beliefs, and lower levels of career indecision (Turner & Lapan, 2002; Alliman-Brissett et al., 2004; Bean et al., 2003). Parental support serves not only an emotional function, but also an informational and regulatory one by assisting young adults in interpreting options, tolerating uncertainty, and persisting in the face of setbacks. Importantly, the function of family support evolves across developmental stages, becoming increasingly indirect during young adulthood as autonomy and personal responsibility for career choices expand (Wiese & Freund, 2011). European research further suggests that supportive family environments foster academic persistence and psychological well-being, particularly in contexts where institutional guidance structures are weak or unevenly distributed (Kristjansson & Sigfúsdóttir, 2009).

Alongside the family, the school environment represents a second pivotal contextual determinant of career development. Perceptions of school support—including teacher availability, encouragement, fairness, and opportunities for mastery—have been shown to predict higher levels of intrinsic motivation, engagement, and long-term educational commitment (Daly et al., 2009; Wentzel, 2014). Teacher support, in particular, plays a distinctive role in shaping students' career-related beliefs: young adults who perceive teachers as supportive and genuinely invested in their development report stronger confidence in managing educational and vocational tasks, greater willingness to explore career options, and higher tolerance for decision-related uncertainty (Gushue & Whitson, 2006; Capa-Aydin et al., 2018). Moreover, evidence suggests that a positive school climate can partially buffer the negative effects of socioeconomic disadvantage, mitigating the impact of poverty, low cultural capital, and unequal access to guidance resources (OECD, 2019; Schoon, 2010). In educational systems marked by regional inequalities and labour-market fragilities, such as the Italian one, schools thus represent a central site of career socialisation and psychological empowerment.

Within this broader ecological perspective, the concept of facilitating conditions has gained increasing relevance as a way of capturing students' global perceptions of their educational environment as an integrated motivational system shaping engagement, persistence, and future-oriented thinking. Unlike discrete forms of family or teacher support, facilitating conditions refer to the constellation of academic, relational, and motivational resources that individuals perceive as enabling their participation and success within educational contexts (Tinto, 1998; Eccles & Roeser, 2011; Ryan & Deci, 2020). The recent Italian validation of the Facilitating Conditions for School Motivation Scale has provided a culturally grounded instrument for systematically assessing these perceptions within school contexts (Abu Hamam et al., 2024).

Empirical research indicates that facilitating conditions are positively associated with school motivation, engagement, and academic persistence, yet their influence on career outcomes appears to be primarily indirect rather than direct. Recent longitudinal evidence from the Italian context suggests that contextual support enhances career decidedness mainly through career decision-making self-efficacy, while exerting weak or non-significant direct effects on decisional clarity (Restubog et al., 2010; Sartori et al., 2024). From this perspective, facilitating conditions can be understood as distal contextual affordances whose developmental value depends on how they are interpreted and internalised through individual motivational and self-regulatory processes (Bandura, 1997; Lent et al., 1994, 2002). This provides the basis for examining the core psychological determinants of career decision-making, namely self-efficacy, career optimism, and career decidedness.

Psychological determinants: self-efficacy, career optimism, and career decidedness

Within contemporary models of career development, psychological resources represent the core mechanisms through which young adults interpret contextual demands, regulate behaviour, and construct vocational trajectories. Among the variables most consistently highlighted in the literature, career decision-making self-efficacy, career optimism, and career decidedness emerge as three distinct yet closely interrelated constructs shaping exploration, commitment, and persistence during educational and vocational transitions. Career decision-making self-efficacy occupies a foundational position within social-cognitive models of career development. Derived from Bandura's (1986) broader conception of self-efficacy, this construct refers to individuals' beliefs in their capacity to successfully perform tasks required

to make effective career decisions, such as gathering information, evaluating alternatives, setting goals, and coping with uncertainty. Within Social Cognitive Career Theory (SCCT; Lent et al., 1994, 2002), self-efficacy is conceptualised as the key mechanism linking contextual affordances to career behaviour. When young adults perceive themselves as capable decision-makers, they are more likely to engage actively in exploration, to persist when facing obstacles, and to translate aspirations into concrete choices. Conversely, low self-efficacy is associated with avoidance, decisional paralysis, and chronic career indecision (Hirschi et al., 2011; Uthayakumar et al., 2010).

Importantly, self-efficacy does not operate in isolation but reflects a cumulative process shaped by prior experiences, feedback, and social comparison. Empirical evidence consistently indicates that career decision-making self-efficacy not only predicts career decidedness directly, but also mediates the relationship between environmental support and vocational outcomes (Nota et al., 2007; Restubog et al., 2010). Recent longitudinal findings in the Italian context reinforce this mediating role, demonstrating that facilitating conditions within the school environment exert a positive influence on career decidedness primarily through their effect on self-efficacy beliefs (Sartori et al., 2024). These results highlight that perceived competence represents a critical turning point between external support and internalised agency, reinforcing the idea that self-efficacy functions as a central regulatory resource in career development.

Complementing self-efficacy, career optimism represents a future-oriented psychological resource that shapes how young adults interpret uncertainty and evaluate the likelihood of favourable career outcomes. Career optimism can be broadly defined as individuals' generalised positive expectations regarding their future occupational success and opportunities (Rottinghaus et al., 2005, 2012). In volatile labour markets, optimism plays a particularly important role by sustaining motivation, buffering stress, and promoting adaptive coping in the face of ambiguity. Individuals with higher levels of career optimism tend to perceive barriers as temporary rather than insurmountable, to maintain engagement during transitional phases, and to invest effort in long-term planning despite limited immediate returns (Chiu et al., 2022; Perera & McIlveen, 2014).

From a social-cognitive perspective, career optimism is not merely an attitudinal disposition but functions as a cognitive amplifier that influences how contextual information is processed. Empirical research suggests that optimistic individuals are more likely to interpret social and institutional support as actionable encouragement, thereby strengthening their self-efficacy beliefs (Aspinwall et al., 2001; McIlveen et al., 2013). In this sense, career optimism may moderate the indirect pathways linking contextual resources to career outcomes, enhancing the likelihood that support is internalised and translated into confident decision-making. Recent validation studies in the Italian context, including the bidimensional structure of the Life Orientation Test – Revised (LOT-R), further nuance this construct by distinguishing positive expectancy from the mere absence of pessimism, suggesting differentiated contributions of each component to career-related processes (Tommasi & Sartori, 2024). This distinction is theoretically relevant when considering interventions aimed at fostering resilience and future-oriented identity among vulnerable youth.

Career decidedness represents a third, closely related psychological construct and can be regarded as a proximal outcome of the interplay between self-efficacy, optimism, and contextual support. Career decidedness reflects the degree of confidence, clarity, and stability with which individuals perceive their vocational goals and feel committed to a particular career direction (Lounsbury et al., 1999, 2005). High levels of decidedness are associated with greater academic persistence, sustained engagement in preparatory behaviours, and improved transition outcomes, whereas low decidedness is often accompanied by anxiety, prolonged exploration, and difficulty committing to future plans (Uthayakumar et al., 2010; Bimrose & Brown, 2015).

Despite its conceptual importance, career decidedness has long been affected by measurement inconsistencies and limited cultural validation. The recent Italian validation of the Career Decidedness Scale (Abu Hamam et al., 2024), conducted within the framework of the present doctoral research, addresses this gap by providing a psychometrically robust instrument specifically adapted to the Italian socio-educational context. This validated measure enables more precise assessment of decisional clarity and supports the examination of longitudinal developmental processes, positioning career decidedness as a meaningful indicator of adaptive career functioning rather than a static trait.

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It is important to note that these psychological resources are not immutable individual characteristics. Emerging research highlights that self-efficacy, optimism, and decidedness are malleable and responsive to targeted interventions that enhance reflection, agency, and meaning-making. This is particularly salient for young adults facing structural or personal vulnerabilities, such as fragile literacy skills, learning difficulties, or linguistic disadvantages. Findings from psycho-linguistic intervention studies conducted in the Italian context demonstrate that strengthening reflective self-narration, psychological capital, and meta-cognitive skills can significantly improve perceived employability, future orientation, and confidence in managing career decisions (Tommasi et al., 2023). These results reinforce the view that psychological determinants function as dynamic developmental resources, capable of being strengthened through appropriate educational and guidance practices.

Taken together, career decision-making self-efficacy, career optimism, and career decidedness constitute a dispositional core through which young adults regulate career development under conditions of uncertainty. While each construct captures a distinct dimension of psychological functioning, their role is best understood within an integrated framework in which self-efficacy supports agency, optimism sustains future-oriented engagement, and decidedness reflects the consolidation of vocational direction.

Structural and cognitive-linguistic vulnerabilities in career decision-making

While contextual support and psychological resources constitute key determinants of adaptive career development, a growing body of evidence indicates that, for a substantial proportion of young adults, career decision-making processes are further complicated by the presence of structural and cognitive-linguistic vulnerabilities. These vulnerabilities do not merely add an external layer of disadvantage, but actively shape how individuals define decision-making challenges, access and process information, engage in self-reflection, and internalise external support, thereby influencing multiple phases of the career decision-making process—from exploration and option evaluation to commitment and follow-through. In contemporary educational systems, particularly within vocational education and training (VET) pathways and disadvantaged socio-economic contexts, these vulnerabilities represent a critical yet still insufficiently integrated dimension of career development research.

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Structural vulnerabilities encompass a range of conditions, including socio-economic disadvantage, limited access to guidance services, migratory background, and exposure to labour-market instability. In the Italian context, these factors are particularly salient given persistent regional inequalities, early educational tracking, and the uneven distribution of institutional resources (Parola & Felaco, 2020; Eurostat, 2021, 2022). Importantly, these structural conditions become psychologically meaningful insofar as they shape individuals' perceived control over future outcomes, efficacy beliefs, tolerance for uncertainty, and confidence in navigating choice situations. Young adults growing up in structurally fragile contexts frequently report truncated temporal horizons and difficulty envisioning coherent long-term career trajectories, increasing vulnerability to prolonged indecision and disengagement.

Alongside structural factors, cognitive and linguistic vulnerabilities play a crucial role in shaping career decision-making, yet they remain only marginally integrated into mainstream career development models. Research in educational psychology and psycho-linguistics indicates that young adults with fragile literacy skills, learning difficulties (e.g., dyslexia), or limited proficiency in the language of instruction face substantial barriers in accessing, comprehending, and evaluating career-related information (OECD, 2019; Hartley, 2012). Career decision-making places significant cognitive and meta-cognitive demands on individuals, including the capacity to process complex information, compare alternatives, engage in abstract reasoning, and articulate personal aspirations. When these foundational skills are compromised, individuals may struggle to benefit fully from guidance interventions and supportive educational environments.

Empirical findings from the Italian context further suggest that fragile literacy profiles are associated with reduced self-confidence, avoidance of complex academic or bureaucratic tasks, and limited engagement in reflective career behaviours (Tommasi et al., 2023). These difficulties interact dynamically with psychological resources such as self-efficacy and optimism. Repeated experiences of misunderstanding, academic failure, or negative feedback can progressively undermine beliefs in personal competence, leading to withdrawal from exploration and a preference for short-term, low-risk decisions. In this way, cognitive-linguistic vulnerabilities may indirectly intensify career indecision by eroding the very psychological

mechanisms-such as self-efficacy and future orientation-through which contextual support would otherwise exert positive effects.

Linguistic vulnerability is particularly relevant for young adults with a migratory background or second-language (L2) learners. International research indicates that L2 students often report lower school belonging, reduced participation, and diminished perceived agency, even when objective academic performance is satisfactory (Suárez-Orozco et al., 2010). Difficulties in expressing aspirations, engaging in narrative self-reflection, and negotiating meaning may constrain the development of a coherent vocational identity and limit the effective communication of career intentions. These barriers can persist into the school-to-work transition, restricting access to information and amplifying experiences of uncertainty and exclusion (OECD, 2019).

Importantly, emerging intervention-based research demonstrates that cognitive-linguistic vulnerabilities are neither static nor irreversible. Findings from psycho-linguistic and educational intervention studies indicate that strengthening literacy skills, language awareness, reflective self-narration, and related forms of psychological capital can enhance perceived employability, future-oriented identity, and confidence in career decision-making among vulnerable youth (Hartley & Horne, 2006; Tommasi et al., 2023). These results suggest that cognitive-linguistic resources function as enabling conditions for career development, supporting individuals' ability to interpret information, reflect on experiences, and internalise social support.

The inclusion of cognitive-linguistic vulnerabilities also highlights important limitations of traditional social-cognitive frameworks when applied to structurally fragile populations. While Social Cognitive Career Theory (SCCT; Lent et al., 1994, 2002) provides a robust account of how contextual factors influence career behaviour through self-efficacy and outcome expectations, it implicitly assumes a baseline level of cognitive and linguistic competence. For young adults with fragile literacy skills or learning difficulties, these assumptions may not fully hold, resulting in weakened or disrupted social-cognitive pathways. Integrating cognitive-linguistic dimensions into career decision-making models therefore represents a necessary theoretical extension, particularly in heterogeneous educational systems marked by inequality.

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Taken together, structural and cognitive-linguistic vulnerabilities constitute a critical third layer in understanding career decision-making processes among contemporary youth. These vulnerabilities interact with contextual supports and psychological resources to shape how young adults perceive opportunities, interpret encouragement, and regulate engagement in career choices. Ignoring these dimensions risks privileging models that accurately describe only relatively advantaged populations, while systematically excluding those most at risk of indecision, disengagement, and NEET trajectories. Recognising and integrating structural and cognitive-linguistic vulnerabilities is therefore essential for developing inclusive theoretical frameworks and designing interventions capable of supporting sustainable career development across diverse youth populations.

Career Indecision and Youth at Risk of NEET

Career indecision represents one of the most persistent and complex challenges in young adults' educational and vocational development, particularly in socio-economic contexts characterised by instability and limited opportunities. Although a certain degree of uncertainty is developmentally normative during adolescence and early adulthood, prolonged or chronic indecision has been consistently associated with maladaptive outcomes, including heightened psychological distress, disengagement from education, and delayed or unsuccessful transitions into the labour market (Hirschi et al., 2011; Uthayakumar et al., 2010). In contemporary societies—where educational and career paths are increasingly non-linear and demands for self-directed decision-making are intensified, the ability to achieve a minimum level of decisional clarity and career decidedness has become a critical protective factor against long-term marginalisation.

From a psychological perspective, career indecision reflects more than a temporary lack of information or clarity. It is increasingly conceptualised as a multidimensional developmental state shaped by the interaction of emotional, cognitive, and motivational processes. Individuals experiencing high levels of indecision frequently report elevated anxiety, reduced perceived control, difficulties in emotion regulation, and pessimistic expectations about the future (Hirschi et al., 2011; Uthayakumar et al., 2010). From a social-cognitive perspective, these difficulties are associated with reduced self-efficacy beliefs and negative outcome

expectations, which undermine engagement in exploration, learning, and goal-setting behaviours (Lent et al., 1994, 2002).

The relevance of career indecision becomes particularly evident when examined in relation to the risk of becoming not in education, employment, or training (NEET). In the Italian context, high and persistent NEET rates reflect not only labour-market constraints, but also difficulties in maintaining coherent educational and vocational trajectories over time (Eurostat, 2021, 2022). Young adults who struggle to develop sufficient decisional clarity and confidence in their career choices are more likely to disengage from both education and employment, especially in systems characterised by fragmented institutional guidance and weakly supported transitions (Parola & Felaco, 2020). In this sense, low career decidedness may function as a developmental risk factor, increasing vulnerability to prolonged inactivity and social exclusion.

Importantly, the relationship between career indecision, low career decidedness, and NEET status is neither direct nor deterministic. Rather, it unfolds through a dynamic accumulation of vulnerabilities that include psychological fragility, contextual disadvantage, and reduced access to enabling resources. Young adults experiencing prolonged indecision often show limited engagement in preparatory behaviours such as information seeking, skill development, and purposeful exploration, activities that are essential for navigating competitive and uncertain labour markets. As engagement decreases, opportunities for mastery experiences diminish, further undermining career decision-making self-efficacy and reinforcing a sense of helplessness. This reciprocal process illustrates how indecision may both reflect and contribute to trajectories of gradual disengagement.

Structural conditions play a decisive role in intensifying these dynamics. In contexts characterised by economic precarity, limited employment opportunities, and pronounced territorial disparities, such as those observed in several regions of Italy, even motivated young adults may encounter repeated decision points with limited perceived payoff. Under such conditions, indecision may represent both a psychological response to uncertainty and a rational reaction to constrained opportunity structures. When future prospects appear unstable or unattainable, young people tend to shorten their temporal horizon, adopt reactive rather than proactive strategies, and disengage from long-term planning (Khattab et al., 2022).

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Career indecision is further exacerbated among young adults with psychological, cognitive, or linguistic vulnerabilities. Fragile literacy skills, learning difficulties, and limited language proficiency can hinder the ability to access and interpret career-related information, articulate aspirations, and engage in reflective decision-making (Tommasi et al., 2023). These constraints reduce the effectiveness of guidance interventions and increase the likelihood that individuals remain trapped in cycles of exploration without consolidation. In such cases, career decision-making difficulties should be understood not only as intrapsychic phenomena, but also as the result of a misalignment between individual capacities and the cognitive demands of contemporary career contexts.

Despite its relevance, career indecision and low career decidedness have often been treated as secondary outcomes in studies addressing youth unemployment or NEET prevention. Many policy-oriented interventions focus primarily on employability skills or labour-market activation, while devoting limited attention to the psychological processes that sustain long-term engagement and commitment. However, evidence suggests that without sufficient decisional clarity and confidence, interventions centred exclusively on skill acquisition may yield limited or short-lived benefits. Individuals entering training or employment pathways without a minimally consolidated career orientation may be more prone to disengagement, dropout, or cycling between unstable positions, thereby reinforcing precarious trajectories rather than resolving them.

Overall, career indecision and career decidedness can be understood as key constructs linking psychological vulnerability, contextual constraints, and structural risk. Examining how these processes unfold is essential for understanding youth disengagement and the emergence of NEET trajectories and provides the basis for the integrated framework presented in the following section.

Rationale for the Literature Review

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The preceding sections have highlighted the need for an integrative perspective on career decision-making, emphasising the interplay between contextual supports, psychological resources, and structural vulnerabilities.

Despite a substantial and growing body of international research addressing these constructs, the literature remains theoretically and empirically fragmented. Many studies examine individual predictors of career outcomes in isolation, such as self-efficacy or social support, without adequately accounting for their joint and interactive effects. As a result, the processes through which contextual resources are translated into psychological agency—and subsequently into career decidedness—remain insufficiently integrated within coherent explanatory models. This fragmentation is reinforced by the persistent divide between research traditions focusing on individual psychological determinants and those emphasising structural or educational conditions, hindering cumulative theory development.

Methodological limitations further exacerbate these issues. A large proportion of existing studies rely on cross-sectional designs, limiting the ability to capture developmental dynamics and to empirically test core assumptions of social-cognitive career theories regarding mediation, accumulation, and change over time (Lent et al., 1994, 2002). Longitudinal studies that simultaneously integrate contextual, psychological, and decisional variables remain comparatively rare, despite the inherently processual nature of career decision-making.

In addition, the cultural specificity of much of the existing evidence raises concerns regarding generalisability. Research on career self-efficacy, optimism, and decidedness has been predominantly conducted in Anglo-Saxon contexts, with limited attention to Southern European countries characterised by distinct educational systems, prolonged school-to-work transitions, and high levels of labour-market uncertainty. In the Italian context—marked by persistently high NEET rates and pronounced regional inequalities (Eurostat, 2021, 2022; Parola & Felaco, 2020)—the transferability of international findings cannot be assumed. Until recently, the lack of culturally validated assessment instruments has further constrained empirical progress in this area.

Moreover, vulnerable youth populations remain substantially underrepresented in mainstream career development research. Young adults with fragile literacy skills, learning difficulties,

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linguistic disadvantages, or migratory backgrounds are often excluded from empirical samples, despite their heightened exposure to career indecision and disengagement. This omission limits the explanatory scope of existing models and risks generating frameworks that reflect only relatively advantaged trajectories while neglecting structural and cognitive barriers faced by at-risk youth.

Taken together, these limitations highlight the need for a systematic and integrative review of the literature that reorganises existing evidence across theoretical traditions, levels of analysis, and target populations. Such a review is necessary to clarify conceptual overlaps and distinctions among key constructs, identify consistent empirical patterns and unresolved tensions, and delineate the theoretical and methodological gaps that motivate the present research.

Accordingly, the following chapter provides a structured review of the literature on youth career decision-making, focusing on the interrelations among career decision-making self-efficacy, career optimism, career decidedness, facilitating contextual conditions, and vulnerability factors. This review aims to establish a coherent empirical and theoretical foundation for the integrated model and the empirical investigations developed in the subsequent chapters.

1.1 Research Objectives and Hypotheses

Building upon the theoretical foundations and empirical gaps identified in the previous sections, the overarching aim of this cumulative dissertation is to investigate the dynamic interplay between contextual and psychological factors that influence young adults' career decision-making processes, with a particular focus on populations at risk of educational and occupational fragility. Despite substantial advances in the fields of career psychology and educational research, existing literature continues to lack validated measurement tools for the Italian context, longitudinal investigations capable of capturing developmental trajectories, and applied interventions that translate scientific insights into structured support systems for vulnerable youth. By addressing these limitations, the dissertation seeks to contribute both theoretically and practically to the promotion of sustainable, inclusive, and evidence-based career development pathways.

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General Objective

The general objective of this dissertation is to develop an integrated, empirically grounded model of career decision-making that captures the contribution of contextual resources (facilitating conditions, family and peer support, school climate) and dispositional factors (career decision-making self-efficacy, career optimism, adaptability) in shaping young adults' career decidedness. The dissertation aims to (a) validate psychometric instruments for the Italian career guidance context, (b) test a longitudinal moderated mediation model grounded in Social Cognitive Career Theory (SCCT), (c) translate empirical evidence into a structured multi-stakeholder support system for employability, and (d) extend the investigation to fragile adult populations through applied intervention research.

Specific Objectives and Hypotheses

Study 1: Validation of the Italian versions of FCSM and CDS

Objective

1:

To linguistically and psychometrically validate the Italian versions of the Facilitating Conditions for School Motivation Scale and the Career Decidedness Scale, providing reliable measurement tools for research and practice in the Italian educational context.

Hypothesis

1.1:

Both scales will demonstrate satisfactory factorial validity, internal consistency, and construct stability, consistent with previous validation studies (Akçakanat & Uzunbacak, 2012; Lounsbury et al., 1999; Abu Hamam et al., 2024).

Hypothesis

1.2:

A one-factor structure will best represent the Career Decidedness Scale, confirming findings from the original and subsequent validations (Lounsbury et al., 2005).

Study 2: Longitudinal examination of the interaction between internal and external mechanisms leading to career decidedness

Grounded in Bandura's Social Cognitive Theory (1986) and Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994; Lent & Brown, 2013), Study 2 examines the longitudinal interplay between contextual supports and psychological resources in shaping young people's

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career decidedness. Using a three-wave design, the study focuses on how facilitating conditions for school motivation influence career decidedness through career decision-making self-efficacy, and on the role of career optimism in strengthening or weakening these processes over time.

Objective

2

To test a three-wave moderated mediation model in which:

1. Facilitating conditions for school motivation predict career decision-making self-efficacy;
2. Career decision-making self-efficacy predicts career decidedness;
3. Career decision-making self-efficacy mediates the relationship between facilitating conditions and career decidedness;
4. Career optimism moderates the relationship between facilitating conditions and career decision-making self-efficacy.

Hypothesis

2.1

Facilitating conditions for school motivation will positively predict career decision-making self-efficacy, consistent with social cognitive theory and empirical evidence highlighting the role of contextual support in fostering confidence in career decision processes (Alliman-Brissett et al., 2004; Gushue & Whitson, 2006; Restubog et al., 2010).

Hypothesis

2.2

Career decision-making self-efficacy will positively predict career decidedness, reflecting the central role of self-efficacy beliefs in promoting commitment and clarity in vocational decision-making (Bullock-Yowell et al., 2011; Lo Presti et al., 2013).

Hypothesis

2.3

Career decision-making self-efficacy will mediate the relationship between facilitating conditions for school motivation and career decidedness, such that facilitating conditions enhance career decidedness primarily through their effect on self-efficacy (Lent et al., 1994, 2002; Restubog et al., 2010).

Hypothesis **2.4**

Career optimism will moderate the association between facilitating conditions and career decision-making self-efficacy, with stronger positive effects observed among students with higher levels of optimism, consistent with research on optimism as a motivational and regulatory resource (Scheier & Carver, 1985; Higgins et al., 2010; McIlveen et al., 2013).

Hypothesis **2.5**

In line with recent longitudinal evidence, facilitating conditions for school motivation will show a negative direct association with career decidedness when self-efficacy is not taken into account, highlighting the non-linear and indirect nature of contextual influences on career decision outcomes

Study 3: Design of the SupportSphere System

Objective **3:**

To translate empirical findings into the conceptual design of a multi-stakeholder support system (SupportSphere), informed by European recommendations, designed to enhance young adults' employability through integrated interventions addressing personal, contextual, and systemic determinants.

Design **Assumption** **3.1:**

Interventions targeting both contextual conditions and psychological resources will more effectively enhance young adults' career readiness than isolated approaches, consistent with integrative frameworks in career development (Bimrose & Brown, 2015; Sulistiani & Handoyo 2018).

Study 4: Intervention for fragile literacy adults (E-FRALIT)

Objective **4:**

To evaluate whether a structured psycho-linguistic and meta-cognitive training programme can improve employability, perceived competence, and adaptive career behaviours among adults with fragile literacy skills.

Hypothesis **4.1:**

Participants will demonstrate significant improvements in literacy-related self-efficacy,

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confidence, and employability indicators, consistent with evidence on the role of literacy and meta-cognition in career development (Nghia et al., 2019; Gu et al., 2020).

Integrated Hypothesis Across Studies

Hypothesis

5:

An integrated model combining contextual supports, psychological resources, and individual dispositions will significantly predict career decidedness and employability outcomes, providing a coherent empirical basis for future multi-level interventions.

1.2 Thesis Outline

Chapter 1 introduces the societal, psychological, and policy relevance of young adults' career development. It outlines the challenges posed by labour-market volatility, rising NEET rates- especially in Italy- and the fragmentation of existing theoretical models. By identifying the gaps related to contextual support, dispositional resources, and the limited availability of validated measures, Chapter 1 establishes the rationale for the dissertation and presents its overarching research objectives.

Chapter 2 provides an extensive and critical review of the state of the art. It discusses the evolution of employability as a construct, the socio-economic determinants of youth transitions, and the main theoretical models guiding contemporary career research, including Social Cognitive Career Theory and career adaptability frameworks. The chapter synthesises evidence on contextual determinants (e.g., family, peers, school climate) and psychological determinants (e.g., career decision-making self-efficacy, career optimism, career decidedness), identifying the need for integrative longitudinal designs and culturally validated instruments.

Chapter 3 presents the theoretical and methodological framework of the dissertation. It outlines the integrated SCCT-based model guiding the research and describes the overall research design, including participant characteristics, data-collection procedures, and statistical approaches used across the four studies (e.g., confirmatory factor analysis, longitudinal structural equation modelling, moderation and mediation analyses, and intervention evaluation). This chapter ensures conceptual and methodological coherence across the dissertation.

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Chapter 4 presents the four empirical studies. Studies 1a and 1b address the lack of validated psychometric tools in the Italian context through the adaptation and validation of the Facilitating Conditions for School Motivation Scale and the Career Decidedness Scale. Study 2 employs a three-wave longitudinal design to examine how facilitating conditions influence career decision-making self-efficacy and career decidedness, with career optimism as a moderating factor. Study 3 introduces the SupportSphere system, an Erasmus+ project translating empirical findings into a multi-level intervention targeting teachers, peers, and parents in VET contexts. Study 4, conducted within the E-FRALIT project and published in *Sustainability*, focuses on psycho-linguistic interventions for individuals with fragile literacy skills, highlighting their impact on employability, self-efficacy, and psychological capital.

Chapter 5 discusses the findings by integrating results across the four studies. It develops a data-driven interpretation of how contextual supports, psychological resources, cognitive-linguistic capacities, and structural conditions interact in shaping career decision-making. The chapter also outlines methodological limitations and proposes directions for future research.

Chapter 6 concludes the dissertation by articulating its theoretical, empirical, and applied contributions. It highlights the relevance of the findings for career guidance practice, educational policy, and NEET prevention strategies, and emphasises the importance of developing inclusive, context-sensitive, and sustainable models of career development.

1.3 Overview of Publications

This cumulative dissertation is based on four peer-reviewed publications (or manuscripts under review) that collectively contribute to the theoretical advancement, methodological refinement, and practical application of research on career decision-making and sustainable employability among young people and adults at risk of fragility, with particular attention to structural and cognitive-linguistic vulnerabilities that may affect career development processes. Although each study is conceptually and analytically independent, together they form a coherent developmental trajectory: from measurement validation, to longitudinal explanatory modelling, to intervention design, and finally to applied training for vulnerable adult

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populations. The following section provides an overview of each publication, describing its aims, methodology, major findings, and specific contribution to the cumulative thesis.

Studies 1a and 1b – Validation of the Italian Versions of the Facilitating Conditions for School Motivation Scale and the Career Decidedness Scale

Studies 1a and 1b comprise two complementary publications focusing on the psychometric validation of the Facilitating Conditions for School Motivation Scale (FCSM) and the Career Decidedness Scale (CDS) for use within the Italian educational context. Both instruments are central to the conceptual framework of this dissertation, as they operationalise key constructs—contextual supports and career decidedness—that are explicitly included in the integrative model of career decision-making developed in Chapter 2 and recur across all subsequent studies.

The first article (Abu Hamam et al., 2024) validates the Italian version of the FCSM using a sample of Italian students. Through Confirmatory Factor Analysis, the study confirms the factorial structure, internal consistency, convergent validity, and cultural adequacy of the scale. The second article (Abu Hamam et al., 2024) presents the validation of the CDS in a large sample of 647 young adults from northern Italy. The study confirms the one-factor structure of the scale (as established by Lounsbury et al., 1999; 2005) and demonstrates strong psychometric properties, including reliability and model fit adequacy.

These validated tools form the empirical backbone for Study 2, allowing for robust longitudinal modelling of the relationships between contextual and psychological determinants of career decision-making in the Italian context.

Contribution to the dissertation:

Studies 1a and 1b provide the methodological foundation for the entire dissertation by establishing validated Italian instruments for measuring facilitating conditions and career decidedness. Without these validated scales, the subsequent longitudinal and intervention-focused studies could not be conducted with scientific integrity.

Study 2 – Unrevealing the Interplay Between Internal and External Factors Leading to Career Decidedness: A Three-Wave Study

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Study 2 constitutes the theoretical and empirical core of the dissertation. This longitudinal investigation examines how contextual resources (facilitating conditions for school motivation) and psychological factors (career decision-making self-efficacy and career optimism) interact across time to shape students' career decidedness. Using a sample of 789 high school students participating in a three-wave study, the article tests a moderated mediation model grounded in Social Cognitive Career Theory (Lent, Brown & Hackett, 1994; 2002; 2013).

Findings show that facilitating conditions positively predict career decision-making self-efficacy, which in turn predicts career decidedness - confirming the mediating role of self-efficacy in career development processes. Interestingly, the direct effect of facilitating conditions on career decidedness is negative, suggesting that contextual resources may encourage exploration rather than early closure. Career optimism moderates several pathways, amplifying the positive effects of self-efficacy and contextual conditions on career outcomes. This pattern is consistent with the non-linear and mediated processes outlined in the theoretical framework, reinforcing the idea that contextual support influences career outcomes primarily through psychological mechanisms rather than direct effects. These results enrich literature by providing nuanced insights on how internal and external resources jointly shape young adults' vocational development.

Contribution to the dissertation:

Study 2 offers the central explanatory model guiding the entire thesis. Its findings directly inform the design of the intervention system presented in Study 3 and justify the need for targeted, multi-level support programmes.

Study 3 – Design of the Employability Improvement Support System (SupportSphere)

Based on the Erasmus+ project “SupportSphere – Preventing VETs from Going NEET” (KA220-VET)

Study 3 translates the empirical insights of Study 2 into a structured conceptual and operational framework. SupportSphere is a multi-level system designed to strengthen employability among students in vocational education and training (VET), especially those at risk of becoming NEET. The study aligns European priorities (e.g., the European Skills Agenda, Youth

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Guarantee, and VET modernization strategies) and integrates evidence-based elements from social cognitive models, ecological theories, and multi-stakeholder approaches.

This publication articulates the system’s rationale, methodological underpinnings, intervention components (e.g., parental guidance modules, teacher training, peer-led activities, student-focused career skills development), and expected impacts. By addressing both contextual and psychological determinants, SupportSphere proposes a comprehensive architecture capable of supporting students across multiple levels of influence.

Contribution to the dissertation:

Study 3 operationalises the theoretical and empirical findings of Study 2 into a real-world intervention system. It forms the applied backbone of the dissertation and highlights the translational potential of the research. The study also serves as an example of research-to-practice alignment within the framework of EU-funded educational projects.

Study 4 – Facilitating Sustainable Career Development in Fragility: A Psycho-Linguistic Intervention for Employability of Individuals with Fragile Literacy Skills

Study 4 extends the investigation of employability beyond school-aged youth, focusing instead on adults with fragile literacy skills - a population often excluded from traditional training systems and highly vulnerable to marginalisation in the labour market. Based on the E-FRALIT project, this article evaluates the effectiveness of a psycho-linguistic and meta-cognitive training programme designed to enhance literacy abilities, self-efficacy, and employability outcomes.

Using a structured pre-post design, the study demonstrates significant improvements in participants’ literacy-related skills, confidence in learning, readiness for employment, and ability to navigate career transitions. It integrates sustainability principles by highlighting how empowerment-oriented interventions can foster long-term adaptability, resilience, and active participation in society. Importantly, this study extends traditional social-cognitive models by explicitly addressing cognitive-linguistic vulnerabilities, which may disrupt or weaken the mechanisms linking contextual support and psychological resources to career outcomes.

Contribution to the dissertation:

Study 4 expands the dissertation’s scope to adult learners and fragile populations, reinforcing

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the argument that employability development requires lifelong, sustainable, and inclusive approaches. It provides an empirical example of intervention effectiveness, complementing the system-level theoretical design presented in Study 3.

1.4 Coherence Across Publications

Together, the four studies form a cohesive scientific narrative:

- **Studies 1a and 1b** and supply the validated instruments.
- **Study 2** develops the explanatory model.
- **Study 3** translates the model into an intervention system.
- **Study 4** tests an applied training approach with a vulnerable population.

This progression - from measurement to explanation, design, and application - **while progressively integrating structural and cognitive-linguistic vulnerabilities into the model**, embodies the conceptual logic of the thesis and demonstrates the continuity between theoretical development and practical innovation.

2. Literature review

2.1 Evolution of Employability

The concept of employability has undergone a profound evolution over the last three decades, progressively shifting from a narrow, labour-market centred interpretation to a multidimensional and psychologically informed construct. Early formulations of employability were primarily grounded in socio-economic and policy-oriented perspectives, emphasising individuals' capacity to obtain and retain employment in increasingly deregulated and competitive labour markets. Within the European policy landscape-particularly following the Europe 2020 strategy and subsequent youth- and inclusion-oriented initiatives-employability was conceptualised as a macro-level objective aimed at enhancing labour-market participation and preventing social exclusion, especially among groups at heightened risk of unemployment such as NEETs (Eurostat, 2020, 2021; ISTAT, 2022). These policy framings tended to treat employability as a set of skills or attributes that individuals should possess in order to match labour-market demands, implicitly assuming that structural constraints could be compensated for primarily through the strengthening of human capital.

However, research in vocational psychology and career development progressively challenged this reductionist view by introducing more complex and dynamic theoretical models. A seminal contribution in this shift was provided by Fugate, Kinicki, and Ashforth (2004), who conceptualised employability as a psychosocial construct encompassing career identity, personal adaptability, and human and social capital. This perspective marked a critical departure from static, skill-based definitions by framing employability as the outcome of an ongoing interaction between individual agency, adaptive resources, and contextual affordances. Building on this foundation, subsequent studies grounded in social cognitive and career construction perspectives further elaborated employability as a developmental, lifelong process, highlighting competencies such as career adaptability, self-regulation, career optimism, and self-efficacy as central psychological resources supporting successful and sustainable school-to-work transitions (Rottinghaus et al., 2005; McIlveen et al., 2013; Perera & McIlveen, 2014). In this view, employability is no longer conceived as a static end-state, but

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as a dynamic capacity to navigate non-linear and uncertain career trajectories across the life span.

Within this broader redefinition, empirical evidence increasingly underscores that employability is inseparable from the quality of the contextual ecosystem surrounding young people. Family support, teacher involvement, peer belonging, and school climate play a decisive role in shaping motivation, aspirations, and perceived opportunities (Turner & Lapan, 2002; Nota et al., 2007; Wentzel, 2014). These contextual resources-often conceptualised within Social Cognitive Career Theory as contextual supports and affordances (Lent, Brown, & Hackett, 1994, 2002)-have been shown to foster academic persistence, career exploration, and decisional clarity (Gushue & Whitson, 2006; Restubog et al., 2010). However, recent evidence suggests that these effects are primarily indirect, operating through psychological mechanisms such as career decision-making self-efficacy rather than through direct pathways to career outcomes. The recent validation of the Facilitating Conditions for School Motivation Scale in the Italian context (Abu Hamam et al., 2024) further reinforces the need to conceptualise employability not merely as an individual attribute, but as a system-level outcome emerging from networks of social capital, motivational climates, and institutional support.

Moreover, in contexts marked by growing social inequalities, the construct of employability has become increasingly intertwined with discussions of vulnerability, fragility, and inclusion. Young adults experiencing **structural disadvantages and cognitive-linguistic vulnerabilities**, including fragile literacy skills or disrupted educational trajectories, often encounter difficulties in accessing, interpreting, and using career-related information, thereby limiting their capacity to engage in reflective decision-making and long-term planning. Evidence from psycho-linguistic and educational research indicates that linguistic and cognitive fragilities may indirectly undermine employability by constraining individuals' ability to articulate career goals, internalise guidance, and sustain agentic engagement with learning and work pathways (OECD, 2019; Hartley, 2012). These findings resonate with capability-based perspectives, such as that proposed by Sen, which emphasise that opportunities cannot be effectively realised without adequate cognitive, linguistic, and socio-emotional resources.

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Overall, the evolution of employability reflects a conceptual transition from a predominantly labour-market-oriented indicator to a psychologically rich and multidimensional construct, grounded in integrative theoretical frameworks and supported by converging empirical evidence. Employability is now widely understood as comprising both dispositional resources—such as career optimism, self-efficacy, adaptability, and career identity—and contextual affordances, including family encouragement, teacher support, peer relationships, and school motivational climates. This multifaceted understanding provides the theoretical foundation for the present dissertation, which examines how contextual and psychological determinants interact—often in non-linear and mediated ways—to shape career decision-making processes and sustainable employability among young adults, particularly those exposed to structural and cognitive vulnerabilities within non-linear and uncertain career pathways.

2.2 Social Cognitive Career Theory (SCCT)

Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994, 2002, 2013) represents one of the most influential and extensively validated theoretical frameworks for understanding career development, academic persistence, and employability across the lifespan. Grounded in Bandura's (1986) Social Cognitive Theory, SCCT conceptualises career trajectories as the result of dynamic and reciprocal interactions between personal attributes, learning experiences, contextual influences, self-efficacy beliefs, outcome expectations, and goal-directed behaviour. Over time, the model has been increasingly applied to complex and unstable career environments, providing a valuable lens for understanding youth transitions in contexts characterised by labour-market uncertainty, social vulnerability, and non-linear pathways, including populations at risk of NEET status.

At the core of SCCT are three interrelated constructs: self-efficacy, outcome expectations, and goals. Self-efficacy refers to individuals' beliefs about their capability to perform behaviours necessary to achieve specific outcomes (Bandura, 1986). Within educational and vocational contexts, career decision-making self-efficacy has consistently been identified as a robust predictor of career exploration, decisional clarity, persistence, and educational commitment (Bullock-Yowell et al., 2011; Lo Presti et al., 2013; Rigotti et al., 2020). According to SCCT, self-efficacy beliefs are developed through mastery experiences, vicarious learning, verbal

persuasion, and affective or physiological states (Bandura, 1986), all of which are embedded within social and institutional contexts. This assumption underscores a central tenet of SCCT: psychological resources are fundamentally shaped by contextual experiences rather than operating independently from them.

Outcome expectations constitute a second core component of SCCT and refer to individuals' beliefs about the anticipated consequences of engaging in particular educational or career-related actions. Positive outcome expectations are associated with sustained motivation, exploration, and persistence, whereas negative expectations are linked to avoidance and disengagement. Empirical studies have shown that outcome expectations often mediate the effects of contextual supports-such as parental encouragement and teacher involvement-on academic engagement and career behaviour (Gushue & Whitson, 2006; Restubog et al., 2010), highlighting their role as a key psychological mechanism linking environment and action.

Goals, the third element of the SCCT model, reflect individuals' intentions to pursue specific activities or attain desired outcomes. Goals provide direction and serve a self-regulatory function by organising behaviour over time. Within SCCT, goal formation and goal pursuit are shaped by the interaction of internal resources (e.g., self-efficacy beliefs, optimism, affect regulation) and external conditions (e.g., institutional supports, opportunity structures, socio-economic constraints), emphasising the reciprocal nature of agency and context in career development processes.

A distinctive contribution of SCCT to employability research lies in its explicit consideration of contextual supports and barriers. Moving beyond individualistic models of career choice, SCCT emphasises the role of environmental affordances-such as family support, instructional quality, peer relationships, school safety, and motivational climate-in shaping self-efficacy development and career-related behaviour. A substantial body of empirical evidence supports this proposition. Parental involvement has been associated with academic achievement and perceived career competence (Bean et al., 2003; Turner & Lapan, 2002), teacher support has been shown to enhance student motivation and educational persistence (Wentzel & Muenks, 2018), and positive peer relationships have been linked to reduced stress and greater engagement in decision-making processes (Daly et al., 2009; Slaten & Baskin, 2014).

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The growing emphasis on contextual processes within SCCT has been accompanied by the development of instruments aimed at operationalising environmental resources relevant to motivation and persistence. One example is the Facilitating Conditions for School Motivation Scale, which assesses perceived parental, teacher, and peer support as antecedents of student engagement and motivational processes (Abu Hamam et al., 2024). Such measures reflect the SCCT premise that contextual supports influence career development primarily through their impact on self-efficacy and related psychological mechanisms.

In addition to contextual factors, SCCT incorporates dispositional variables that shape how individuals interpret and respond to environmental inputs. Among these, career optimism—defined as a generalised tendency to expect positive outcomes in one’s future career (Scheier & Carver, 1985)—has received increasing attention as a motivational and regulatory resource. Empirical research indicates that career optimism is positively associated with adaptive coping, exploration behaviour, and academic functioning (McIlveen et al., 2013; Steca et al., 2015), and may strengthen or weaken the effects of contextual support on self-efficacy processes.

Overall, SCCT provides a comprehensive and flexible framework for understanding how psychological resources and environmental affordances jointly shape career development and employability. Its integrative structure makes it particularly suitable for analysing career processes among populations exposed to structural disadvantage, educational fragility, or reduced access to supportive contexts. By foregrounding the interplay between individual agency and contextual conditions, SCCT offers a theoretically robust foundation for examining career decision-making and employability in contemporary youth transitions. Within this framework, career decidedness can be conceptualised as a key downstream outcome of SCCT processes, emerging from the interaction between contextual supports and self-efficacy beliefs.

2.3 Career Decidedness

Career decidedness represents a central construct in vocational psychology and career development research, referring to the degree to which individuals feel certain, committed, and clarified regarding their future occupational choices (Lounsbury et al., 1999, 2005). Through decades of empirical investigation, it has come to be conceptualised not merely as the presence of a specific choice but as a multidimensional psychological state integrating clarity of

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preferences, confidence in vocational direction, perceived readiness for decision-making, and emotional comfort with career commitments. Because career choices during adolescence and young adulthood shape future employability, life satisfaction, and identity formation, career decidedness has been described as a “developmental achievement” (Hirschi et al., 2011) that captures the balance between self-knowledge, opportunity awareness, and contextual influences.

Within the literature, career decidedness is situated at the intersection of career development theories, psychological well-being, and educational transitions. Young adults today face increasingly fragmented labour markets, rapid technological transformations, and unstable socio-economic conditions, which collectively intensify uncertainty and complicate the decision-making process (Khattab et al., 2022). Italian youth, in particular, navigate a labour market characterised by high NEET rates, precarious employment structures, and reduced upward mobility (Eurostat, 2021; Parola & Felaco, 2020). These structural factors exacerbate decisional instability and reduce young adults’ perceived ability to make coherent long-term plans, ultimately reinforcing the importance of assessing and supporting career decidedness in educational and counselling settings.

Research has consistently demonstrated that career decidedness is intimately linked to psychological functioning. Higher decidedness predicts superior subjective well-being (Uthayakumar et al., 2010), greater satisfaction with academic pathways (McIlveen et al., 2013), stronger engagement in career preparation activities (Hirschi et al., 2011), and reduced intentions to abandon school or university (Bargmann et al., 2022). Conversely, low career decidedness is associated with decisional anxiety, impaired exploration, vulnerability to external pressures, and a lower likelihood of taking advantage of training or vocational opportunities (Nota, 2007). These findings highlight that career decidedness is not only an outcome of exploration but also a motivational force that sustains adaptive behaviours over time.

A large body of theoretical and empirical research situates career decidedness as strongly influenced by individual resources and contextual support, in line with the assumptions of Social Cognitive Career Theory (Lent et al., 1994, 2002). Among personal variables, **self-efficacy** has emerged as one of the most consistent predictors of decidedness. Individuals who

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believe in their ability to evaluate options, overcome obstacles, and pursue preferred pathways demonstrate higher clarity and commitment in their choices (Lo Presti et al., 2013; Bullock-Yowell et al., 2011). Relatedly, personality traits - particularly conscientiousness, emotional stability, openness, and agreeableness - have been shown to positively predict career decidedness (Lounsbury et al., 2005), suggesting that dispositional factors influence decisional readiness.

Parallel to internal resources, **contextual influences** also play an essential role in shaping career decidedness. Parental behaviours, such as emotional support, behavioural guidance, and academic encouragement, are positively associated with decisional clarity and academic competence (Bean et al., 2003; Turner & Lapan, 2002). Teacher support enhances school motivation and indirectly influences career decisions through its impact on self-efficacy (Wentzel & Muenks, 2018). Peer relationships contribute to a sense of belonging and reduce decisional difficulties (Slaten & Baskin, 2014). The importance of such environmental conditions has led to the development of measures like the Facilitating Conditions for School Motivation Scale (Abu Hamam et al., 2024), which conceptualise contextual supports as enabling forces that foster students' readiness for academic and vocational choices.

Career decidedness is also recognised as a dynamic process that evolves over time, rather than as a stable trait. Longitudinal evidence from the Sage three-wave study (Sartori, Tommasi et al., 2024) shows that contextual support for school motivation influence career decidedness through career decision-making self-efficacy, underscoring the importance of chronological development in decision-making processes. Interestingly, the study found that while the direct effect of facilitating conditions on decidedness was negative, the indirect effect through self-efficacy was positive revealing that the relationship between context and decidedness is non-linear and temporally dynamic rather than uniformly positive. These findings challenge simplistic interpretations and indicate that supportive environments may increase awareness of possibilities and thereby temporarily heighten uncertainty before ultimately strengthening self-efficacy and decisional clarity.

Instruments used to measure career decidedness have evolved to capture these psychological nuances. The **Career Decidedness Scale (CDS)** by Lounsbury et al. (1999), later refined to a six-item version and validated across multiple populations, remains one of the most widely

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used tools. The Italian validation (Abu Hamam et al., 2024) - included in the present dissertation - confirmed the one-factor structure, strong reliability, and robust psychometric properties of the CDS among 647 Italian young adults. Confirmatory factor analyses demonstrated significant loadings, adequate model fit, and internal coherence. Through this validation, the Italian context now has an empirically sound tool to assess decisional clarity and to identify students at risk of indecision or dropping out.

Career decidedness also intersects with broader employability constructs. Modern debates emphasise the need for adaptability, self-directedness, and psychological resilience in navigating the unpredictable nature of contemporary labour markets (Bimrose & Brown, 2015; Rottinghaus et al., 2012). Within this landscape, career decidedness functions as a marker of readiness to commit to vocational pathways, engage in lifelong learning, and respond proactively to labour market demands. From this perspective, decidedness is not the end-point of a linear trajectory, but a dynamic psychological resource that strengthens employability by fostering confidence, exploration, and strategic goal-setting.

Recent interdisciplinary contributions, including cognitive and linguistic perspectives, further broaden understanding of career decidedness. The Sustainability article included in this thesis (Tommasi et al., 2023) shows that fragile literacy skills - particularly difficulties in narrative coherence, abstraction, and self-reflective expression - can impair career decision-making. Since decidedness relies on the ability to articulate interests, process information, and anticipate future outcomes, linguistic vulnerabilities may undermine both self-efficacy and goal clarity. These findings underscore the need to integrate psycho-linguistic considerations into career guidance practices.

Taken together, contemporary evidence positions career decidedness as a pivotal construct linking psychological agency, contextual resources, cognitive-linguistic capacities, and employability outcomes. It is both a predictor and an indicator of developmental trajectories and plays a central role in mediating educational and labour market transitions. By examining career decidedness across psychometric, motivational, contextual, and cognitive-linguistic dimensions, the present thesis contributes to advancing a more integrated understanding of how young people - particularly those navigating fragile conditions - construct their vocational futures.

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2.4 Career Adaptability

Career adaptability has emerged as one of the most influential constructs in contemporary vocational psychology, reflecting individuals' psychological readiness and resources for coping with career-related developmental tasks, transitions, and unexpected challenges. In increasingly unstable and unpredictable labour markets - accelerated by digitisation, economic volatility, and socio-cultural transformations - career adaptability functions as a critical buffer that supports agency, exploration, and resilience (Rottinghaus et al., 2005, 2012). The concept originates from career construction theory, which posits that individuals must continuously negotiate between personal aspirations and environmental demands, developing adaptive capacities that enable them to respond effectively to change. In this sense, adaptability is not simply a set of competencies, but a dynamic psychosocial resource that empowers individuals to navigate uncertainty and sustain employability across the lifespan.

Within the career construction framework, adaptability is typically conceptualised through four dimensions: *concern*, *control*, *curiosity*, and *confidence* (Savickas, as cited in Rottinghaus et al., 2012). Concern reflects future orientation and planning, control refers to self-regulation and decisional autonomy, curiosity captures exploratory behaviours toward opportunities, and confidence involves perceived efficacy in overcoming obstacles. These dimensions collectively support individuals in anticipating transitions, taking responsibility for choices, exploring alternatives, and engaging effectively in vocational tasks. Empirical research has consistently shown that higher career adaptability predicts better academic persistence, more effective career exploration, stronger decision-making, and higher subjective career success (Rigotti et al., 2020; Bimrose & Brown, 2015; Rottinghaus et al., 2005).

Career adaptability is deeply intertwined with other key psychological constructs present in this dissertation, including *career optimism* and *career decision-making self-efficacy*. Career optimism - defined as generalised positive outcome expectations (Scheier & Carver, 1985) - has been shown to reinforce adaptive coping strategies and to expand the cognitive resources individuals mobilise when approaching career tasks (Perera & McIlveen, 2014). Similarly, career decision-making self-efficacy, grounded in Bandura's (1986) social cognitive theory, has a reciprocal relationship with adaptability: individuals who believe they can successfully perform career tasks are more likely to exhibit adaptive attitudes, while adaptive behaviour

further strengthens efficacy beliefs (Lo Presti et al., 2013). Together, these constructs form a synergistic cluster of psychological resources that support proactive engagement with career development.

Contextual support (operationalised in this thesis as facilitating conditions for school motivation) also play a significant role in nurturing career adaptability. Findings from Social Cognitive Career Theory underscore that environmental factors such as parental encouragement, teacher support, and peer belonging are central to fostering adaptive career behaviours (Turner & Lapan, 2002; Daly et al., 2009; Slaten & Baskin, 2014). For instance, young adults who experience consistent parental warmth and behavioural control demonstrate stronger academic engagement and clearer future planning (Bean et al., 2003; Kristjansson & Sigfúsdóttir, 2009). Teacher involvement contributes to motivational climates that enhance students perceived agency and exploratory behaviours (Wentzel & Muenks, 2018). Peer relationships, particularly the sense of belonging within the school context, reduce insecurity and facilitate adaptive exploration. These influences converge to emphasise that adaptability is not solely an individual characteristic, but the result of a supportive ecosystem that enables young people to internalise strategies for coping with uncertainty.

Longitudinal research strengthens this ecological view, illustrating that adaptability evolves across developmental stages and is shaped by cumulative experiences. The three-wave study included in this dissertation (Sartori, Tommasi et al., 2024) provides compelling evidence of the mechanisms linking contextual conditions, psychological resources, and adaptive career outcomes. Specifically, the study demonstrated that facilitating conditions for school motivation positively influence self-efficacy, which in turn predicts career decidedness - a trajectory that mirrors the core logic of adaptability. Although the study does not directly measure adaptability as defined by Savickas, it reveals a developmental pathway in which supportive contexts activate internal resources that ultimately lead to greater vocational clarity. This cascading mechanism aligns with research showing that adaptability mediates the relationship between contextual affordances and career outcomes (Restubog et al., 2010; Gushue & Whitson, 2006).

Career adaptability also plays a central role in the broader discourse on *employability*. In contemporary labour markets characterised by discontinuity, adaptability is increasingly

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viewed as a core employability competence: individuals who can reinterpret setbacks, adjust to new demands, and pursue alternative pathways are more capable of sustaining long-term labour market participation (Bimrose & Brown, 2015). The construct connects cognitive, motivational, relational, and behavioural dimensions of employability, supporting proactive career management and lifelong learning. This is particularly salient for vulnerable groups - such as NEETs, low-performing students, and individuals with fragile literacy skills - whose adaptive resources may be impaired by contextual disadvantage or reduced access to quality guidance (Tommasi et al., 2023; Parola & Felaco, 2020).

The psychosocial nature of adaptability also emerges from studies on linguistic and cognitive fragility. The psycho-linguistic intervention presented in the Sustainability article (Tommasi et al., 2023) highlights the importance of linguistic competence - especially narrative structuring, abstraction, and reflective capacity - as a foundation for adaptive career behaviour. Individuals with fragile literacy skills struggle to articulate aspirations, evaluate options, and anticipate consequences, which are essential cognitive processes underpinning adaptability. These limitations can restrict exploratory behaviour, diminish self-efficacy, and weaken career optimism, ultimately reducing the capacity to manage transitions. The study demonstrates that targeted linguistic interventions can enhance adaptive functioning, providing evidence that adaptability is partly rooted in cognitive-linguistic resources that can be strengthened through intentional educational practices.

In sum, career adaptability constitutes a multidimensional psychological construct that bridges personal agency, contextual affordances, cognitive-linguistic competence, and employability outcomes. It enables individuals to navigate transitions, cope with uncertainty, and construct meaningful vocational pathways. The construct is particularly relevant for young people experiencing fragility - whether socio-economic, motivational, or linguistic - whose adaptive resources may require additional reinforcement. Within this doctoral thesis, adaptability represents a foundational theoretical lens through which the interaction between contextual and dispositional factors can be understood, and provides a conceptual bridge between empirical evidence, intervention design, and sustainable employability trajectories.

2.5 Career Decision-Making Self-Efficacy

Career Decision-Making Self-Efficacy (CDMSE) represents one of the most influential and empirically supported constructs within contemporary theories of vocational behavior. Rooted in Bandura's (1986) Social Cognitive Theory, self-efficacy refers to individuals' beliefs in their capacity to organize and execute the actions necessary to achieve desired outcomes. Within the career domain, CDMSE specifically denotes one's confidence in performing tasks relevant to making career decisions, such as selecting an academic track, gathering occupational information, solving problems, or clarifying vocational interests (Lent, Brown, & Hackett, 1994, 2002). As emphasized by Lent and Brown (2013), self-efficacy is not merely a motivational variable but a dynamic regulatory mechanism shaping how young people approach decision-making, cope with uncertainty, and persist in the face of obstacles. This makes CDMSE a pivotal determinant of adaptive career development across the lifespan.

A rich body of evidence demonstrates that CDMSE is strongly associated with several positive outcomes in academic and vocational trajectories, including career decidedness, lower indecision, academic engagement, and persistence in goal-directed behaviors. For instance, Bullock-Yowell, Andrews, and Buzzetta (2011) showed that CDMSE is a robust predictor of career decision-making outcomes when considered alongside personality factors and cognitive appraisals, highlighting its centrality regardless of individual dispositional tendencies. Similarly, Restubog, Florentino, and Garcia (2010) documented that CDMSE mediates the association between contextual supports (operationalised in this thesis as facilitating conditions for school motivation) and persistence in career-related activities, offering empirical confirmation of its key role in social cognitive career models. These findings support the idea that CDMSE represents a psychological resource enabling young individuals to navigate vocational transitions with greater clarity and confidence.

In the Italian context, the importance of assessing CDMSE has been underlined by numerous studies. One of the most relevant contributions is the work of Lo Presti et al. (2013), who examined the factor structure of the Career Decision Self-Efficacy Scale - Short Form among Italian high school students. Their findings confirmed the validity of the multidimensional structure of CDMSE and highlighted the need for culturally robust measures tailored to the Italian educational system. Consistent with these insights, Nota et al. (2007) demonstrated that

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CDMSE is strongly associated with family support and inversely related to career indecision among Italian young adults, further validating its predictive and explanatory power in Mediterranean youth populations. Together, these studies reinforce CDMSE as a critical variable for understanding the mechanisms that guide young adults' in their vocational choices.

The theoretical foundation of CDMSE lies in Bandura's (1986) four identified sources of efficacy beliefs: mastery experiences, vicarious learning, verbal persuasion, and physiological and affective states. Empirical studies have repeatedly confirmed the relevance of these antecedents in academic and vocational contexts. For example, Capa-Aydin, Uzuntiryaki-Kondakci, and Ceylandag (2018) demonstrated the role of mastery experiences as a mediator between vicarious experiences, verbal persuasion, physiological states, and domain-specific self-efficacy in educational settings. Applied to career development, these findings suggest that students who have opportunities to explore occupational environments, receive encouragement from teachers and family, or observe successful peers are more likely to develop stronger CDMSE. In this sense, CDMSE provides a psychological bridge between contextual supports and individual outcomes.

CDMSE also plays a crucial role in reducing career indecision and enhancing adaptability. Lipshits-Braziler, Gati, and Tatar (2015) found that individuals with higher CDMSE are better equipped to implement coping strategies for career indecision and are more likely to adopt problem-focused approaches rather than avoidance or emotional responses. This aligns with research conducted in Asian contexts, such as Edomwonyi (2018) and Gu et al. (2020), who consistently identified CDMSE as one of the strongest predictors of career readiness and decision-making skills among high school students. Across cultures and educational systems, CDMSE appears to operate as a central psychological mechanism enabling youth to manage vocational uncertainty.

The construct is not only relevant for intrapersonal dynamics but also deeply tied to interpersonal and contextual forces. Numerous studies have shown that supportive environments - particularly family, peers, and teachers - contribute to developing higher CDMSE during adolescence. For instance, Turner and Lapan (2002) demonstrated that young adults who perceive higher parental support report significantly higher CDMSE. This effect

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has been mirrored by Gushue and Whitson (2006), who found that contextual supports and ethnic identity jointly predicted both CDMSE and career outcome expectations. These findings highlight the relational and ecological embeddedness of CDMSE, in line with the broader principles of Social Cognitive Career Theory.

More recent evidence strengthens the centrality of CDMSE in career decision-making pathways. In the three-wave longitudinal study conducted by Sartori et al., (2024), CDMSE emerged as a significant mediator between facilitating conditions for school motivation and career decidedness. While direct facilitating conditions had a negative association with decidedness, their indirect effect through CDMSE was positive, demonstrating that CDMSE constitutes a critical psychological mechanism through which contextual supports translate into more adaptive vocational outcomes. This complex pattern reinforces the need for integrative models that consider both contextual and dispositional variables.

Overall, the literature consistently positions CDMSE as a core construct in career development, linking individual beliefs, contextual support systems, and decision-making outcomes. Its validated role across nations, age groups, and educational pathways underscores the necessity of incorporating measures of CDMSE into both research and practice. Moreover, in countries like Italy - where youth unemployment and NEET rates remain high - strengthening CDMSE through structured interventions may represent a strategic approach to promoting sustainable employability and empowering young people toward informed and confident career trajectories. Overall, the literature consistently highlights that career decision-making self-efficacy represents a central psychological mechanism linking contextual support and adaptive career outcomes. Within the SCCT framework, self-efficacy operates as a key mediator through which environmental resources are translated into career decidedness and sustained engagement in career-related behaviours.

2.6 Career Optimism

Career optimism has increasingly been recognised as a central dispositional resource within contemporary models of career development, particularly in socio-economic contexts characterised by uncertainty, labour-market volatility, and non-linear educational trajectories. Defined as the tendency to expect positive outcomes and to focus on favourable aspects of one's future career development (Rottinghaus, Day, & Borgen, 2005), career optimism

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represents a future-oriented cognitive orientation that shapes how individuals interpret opportunities, constraints, and career-related challenges. Although conceptually related to broader constructs such as hope and generalised optimism, career optimism is domain-specific and has been shown to exert distinct effects on career-relevant processes and outcomes (Juntunen & Wettersten, 2006; Rottinghaus et al., 2012).

A growing body of empirical research indicates that higher levels of career optimism are associated with adaptive career behaviours and outcomes, including stronger career aspirations, greater engagement in exploration activities, clearer vocational choices, and higher levels of academic and career satisfaction (Rottinghaus et al., 2005; Rottinghaus et al., 2012; McIlveen, Burton, & Beccaria, 2013). Career optimism has also been linked to broader indicators of adaptability and adjustment, such as more successful transitions to university contexts and more effective coping with unemployment and career setbacks (Lee, 2008; Perera & McIlveen, 2014). Collectively, these findings suggest that optimistic future expectations support persistence, flexible goal adjustment, and sustained motivational engagement during critical career transitions.

Within social-cognitive and self-regulatory frameworks, career optimism plays a particularly relevant role in shaping how contextual resources are interpreted and internalised. While early conceptualisations treated optimism as a relatively stable dispositional characteristic (Scheier & Carver, 1985), subsequent research suggests that career optimism is at least partially malleable and responsive to environmental influences, including parental support, teacher encouragement, and peer relationships (Higgins et al., 2010). Supportive educational and relational environments may therefore reinforce positive expectations regarding future career outcomes, indirectly enhancing engagement in career decision-making tasks.

Importantly, emerging evidence indicates that career optimism may function not only as a direct predictor of career outcomes but also as a moderating factor within career decision-making processes. Studies informed by Social Cognitive Career Theory suggest that optimism can strengthen the relationship between contextual support and career decision-making self-efficacy, thereby enhancing individuals' confidence in managing career-related tasks in the presence of uncertainty and perceived barriers (Restubog, Florentino, & Garcia, 2010; Carver & Scheier, 2010). From this perspective, individuals high in career optimism appear more

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likely to construe environmental support as actionable encouragement and to sustain confidence and persistence when confronted with career-related demands.

The relevance of career optimism is particularly pronounced among young adults navigating structurally fragile conditions, such as unstable labour markets, limited access to guidance services, or increased risk of disengagement and NEET trajectories. In such contexts, positive future-oriented expectations may serve as a buffering function, mitigating the negative psychological impact of uncertainty and supporting agentic engagement in career planning and exploration. Overall, the literature positions career optimism as a key dispositional resource that complements self-efficacy and career decidedness, contributing to a more nuanced understanding of how psychological and contextual factors jointly shape adaptive career development.

2.7 Research Philosophy

This doctoral research is grounded in an interdisciplinary paradigm that spans psychology, career development studies, educational sciences, and applied social research. The underlying philosophical orientation is **pragmatism**, which offers a coherent and flexible stance for unpacking complex psychological constructs - such as career decision-making self-efficacy, career optimism, facilitating conditions, and career decidedness - within the real socio-educational systems that shape young adults' employability. Pragmatism holds that the value of knowledge lies in its capacity to solve problems and generate actionable insights (Creswell & Creswell, 2018; Morgan, 2007). This orientation is particularly appropriate for a cumulative dissertation that includes psychometric validation, longitudinal modelling, and the design of intervention-based systems aimed at improving sustainable employability among fragile youth and adults.

While pragmatism provides the overarching methodological frame, the research also incorporates a **critical-realist sensibility**, acknowledging that psychological variables are not merely empirical observations but also **latent mechanisms** embedded in broader structural contexts (Maxwell, 2012). Factors such as school support, family influence, socio-economic vulnerability, and institutional opportunities shape career development in ways that extend beyond individual perception or behaviour. This position aligns closely with the Social Cognitive Career Theory (Lent, Brown & Hackett, 1994, 2002, 2013), which conceptualises

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career processes as emerging from the interplay of personal agency, self-beliefs, and contextual affordances. Critical realism thus reinforces the idea that employability-related constructs can be operationalised and statistically modelled, yet remain influenced by underlying causal structures - economic, educational, relational - that are not directly observable.

The combination of **pragmatism and critical realism** enables this dissertation to adopt a methodological strategy that is both empirically rigorous and socially meaningful. Instead of adhering strictly to a positivist or constructivist paradigm, the research selects methods - psychometric validation (Study 1), longitudinal SEM (Study 2), design-based intervention development (Study 3), and applied psycho-linguistic intervention research (Study 4) - based on their **fitness for purpose** (Biesta, 2010). The guiding principle is methodological appropriateness: each study employs techniques that maximize the accuracy, interpretability, and applicability of findings, ensuring that the research produces evidence that can be transferred into practice within schools, guidance systems, and policy frameworks.

A pragmatist–critical-realist stance also supports the integration of theory and practice, which is central to the aims of the dissertation. The validation of measurement tools contributes to the robustness of empirical research in the Italian context; the longitudinal modelling informs causal hypotheses around career development; and the intervention design responds directly to the practical need for innovative, scalable guidance solutions for youth at risk of fragility. This epistemological orientation therefore fosters a strong link between scientific inquiry and societal impact, aligning the dissertation with contemporary expectations for research that is simultaneously theoretical, empirically grounded, and policy-relevant.

In summary, the research philosophy anchoring this dissertation allows for the integration of diverse methodological approaches under a coherent epistemological framework. Pragmatism ensures flexibility and real-world relevance, while critical realism provides depth in understanding the causal mechanisms linking psychological resources, contextual conditions, and career development trajectories. Together, these orientations support a research programme that aspires not only to advance theoretical knowledge but also to generate tangible benefits for educational and career guidance systems.

2.8 Overall Research Design

The overall research design of this cumulative dissertation follows a multi-study, predominantly quantitative and multi-level architecture that integrates psychometric validation, longitudinal modelling, and intervention development. This structure is aligned with the overarching aim of the dissertation: to examine how contextual and psychological factors jointly shape career decision-making and sustainable employability among young adults at risk of fragility, while also generating tools and interventions applicable in real-world guidance settings.

The design is both sequential and integrative, with each study contributing a distinct yet complementary layer of evidence to a coherent theoretical framework grounded in Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994, 2002, 2013). Specifically, the dissertation is organised around four interconnected empirical studies that progressively move from measurement to explanation, and from explanation to application and extension.

Studies 1a and 1b establish the measurement foundation of the research by validating two key instruments within the Italian context: the Career Decidedness Scale and the Facilitating Conditions for School Motivation Scale. The validation process follows established international guidelines for cross-cultural adaptation, including translation and back-translation procedures, confirmatory factor analysis, and reliability assessment (Beaton et al., 2000; Fabrigar et al., 1999). This phase ensures that the constructs underpinning the subsequent analyses are assessed through psychometrically robust and culturally appropriate tools.

Building on this foundation, Study 2 represents the core explanatory component of the dissertation. It investigates the dynamic interplay between contextual support, career decision-making self-efficacy, career optimism, and career decidedness over time. Through longitudinal modelling approaches, this study provides empirical evidence for the mechanisms through which environmental and psychological factors interact in shaping career development trajectories (Cole & Maxwell, 2003; Little, 2013).

Study 3 translates these insights into practice through the development of the Employability Improvement Support System (SupportSphere), an Erasmus+ project informed by the findings of Study 2. This phase adopts a translational perspective, integrating theory-driven programme

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design, stakeholder co-creation, and multi-level intervention strategies targeting students, teachers, and guidance practitioners.

Finally, Study 4 extends the scope of the dissertation to more vulnerable populations, focusing on adults with fragile literacy skills. By applying a psycho-linguistic intervention approach, this study tests the robustness and applicability of the proposed framework beyond traditional educational contexts, addressing the role of cognitive-linguistic vulnerabilities in career development processes.

Overall, the research design is intentionally layered, sequential, and translational. It integrates measurement, explanation, and intervention to produce a comprehensive and practice-oriented contribution to the field of career development and sustainable employability.

2.9 Methods Overview

The methodological framework of this doctoral research reflects a cumulative, multi-study approach that combines complementary quantitative and applied research strategies. Each study employs a specific methodological design aligned with its research objectives, while maintaining overall coherence with the assumptions of Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994, 2002, 2013).

Studies 1a and 1b adopts a cross-sectional psychometric validation design to adapt and validate two international instruments-the Career Decidedness Scale (CDS) and the Facilitating Conditions for School Motivation Scale-for the Italian context. The validation process follows established international guidelines, including translation and back-translation procedures, confirmatory factor analysis (CFA), and reliability assessment, ensuring construct validity and cultural appropriateness (Beaton et al., 2000; Fabrigar et al., 1999).

Study 2 employs a three-wave longitudinal design involving high school students across different educational tracks. Structural Equation Modelling (SEM) is used to test mediation and moderation effects among contextual supports, career decision-making self-efficacy, career optimism, and career decidedness. Longitudinal SEM allows for the examination of temporal dynamics and provides stronger inferential evidence regarding the relationships among variables (Cole & Maxwell, 2003; Little, 2013).

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Study 3 is based on a design-based research methodology and focuses on the development of the Employability Improvement Support System (SupportSphere). Although it does not involve primary quantitative data collection, it applies principles of theory-driven programme design, stakeholder co-creation, and integration of empirical findings from Study 2, resulting in structured intervention outputs such as training modules, digital tools, and guidance resources.

Study 4 adopts a quasi-experimental intervention design to evaluate a psycho-linguistic tool developed within the E-FRALIT project. The study combines quantitative pre–post measures with qualitative analyses to assess changes in participants’ employability-related beliefs, communication skills, and perceived preparedness. This mixed-method approach enables a more comprehensive understanding of intervention impact, particularly within populations characterised by fragile literacy skills.

Taken together, these methodological approaches ensure robustness, complementarity, and ecological validity. By integrating validation, longitudinal modelling, and intervention-based research, the dissertation provides both theoretically grounded and empirically supported insights into career decision-making and employability processes

2.10 Ethical Considerations

Ethical integrity represents a foundational pillar of this doctoral project, which spans diverse populations - young adults, young adults, and adults with fragile literacy skills - and employs multiple research methods including psychometric validation, longitudinal modelling, and applied intervention design. Given the vulnerability of several target groups (e.g., NEET youth, students in VET pathways, adults with literacy fragility), the research adheres to the highest ethical standards to ensure participant protection, methodological transparency, and responsible data management.

Across all empirical studies, the research followed the **Declaration of Helsinki** (World Medical Association, 2013), which establishes principles of respect for individuals, beneficence, informed consent, and protection of vulnerable populations. Particular attention was dedicated to ensuring that participation was voluntary, fully informed, and free from coercion. For adolescent participants, as in the validation and longitudinal studies, ethical

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protocols required **dual consent** procedures: informed consent from parents or legal guardians and assent from the minors themselves. In line with best practices, study information sheets used age-appropriate language to facilitate comprehension and minimise cognitive load for younger respondents.

Data collection and processing complied with the **General Data Protection Regulation (GDPR 2016/679)**, ensuring confidentiality, anonymisation of responses, secure data storage, and transparency regarding data usage. Personal identifiers were removed prior to analysis, and datasets were stored on encrypted institutional servers accessible only to the research team. In accordance with GDPR's principle of data minimisation, only data strictly necessary for research purposes were collected, and participants were informed about their right to withdraw at any time without consequences.

From a methodological and ethical standpoint, each study required tailored considerations. **Study 1**, involving the validation of the Career Decidedness Scale and the Facilitating Conditions for School Motivation Scale, involved minimal risk; nonetheless, anonymity and data accuracy were prioritised, given the sensitivity of career-related self-evaluations in adolescence. **Study 2**, the three-wave longitudinal project, introduced additional ethical responsibilities related to temporal tracking. To avoid re-identification risks, anonymised alphanumeric codes were used for participant matching across waves, and only authorised personnel handled the linkage files. Moreover, because repeated measurement may potentially highlight distressing career uncertainties, debriefing materials included information on school counselling services.

Study 3, the design of the SupportSphere system within an Erasmus+ framework, did not involve primary data collection but required adherence to **European guidelines on educational innovation, inclusivity, and participant protection**. Ethical practice here concerned stakeholder engagement: ensuring transparency with schools, educators, and institutions involved in the design process, and avoiding power imbalances, especially in consultations with teachers and VET learners.

Study 4, conducted with adults with fragile literacy skills, demanded heightened ethical sensitivity. Participants in this group may face stigma, reduced self-confidence, and

vulnerabilities associated with limited linguistic competence. To address these concerns, the research team used simplified and accessible communication materials and provided additional explanation opportunities before obtaining consent. The psycho-linguistic intervention was carefully designed to avoid deficit framings and to reinforce dignity, agency, and positive identity development. Furthermore, because measuring literacy-related constructs may evoke discomfort or perceived judgment, participants were given the right to skip items or stop the intervention at any point.

Across all studies, the research team upheld principles of **non-maleficence**, ensuring that no procedure exposed participants to psychological risks greater than those encountered in everyday life. Debriefing procedures emphasised the non-evaluative nature of the studies and provided contact details for support services when necessary. The ethical approach also reflected the principle of **justice**, ensuring equitable participation opportunities across schools, socio-economic backgrounds, and geographic areas, particularly relevant given the regional disparities affecting Italian youth identified in previous literature.

Finally, ethical transparency is reinforced by the availability of data upon reasonable request, as stated in the publications associated with the thesis (Abu Hamam et al., 2024). This ensures accountability and fosters reproducibility while maintaining compliance with privacy regulations.

3. Theoretical Framework: An Integrated SCCT-Based Model of Career Development and Employability

The preceding chapters have identified a set of psychological and contextual variables that consistently emerge as key determinants of career decision-making processes among adolescents and young adults. Constructs such as career decision-making self-efficacy, career optimism, contextual support, and career decidedness have been widely examined across empirical traditions, although often in isolation and predominantly through cross-sectional designs. Consequently, the mechanisms through which contextual conditions are translated into individual agency and sustained career outcomes remain only partially understood.

To address these limitations, the present dissertation adopts Social Cognitive Career Theory (SCCT) as its primary theoretical framework (Bandura, 1986; Lent, Brown, & Hackett, 1994, 2002). SCCT offers an integrative and developmentally sensitive model capable of linking contextual affordances, cognitive–motivational processes, and career-related outcomes over time. Within this framework, career behaviours are conceptualised as the result of reciprocal interactions between personal beliefs, environmental conditions, and learning experiences, rather than as direct responses to external opportunities or constraints.

Core	Theoretical	Assumptions
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Consistent with SCCT, this dissertation conceptualises career decision-making self-efficacy as a central regulatory mechanism through which contextual supports are internalised into perceived competence and agency (Bandura, 1986; Lent et al., 2002). Educational agents such as teachers, peers, and institutional actors are not assumed to exert a direct influence on career outcomes. Rather, their impact is theorised to depend on the extent to which supportive experiences contribute to individuals' confidence in engaging in career exploration, goal setting, and decision-making activities.

In parallel, career optimism is theorised as a cognitive–motivational amplifier that shapes how individuals interpret future possibilities and persist in the face of uncertainty (Rottinghaus et al., 2005; Carver & Scheier, 2010). Within this framework, optimism is not conceptualised as an independent determinant of career outcomes, but as a dispositional orientation that interacts with self-efficacy processes by strengthening the translation of contextual support into future-oriented expectations and sustained engagement in career planning. In this sense, optimism is

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assumed to enhance the durability and motivational quality of agency rather than substituting for it.

Career Decidedness as a Proximal Developmental Outcome

Within the proposed model, career decidedness is positioned as a proximal yet developmentally meaningful outcome of the career construction process. Drawing on prior conceptualisations (Lounsbury et al., 1999), career decidedness is understood neither as a fixed trait nor as a purely transitory state, but as a relatively stable cognitive–emotional orientation that remains sensitive to both contextual conditions and psychological resources. The framework therefore conceptualises career decidedness as an emergent property arising from the interaction between perceived supports, self-efficacy beliefs, and positive future expectations, rather than as the result of isolated individual dispositions.

The Role of Facilitating Conditions for School Motivation

A distinctive element of the proposed framework lies in the integration of facilitating conditions for school motivation as a structured and measurable form of contextual support (McInerney et al., 2005). These conditions encompass relational resources provided by teachers, peers, and families, as well as motivational and organisational affordances embedded within educational environments. Importantly, the framework allows for non-linear and potentially ambivalent effects of context, acknowledging that highly structured or directive environments may constrain autonomy unless accompanied by sufficient psychological resources.

This assumption extends classical SCCT formulations by introducing a more differentiated view of contextual influences, recognising that supportive environments may simultaneously enable and constrain career development depending on how they are interpreted and internalised. In this sense, contextual supports are conceptualised as distal affordances whose developmental effects are contingent upon individual regulatory mechanisms.

Extending SCCT Toward Sustainable Employability

While SCCT has traditionally focused on career choice processes and performance-related outcomes, the present framework extends its logic toward the notion of sustainable

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employability. Employability is conceived not as a distal labour-market outcome, but as a developmental process grounded in psychological readiness, contextual scaffolding, and the capacity for adaptive career regulation over time. From this perspective, employability emerges from upstream processes that precede labour-market entry, including self-efficacy development, optimistic future orientation, and the consolidation of career decidedness.

From a theoretical standpoint, this extension also requires consideration of foundational capacities that support the activation of SCCT mechanisms, particularly among individuals exposed to structural or educational fragility. Cognitive, linguistic, and meta-cognitive capacities are theorised as enabling conditions that influence individuals' ability to process feedback, engage in reflection, articulate goals, and internalise contextual support. When such capacities are compromised, the functioning of self-efficacy and optimism may be attenuated, limiting the effectiveness of otherwise supportive environments.

An Integrated Developmental Model

Taken together, the theoretical framework guiding this dissertation proposes an integrated, multi-level model of career development in which:

- contextual support provide relational resources and learning opportunities;
- career decision-making self-efficacy functions as the central mediating regulatory mechanism;
- career optimism amplifies the internalisation and sustainability of agency;
- career decidedness emerges as a proximal developmental outcome of career regulation;
- employability unfolds as a long-term consequence of sustained self-regulatory processes;
- foundational cognitive-linguistic capacities enable or constrain the activation of these mechanisms.

This framework provides the conceptual backbone for the empirical studies that follow, offering a coherent structure for operationalisation, longitudinal testing, and intervention design. By integrating psychological resources, contextual affordances, and foundational

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capacities within a unified SCCT-based model, the dissertation advances a developmentally grounded, context-sensitive, and theoretically integrative understanding of career decision-making and sustainable employability. Specifically, it informs the measurement strategy in Study 1, the longitudinal modelling in Study 2, the intervention design in Study 3, and the extension to vulnerable populations in Study 4.

Theoretical Contribution of the Dissertation

Beyond its empirical and methodological contributions, this dissertation advances Social Cognitive Career Theory (SCCT) by proposing a more context-sensitive and vulnerability-informed account of career development (Bandura, 1986; Lent, Brown, & Hackett, 1994, 2002, 2013). While SCCT has traditionally conceptualised career processes as the result of interactions between contextual supports and individual cognitive–motivational mechanisms, the present work highlights three critical extensions. First, it demonstrates that contextual conditions do not operate uniformly nor directly but may exert complex and sometimes ambivalent effects on career outcomes, requiring mediation through career decision-making self-efficacy and related regulatory processes (Restubog et al., 2010; Santilli et al., 2017; Sartori et al., 2024). Second, it emphasises the role of structural and institutional constraints—such as labour-market instability, educational inequalities, and limited access to guidance—as factors that shape not only opportunities but also individuals’ capacity to internalise support and develop agency (Eurostat, 2021, 2022; Parola & Felaco, 2020; Lent & Brown, 2013). Third, the dissertation introduces cognitive-linguistic vulnerability as a foundational dimension that may enable or constrain the activation of SCCT mechanisms. By showing how fragile literacy skills and reduced reflective capacities can weaken the translation of contextual support into self-efficacy and career decidedness, the findings suggest that SCCT implicitly assumes baseline cognitive resources that are not equally distributed across populations (Tommasi et al., 2023; OECD, 2019).

Taken together, these elements support an expanded interpretation of SCCT in which career development is understood as a multi-layered and conditionally activated process, shaped by the interplay between contextual affordances, individual regulatory mechanisms, and foundational cognitive-linguistic capacities. This perspective contributes to moving beyond purely individual-level explanations and provides a more inclusive and developmentally

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grounded framework for understanding career decision-making in contexts of fragility (Lent et al., 2002; Rottinghaus et al., 2012).

This extension also highlights the need to consider system-level conditions not only as background variables, but **as active components shaping the effectiveness of career development processes.**

4. Empirical Studies and interventions

This chapter presents the empirical studies and applied interventions that constitute the body of this cumulative dissertation. The studies are ordered to reflect a clear methodological progression, moving from instrument validation to longitudinal analysis, and finally to applied intervention research.

The first two papers focus on psychometric validation. They address the adaptation and validation of key instruments for the Italian context, ensuring the reliability and conceptual clarity of the core constructs examined in the dissertation. These validation studies provide the measurement foundation necessary for subsequent empirical analyses.

The third study is a longitudinal investigation examining the dynamic relationships between contextual supports, career decision-making self-efficacy, career optimism, and career decidedness. Using a multi-wave design, this study constitutes the main explanatory component of the dissertation, testing the theoretical mechanisms derived from Social Cognitive Career Theory.

The chapter then presents an applied intervention in the form of a European-funded project. This intervention translates the longitudinal evidence into practice through a system-level approach targeting teachers, VET trainers, and peer networks. The project represents the translational phase of the research programme, bridging empirical findings and real-world implementation.

Finally, the chapter includes a peer-reviewed publication based on a separate intervention targeting individuals with fragile literacy skills. This study extends the dissertation's focus beyond adolescents and VET students, demonstrating how targeted psycho-linguistic and

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psychological interventions can enhance employability and career-related resources in fragile adult populations. Together, these studies illustrate a coherent and cumulative research trajectory in which measurement validation, longitudinal modeling, and applied interventions converge to support sustainable career development.

4.1 Study 1a

The first empirical contribution of this dissertation is represented by the article “**Career Decidedness Scale: Validation of the Italian Version**”, published in the peer-reviewed *journal Counseling: Rivista internazionale di ricerca e applicazioni*. This study addresses a fundamental methodological need within the broader research programme: the availability of a brief, psychometrically sound instrument to assess **career decidedness** in Italian young adults.

As discussed in Chapter 1 and Chapter 2 career decidedness is a key construct in vocational psychology, widely recognised as a proximal indicator of adaptive career development and decision-making processes, reflecting the extent to which individuals feel certain and committed with respect to their future career choices. It is closely linked to indicators of well-being, academic persistence, and the capacity to capitalise on educational and training opportunities. Within the integrative model of career decision-making developed in this dissertation, career decidedness represents a central outcome variable through which the effects of both contextual and psychological determinants are examined. In contexts such as Italy - where the prevalence of NEET youth remains among the highest in Europe and where socio-economic constraints often undermine young people’s ability to plan coherent life projects - having reliable tools to assess career decidedness is crucial both for research and for practice.

Study 1a responds to this gap by adapting and validating the **six-item Career Decidedness Scale (CDS)** originally developed by Lounsbury and colleagues (1999; 2005). Using a sample of **647 young adults** from different educational tracks in Northern Italy, the article presents the translation and back-translation process, the confirmatory factor analysis (CFA) conducted to test the one-factor structure of the scale, and the evaluation of its psychometric properties, including internal consistency, factor loadings, and model fit indices. The results support the integrity and reliability of the Italian CDS, confirming its suitability for use in both research and applied settings.

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Within the logic of this dissertation, the study plays a **foundational role**. The validated Italian CDS is subsequently employed as a key outcome measure in the longitudinal Study 2, which investigates the interplay between contextual supports, career decision-making self-efficacy, career optimism, and career decidedness across three time points. More broadly, the availability of a validated Italian measure contributes to the development of **evidence-based career guidance practices**, enabling practitioners to identify young adults at risk of chronic indecision and to design targeted interventions. For these reasons, the full text of the article is reproduced in this chapter as “Study 1a”.

Study 1a Career Decidedness Scale: Validation of the Italian Version

Journal: *Counselling: Rivista Internazionale di Ricerca e Applicazioni*

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Key Words: *Career Decidedness Scale, Career decision, Adolescenti, Validazione Italiana, Proprietà psicometriche.*

Abstract

It is not surprising that the ability of evaluating and deciding upon career options has been identified as essential for each individual. The Career Decidedness Scale is a self-report measure aiming at evaluating the degree individuals feel decided about their career choice. The present study presents the validation of the Italian version of the Career Decidedness Scale. Based on responses from a total of 647 Italian young adults in Northern Italy, the paper presents its psychometric properties. Confirmatory factor analysis results robustly endorse the one-factor structure of the scale, its reliability and validity. The confluence of fit indices, reliability coefficients, and principal component outcomes collectively affirm the scale's integrity and suitability for both research and practical application in the relevant field. The Italian version of the Career Decidedness Scale can be used in Italy for analysing the process used by young adults to make their career decisions. Understanding the factors that affect the decision process can be helpful in defining and developing more accurate career interventions by career counselors and educators.

Keywords

Career Decidedness Scale, Career decision, Young adults, Italian validation, Psychometric properties.

Introduction

Young adults' career orientation is a critical factor that can have significant implications for their future career development and educational achievement. Today's teenagers face many dilemmas and challenges in their career choice. They face multiple uncertainties (i.e. uncertainties over economic situation, career, job position and prospects) (Khattab et al., 2022).

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For example, Italian young adults' chances of developing coherent and satisfying future careers and life projects are affected by socio-economic difficulties. In turn, this forces them to reduce their aspirations and limit the time span of their projects (Parola & Felaco, 2020).

Unsurprisingly, career decision-making can be stressful and consequently affect psychological and physical well-being. Uthayakumar et al. (2010) found that career decision-making functions as a predictor of subjective well-being in a sample of young adults. Career decision-making is negatively correlated with intention to leave education (Bargmann et al., 2022) and active engagement in career preparation (Hirschi et al., 2011). Despite this evidence, the literature continues to grapple with the complexity of young adults' career decisions, reiterating the need for further research to fully understand the factors that influence young adults' career orientation.

Within the field of career counseling, a large body of research has been committed to the topic of career-decision making behaviour, and particularly career decidedness (Lounsbury et al., 1999). This refers to «the degree to which individuals feel decided about their career choice (Lounsbury et al., 1999, p. 648). It reflects the level of confidence and certainty regarding specific career decisions i.e., what occupational field an individual wants to pursue and develop. Based on their conceptualization, career decidedness is therefore viewed on a continuum ranging from undecided to decided individuals (Lounsbury et al., 1999). Contemporary research has identified several contextual and individual factors that can affect career decidedness, making it a dynamic and multidimensional concept. Career decidedness merges with other vocational behaviour constructs (e.g. career adaptability and career decision-making self-efficacy, see Nota, 2007; Uthayakumar et al., 2010). Addressing career-related aspects and improving career decidedness is central to increasing a person's life quality throughout school and university and has been positively linked to successful future career development and subjective well-being (Uthayakumar et al., 2010). On the contrary, not being able to decide on a career has been associated with a lower ability to take advantage of specific study, training and vocational development opportunities, which can result in poorer career choices (Nota, 2007).

The Career Decidedness Scale (CDS) was developed by Lounsbury et al. (1999) with the purpose of evaluating an individual's level of career decidedness. Originally, CDS consisted

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of 14 items but has since been reduced to six and received construct validation in further studies among early, middle, and late young adults (Lounsbury et al., 2005). Moreover, Lounsbury and researchers (2005) found strong correlations between positive personality traits (e.g., Conscientiousness, Emotional Stability, Openness and Agreeableness) and career decidedness among both adolescent and adult populations. Presently, the scale is only available in a limited number of languages (e.g., Turkish; Akçakanat & Uzunbacak, 2012) with no Italian version adapted and validated. This study aims to contribute to the assessment of an individual's level of career decision-making in the Italian population by proposing an Italian version of the CDS. Studying career decision is particularly important in the Italian context, which in recent years continues to rank first in Europe for the presence of NEETs (young adults who are neither in education, employment, or training) (Eurostat, 2022). The value of validating the scale for use on Italian youth stands in adding the career decidedness literature through having the ability to identify young people at risk of career indecision. This can help to plan career development and intervention programmes to address career decision difficulties and promote career decision-making abilities.

Methods

Participants & Procedure

The study included a total of 647 participants (63% males, 87.7% Italian citizens) who were invited to complete the self-reported measure of career decidedness. Students were from different educational streams (high schools, primary vocational education, and training) in Northern Italy. The study was conducted following the ethical principles of Helsinki over a period of 9 months. All participants and their parents were informed about the purposes of the project and given a statement ensuring the confidentiality of their individual results.

Measures

The Career Decidedness Scale by Lounsbury and colleagues (1999) is a sub-component of the Transition to College Inventory (TTC) (Lounsbury, 2003). The CDS is composed of six statements where respondents indicate their level of agreement based upon a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Statements were translated into Italian and back translated for accuracy and quality control. Example items in the English

version include: «I have made a definite decision about a career for myself», and «I am having a difficult time choosing among different careers.»

Data analysis

We ran confirmatory factor analyses (CFA), guided by chi-square (χ^2) statistics and fit indices SRMR, CFI, TLI, and RMSEA, following Hu and Bentler's criteria (1998). For the analyses, we applied maximum likelihood estimation to assess a one-factor model fit using Jamovi software (Version 2.3.19). The planned analysis includes examining the impact of missing data treatment and testing the consistency of the factor structure across data subsets to validate construct reliability. Post-hoc residual analyses identify unexplained variance, leading to model refinements as necessary, ensuring a methodologically sound approach to scale validation.

Results

Descriptives

As an initial analytical step, descriptive statistics for the Career Decidedness item were computed. The skewness exhibited a range from -0.04 to 0.09, indicating a slight leftward data distribution bias. The kurtosis showed a range from -1.05 to -0.72, suggesting a distribution that is somewhat flatter than normal. Both metrics are comfortably within the ± 2 threshold, affirming the normality assumption in line with the guidelines provided by Trochim & Donnelly (2010). Our reliability analysis reported a Cronbach's alpha of .84 for the overall scale, indicating good internal consistency.

Confirmatory factor analysis

In our CFA, the factor loadings demonstrate robust estimates with significant statistical strength across all indicators. These loadings surpassed the recommended .50 threshold, thus confirming each item's substantial contribution to the underlying factor. Specifically, the standardized estimates for the factor loadings ranged from .50 for Reversed-CareerDecid (2) to .79 for Reversed-CareerDecid (6). The 95% Confidence Interval for these factor loadings further solidifies our model, with no interval straddling zero and the lower bounds ranging from .61 to .89, which reinforces the stability of our factor structure. The statistical significance of

these loadings is highlighted by p-values markedly below the .001 threshold, suggesting that the observed factorial structure is not an artifact of random variation.

The results from the CFA revealed a comparative fit index (CFI) of .93, which indicates a strong level of fit, surpassing the widely accepted threshold of .90, suggesting a robust correspondence between the hypothesized model and the observed data. A Tucker-Lewis index (TLI) of .88 is slightly below the commonly recommended threshold of .90 but still demonstrates a moderate level of fit. A root mean square error of approximation (RMSEA) of .13, while exceeding the preferred cut-off of .08, still signifies a reasonable fit for the model. Moreover, the SRMR value of .04, falling well below the suggested threshold of .08, further supports the adequacy of the model fit. The post-hoc model performance showed minimal residual correlations, suggesting the model's capacity to adequately capture the shared variance among items. This minimal residual correlation ranges from -.03 between CareerDecid (1) and Reversed-CareerDecid (2) to .10 between CareerDecid (3) and Reversed-CareerDecid (6), thereby supporting the appropriateness of the one-factor solution.

An Obliman rotation was used for the principal component analysis which was conducted as an adjunct analysis to validate the scale's one-dimensionality, with the first component accounting for 56.23% of the total variance. This finding is supported by a satisfactory KMO measure of sampling adequacy, which stood at .85 overall, and Bartlett's test of sphericity, which was significant ($\chi^2 = 1481$, $df = 15$, $p < .001$).

Discussion

In the present study, we presented the validation of the Italian version of the CDS, the Career Decidedness Scale (CDS), to assess career decidedness, which was initially developed by Lounsbury and colleagues in 1999 and later revised and validated among various groups by Lounsbury and colleagues in 2005. The previous validation of the scale showed that positive personality traits correlated strongly with career decidedness in both young adults and adults (Lounsbury et al., 2005). Despite being available in limited languages, an Italian version of the CDS has not been adapted or validated. This study aims to fill this gap by proposing an Italian version, addressing the need for assessing career decision-making in Italy, especially given the high prevalence of NEETs (Eurostat, 2022).

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The present validation was based on a sample of 647 young adults and CFA was conducted to evaluate the scale's one-dimensionality and to assess its psychometric properties. The CFA results substantiated the one-factor model of the CDS, evidenced by satisfactory fit indices and a high level of internal consistency, as indicated by Cronbach's alpha. These findings indicate that the CDS is a reliable instrument for measuring career decidedness in Italy. The validation process underscores the scale's applicability in the assessment of career decision-making processes among Italian young adults, offering a methodologically sound tool for career counseling and educational interventions.

The study encounters some limitations warranting consideration. Relying on self-reported measures might introduce response bias or inaccuracies stemming from subjective interpretations or social desirability effects. Participants' responses could be influenced by their desire to conform to perceived societal expectations or personal biases, which may not accurately represent their true career decidedness. Additionally, the absence of convergent or discriminant validity assessments in our study further limits our ability to fully understand the scale's relationship with other related constructs. However, these limitations collectively suggest avenues for future research to enhance the scale's validity and applicability.

In conclusion, the present study offers a robust instrument to evaluate career decision-making processes among Italian young adults. From a practical standpoint, the validated Italian CDS emerges as a useful tool for career counselors and educators. It facilitates the identification of young adults who might benefit from enhanced support in their career decision-making journey. Additionally, the scale's application in educational contexts can inform the design of bespoke interventions and developmental programmes, aimed at fostering effective career planning among students.

APPENDIX

Table 1

Italian Version of the Career Decidedness Scale

Ho preso una decisione certa circa la mia carriera.

Dover scegliere fra diverse carriere mi sta causando momenti difficili (r).

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Sono certo di quello che alla fine farò per vivere.

Non sono sicuro del genere di lavoro che vorrò fare una volta terminati gli studi (r).

So qual è il genere di lavoro che un giorno vorrò avere.

Per quanto riguarda la carriera che voglio intraprendere, continuo a essere incerto (r).

Disclosure and Conflicts of Interest

The author(s) declare that there are no conflicts of interest concerning the present study.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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4.2 Study 1b

The second empirical contribution of this dissertation is represented by the article “*Facilitating Conditions for School Motivation Scale: Validation of the Italian Version*”. This study complements the first validation effort by focusing on the assessment of motivational and contextual antecedents of students’ educational engagement. While Study 1a provided a reliable measure of career decidedness as a key outcome variable, Study 1b addresses the measurement of facilitating conditions that contribute to the development of motivation within educational trajectories.

As discussed in Chapter 1 and Chapter 2, school motivation represents a central construct in educational and vocational psychology, reflecting the extent to which students are engaged, value their educational experience, and perceive their learning environment as supportive. In line with Social Cognitive Career Theory (SCCT), motivational processes are shaped not only by individual beliefs and affective states, but also by contextual factors such as relational support and environmental conditions. Within the integrative framework adopted in this dissertation, these facilitating conditions are conceptualised as proximal antecedents that contribute to the development of self-efficacy, optimism, and, ultimately, career-related outcomes. Study 1b responds to the need for a psychometrically sound instrument capable of capturing these multidimensional conditions within the Italian context. Specifically, the study presents the validation of a short 15-item version of the Facilitating Conditions for School Motivation Scale (FCSM; McInerney et al., 2005), comprising three core dimensions: values associated with schooling, affective attitudes toward education, and relational support provided by parents, peers, and teachers. Using a heterogeneous sample of 698 students from different educational pathways in Northern Italy, the study tests a three-factor model through confirmatory factor analysis (CFA) and evaluates its psychometric properties, including internal consistency and model fit indices. The results support the validity and reliability of the Italian FCSM, confirming its suitability for use in both research and applied educational settings.

Within the cumulative logic of this dissertation, Study 1b plays a complementary and integrative role. By providing a validated measure of motivational and contextual conditions,

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it enables a more nuanced understanding of the antecedents of career development processes examined in Study 2. More specifically, the dimensions assessed by the FCSM-values, affect, and relational support-closely align with the contextual and psychological mechanisms investigated in the longitudinal model, thereby strengthening the overall coherence of the research framework. For these reasons, the full text of the article is reproduced in this chapter as “Study 1b”.

Facilitating Conditions for School Motivation Scale: Validation of the Italian Version

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Martina Pastorelli, Francesco Tommasi, Riccardo Sartori.

Keywords: *facilitating conditions, Italian validation, students, motivation.*

Abstract

The present study reports the validation of the Italian short version of the Facilitating Conditions for School Motivation scale. The scale comprises 15 items which reflect three determining factors that contribute to students school motivation the first of which relates to student's values. The second includes the affective component while the third considers the support received from relationships with parents, peers and teachers.

We tested a three-factor model associated with the facilitating or inhibiting conditions on a heterogeneous group of young adults from different educational backgrounds whose data were collected over a period of nine months in Northern Italy. The analysis reveals that the short version intercepts the conditions that influence the students' motivation towards their educational career. Our findings provide implications for research and practice for understanding and promoting students' motivations at school.

Introduction

Understanding and investigating school motivation in young adults is of paramount importance as it serves as a foundational pillar in shaping their educational experiences and future trajectories. Delving into the intricacies of what drives motivation at this crucial stage not only unveils the dynamics of academic engagement but also lays the groundwork for interventions that can positively impact personal development and lifelong learning. With respect to this, numerous studies highlight the impact of students' personal goals and internal motivational factors on school outcomes (Gugliandolo et al, 2021; Otani, 2020; Samuel & Burger, 2020). Moreover, McInerney (1992) and suggest that internal elements (e.g., affect and value) and external factors (e.g., parents, teachers, and peers support) can crucially affect the translation of internal motivations into behavior and significantly influence students' motivation and behavior (Bradley et al., 2021; Sethi & Scales, 2020; Wu et al., 2022).

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Considering the literature, there is wide evidence on the connection between students' perceptions of support from parents, teachers, and peers and various aspects of their motivation and academic performance (Lerner, 2022; Shukla, 2015; Wu et al., 2022). First, parents play a crucial role in students' education, with parental involvement being a strong predictor of academic success (Cui et al., 2021; Hill & Craft, 2003). Second, as progressing in their age, peers become increasingly influential in shaping young adults' thoughts, emotions, and actions (Ragelienė & Grønhøj, 2020) with positive peer interactions being associated with academic performance and the development of positive self-concepts (Fredricks et al., 2004; O'Brien et al., 2021; Wentzel et al., 2004). Lastly, teachers are also a prominent source of motivation of young adults by influencing students' academic perceptions and behaviors (Amtu et al., 2020; Scales et al., 2020). Perceived support from teachers is strongly associated with prosocial behavior, educational aspirations, intrinsic values, and enhanced self-concept (Kindap-Tepe et al., 2021). Moreover, from the relational level to the individual level, students' affect towards school is also crucial for school motivation and academic achievement (Camacho-Morles et al., 2021; Halimi, 2021; MacCann et al., 2020). Similarly, the perceived value of school reveals a crucial aspect influencing motivation. The extent to which students affect to education and value of going at school play a significant role in either fostering or inhibiting motivation to achieve or stay in school (Burns et al., 2020; Honicke et al., 2020; Zysberg & Schwabsky, 2021).

Exploring the factors that influence school motivation becomes crucial to provide scholars and practitioners with effective measurement tools for identifying the keys to fostering an interest in learning. Following this impetus, the aim of the present paper is to present the Italian validation of a short version of the Facilitating Conditions for School Motivation Scale (FCSM) (McInerney et al., 2005). This scale is designed to measure factors that can influence young adults' school motivation. In this study, we specifically test a three-factor model associated with the facilitating or inhibiting conditions mentioned earlier. These factors include values, affects, and a third factor related to the relational condition represented by the support of parents, peers, and teachers. Validating this scale in an Italian context could enhance targeted interventions, ultimately promoting positive school motivation and shaping educational experiences and future trajectories.

Method

Participants & Procedure

To validate the Italian short version of the FCSM, we involved 698 students (63% males, average age of 17, $SD = 2.5$) in a cross-sectional study. Data were collected from a group of students coming from different educational streams (high schools, initial vocational education, and training) in the North of Italy over a period of 9 months. The study was conducted following the ethical principles of Helsinki and all participants, and their parents were informed about the purposes of the project and a statement ensuring the confidentiality of their individual results (World Medical Association, 2013).

Measures

We measured used the 15 items from Mc Inerney and colleagues' (2005) original FCSM scale, which consisted of 26 items. Respondents are asked to report their agreement 5-point Likert-type scale (ranging from 1 = strongly disagree to 5 = strongly agree) to evaluate the statements. These 15 items reflect five specific factors, namely a) *value*, measuring the perceived value of schooling, b) *affect*, exploring feelings toward schooling (3 items), c) *peer positive*, evaluating the perceived positive contributions of peers to perceptions of schooling (4 items), d) *parent positive*, examining the perceived positive contributions and psychological support from parents (2 items) and e) *teachers support*, assessing positive support from teachers toward schooling and further education (3 items). Scale FCSM was translated into Italian for validation (see Table 1). The scale reported an internal reliability coefficient of Cronbach's $\alpha = .80$.

Data analysis

Preliminary analysis included estimates of alpha reliability. The Confirmatory Factor Analysis (CFA) was conducted using SPSS version 22. The goodness of fit was guided by chi-square (χ^2) statistics; incremental fit indices, such as the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI); and absolute fit indices, including the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR). Analyses applied maximum likelihood estimation to assess the fit of a three-factor model.

Results

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Confirmatory Factor Analysis

A path diagram of the models and their fit indices is presented in Figure 1. As indicated above, we tested a hypothesized three-factor FCSM structure. The CFA reveals robust estimates with significant statistical strength across all indicators. Standardized factor loadings ranged from .45 to .87, each confirmed by significance p-values well below the .001 threshold.

Fit indices revealed a good correspondence between the hypothesized model and the observed data, as shown by CFI of .92, surpassing the conventional cut-off of .90. TLI of .93, is slightly over the recommended threshold of .90, showing reasonable level of fit; RMSEA of .06, lies within the conventional cut-off of .08, demonstrates a good fit for the model. Moreover, the SRMR value of .06, below the threshold of .08, supports the adequacy of the model fit.

Discussion

In this study, our primary objective was to validate the Italian version of the FCSM scale using a sample of 698 students across different educational streams in Northern Italy, including high school, initial vocational education, and training. Our hypothesized three-factor model was tested through CFA, which demonstrated a robust alignment between the data and our theoretical framework. The favorable fit indices from CFA, coupled with satisfactory internal reliability, substantiate the validity of the three-factor FCSM scale. These results provide evidence to the idea that the conditions influencing school motivation are intertwined with values, affect, and a third relational aspect where significant others (peers, teachers, and parents) can either facilitate or inhibit students' achievement motivation and behavior. Consequently, the FCSM scale emerges as a reliable tool for assessing school motivation conditions among Italian young adults. The implications of this study are noteworthy. The validated Italian version of the FCSM scale equips educators, researchers, and policymakers with a reliable instrument to assess and comprehend the conditions influencing young adults' school motivation. Acknowledging the significance of values, affect, and relational conditions, interventions can be crafted to strengthen these factors, fostering positive school motivation.

As all empirical studies, the present has some limitations that must be acknowledged. Expanding the study to a more diverse and representative sample would enhance the external validity of our findings. Additionally, incorporating assessments for convergent and

discriminant validity would further fortify the overall validity of the FCSM scale, offering a more comprehensive understanding of its psychometric properties. Subsequent research should further refine and broaden the scale's applicability, ensuring its effectiveness across diverse educational contexts.

Tables

Values	
item 2	Se ottengo buoni risultati nello studio ho più probabilità di ottenere un buon lavoro
item 3	Credo che sia davvero importante ottenere buoni risultati nello studio
item 4	Ottenere buoni risultati nello studio è davvero importante per il mio futuro
Affects	
item 1	Non amo in alcun modo studiare o imparare (r)
item 2	Mi piace impegnarmi nello studio
item 3	Gli argomenti oggetto di studio mi interessano
Peers	
item 1	I miei amici dicono che dovrei proseguire gli studi
item 2	I miei amici sostengono che dovrei lasciare la scuola e usufruire dell'assistenza statale
item 3	I miei amici dicono che dovrei abbandonare gli studi e trovare un lavoro (r)
Parents	
item 3	Mia madre crede che io sia abbastanza intelligente per proseguire gli studi
item 2	Se decidessi di proseguire gli studi, mio padre mi incoraggerebbe
item 2	Mio padre crede che dovrei lasciare gli studi il prima possibile per andare a lavorare (r)
Teachers	
item 1	Alcuni insegnanti mi incoraggiano ad andare bene a scuola
item 2	Se decidessi di andare all'università, i miei insegnanti mi incoraggerebbero
item 3	Alcuni dei miei insegnanti mi dicono che sono abbastanza intelligente per andare all'università

Table 1 Italian Version of Facilitating Condition of school Motivation Scale.

Figures

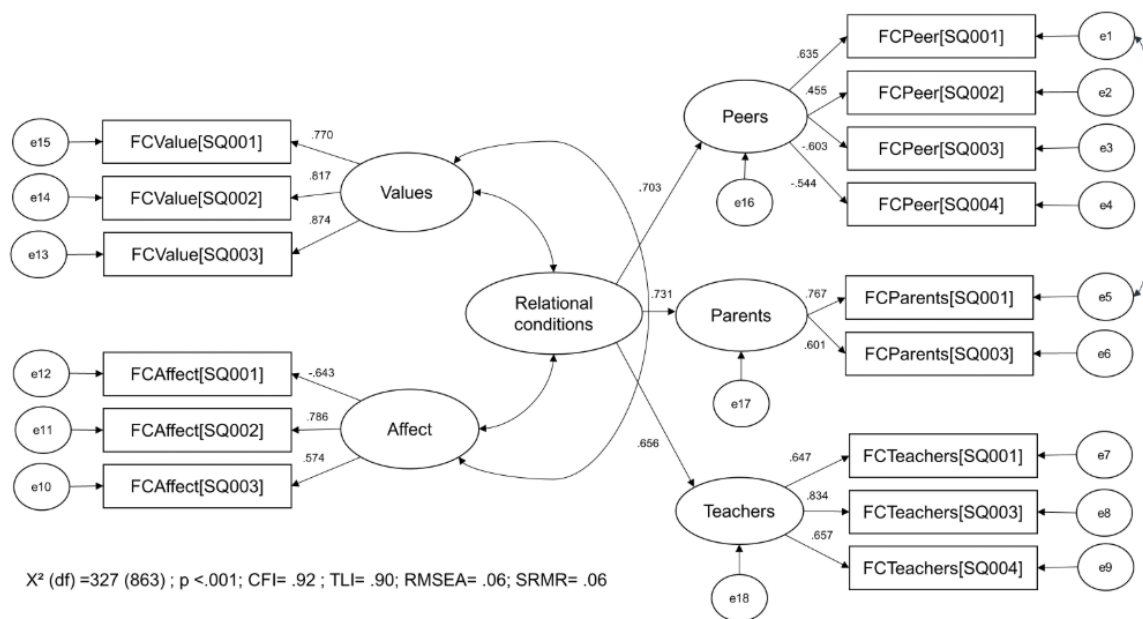


Figure 1 Path diagram of the CFA's model with fit indices.

4.3 Study 2

Career decision-making represents one of the most critical developmental tasks during late adolescence and emerging adulthood, shaping individuals' educational engagement, psychosocial adjustment, and long-term employability. A substantial body of research has shown that the ability to formulate coherent career goals, explore alternatives, and commit to choices is deeply intertwined with both **individual psychological resources** (e.g., career optimism, self-efficacy, career adaptability) and **contextual influences** (e.g., family support, teachers, peer climate). Yet, despite decades of theoretical advancement, the empirical literature still tends to examine these determinants separately, overlooking the *dynamic interplay* through which contextual environments shape psychological resources, and psychological resources, in turn, influence career-related outcomes such as decidedness.

This gap is particularly pronounced in the Italian context, where young adults face an increasingly uncertain labour market, persistent socio-economic disparities, and one of the highest rates of NEETs in Europe. As highlighted in Study 1a, Italian youths often experience reduced aspirations, feelings of instability, and heightened stress during career choices (Parola

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& Felaco, 2020; Khattab et al., 2022). Research also indicates that career decidedness is strongly related to subjective well-being (Uthayakumar et al., 2010), active engagement in career preparation (Hirschi et al., 2011), and lower dropout intentions (Bargmann et al., 2022). However, while the existence of these relations is well established, less is known about *how* contextual and dispositional factors interact over time to influence developmental trajectories of career decidedness.

Study 2 responds to this gap by adopting a **three-wave longitudinal design**, allowing for the examination of temporal dynamics among key constructs such as **career optimism, career decision-making self-efficacy, family support, teacher support, peer support**, and **career decidedness**. This approach moves beyond static, cross-sectional snapshots and provides a nuanced understanding of how individual and environmental factors mutually reinforce - or hinder - each other across critical developmental stages. Longitudinal studies are essential for identifying antecedents, mediators, and outcomes in career development, yet remain relatively scarce, particularly within Southern-European educational systems.

The theoretical foundations of Study 2 draw from Social Cognitive Career Theory (SCCT), which emphasises the triadic interaction between person, behaviour, and environment. According to SCCT, contextual supports enhance individuals' sense of agency, facilitate the formation of positive expectations about one's future, and sustain motivational processes that underlie career exploration and decision-making. Recent findings corroborate this perspective by demonstrating that family encouragement, teacher guidance, and positive peer climates significantly contribute to young adults' career decision-making self-efficacy and career optimism - two core dispositional drivers of decidedness (Nota et al., 2007; Hirschi et al., 2011). Nevertheless, existing studies rarely test comprehensive structural models that integrate multiple contextual and psychological variables simultaneously, nor do they examine directional effects across multiple timepoints.

Study 2 fills these gaps by examining how contextual and dispositional predictors evolve and interact across three waves of data collection in a large Italian student sample. Specifically, it investigates whether contextual supports predict subsequent increases in career optimism and self-efficacy, whether these dispositional resources foster higher career decidedness, and whether reciprocal influences emerge over time. The study also explores potential stability and

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change in each construct, offering insights into which dimensions of career development are more malleable and which appear more structurally stable.

The following section describes the methodological framework adopted in the study, including sample characteristics and data collection procedures.

A total of 815 questionnaires were distributed, and 725 valid responses were collected. The sample consisted of 63% males (N = 456) and 37% females (N = 269), with an average age of 17 years (range = 15–21). Most participants were Italian citizens (87.7%), while 12.3% reported a different nationality. Participants were drawn from different educational tracks within the Italian school system, including scientific high schools (46.3%, N = 334), human sciences high schools (2.8%, N = 20), foreign language high schools (11.9%), professional licensing courses (16.8%, N = 121), professional institutes (21%, N = 155), and technical institutes (0.7%, N = 5). These educational contexts differ substantially in terms of structure, academic orientation, and exposure to work-related experiences, which may influence both motivational and career-related processes. While this heterogeneity reflects the complexity of the Italian educational system, it may also introduce variability that was not explicitly controlled for in the analyses. Regarding work experience, 14.9% of participants (N = 108) reported having previous work experience, while 85.1% (N = 617) had no prior work experience. Information regarding students' school year was not collected. This choice was motivated by the heterogeneous composition of the sample, which included students enrolled in different educational pathways, some of which follow non-linear trajectories or include individuals who may have already completed previous educational cycles. However, this still represents a limitation, as the stage of the educational pathway may influence career-related processes.

This investigation represents the **theoretical core** of the dissertation:

- It empirically substantiates the integrated model of career decision-making proposed in Chapter 2.
- It provides the evidence base for the applied interventions discussed in Study 3 (SupportSphere).

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- It identifies key leverage points - both contextual and psychological - for designing effective, targeted interventions aimed at improving employability, particularly for youth at risk of fragility or disengagement.

The results of Study 2 therefore serve as a crucial bridge between foundational theory, psychometric validation (Study 1), and applied, multi-level interventions (Study 3 and Study 4). Its longitudinal methodology strengthens the empirical contributions of the dissertation, offering robust evidence on the developmental processes that underpin career decidedness and sustainable employability in young adults.

Study 2 - Unrevealing the interplay between situational and dispositional factors leading to career decidedness: a three-wave study

Fatima Abu Hamam, Francesco Tommasi, Andrea Ceschi, Riccardo Sartori

Abstract

Students' career decision is a relevant topic in education core research domains, e.g., the transition from school to employment and labour market inclusion. In this context, scholars and practitioners put efforts into understanding which factors can contribute to young adult decision-making to support them in such a career path. Drawing on social career cognitive theory, in this study, we argue that facilitating conditions can positively influence the career decisions of young adults and that this relationship is a) mediated by career self-efficacy and b) moderated by optimism. To test the viability of our hypotheses, we conducted a longitudinal study. Seven hundred and ninety-eight high school students from different educational streams took part in our three-way data collection. Results showed that career decision-making self-efficacy mediates the relationship between facilitating conditions for school motivations and career decision-making. Whilst the direct effect of facilitating conditions for school motivations on career decidedness is negative, the relationship linking facilitating conditions for school motivations to career decision-making self-efficacy, as well as that linking career decision-making self-efficacy and career decidedness, is positive. These results provide important insights into the factors involved in the career decision-making process and this sets the basis for better targeted counseling programs.

Keywords: *career decidedness; contextual factors; career decision-making; self-efficacy; optimism; career counseling models.*

Introduction

Students' career decision is a relevant topic in education and training core research domains, e.g., the transition from school to employment and labour market inclusion (Bimrose and Brown 2015). Career decision regards the individual's process of making choices about their future in the view of individual dispositions and contextual opportunities, and influences (Handoyo and Sulistiani, 2018). However, in today's uncertain times of the labour market, school students and, in general young adults aged from 15 to 29 years old, might perceive

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demotivation and insecurity toward their future careers, which may have a negative impact on their career decision (Khamis et al., 2021). Lower levels of career decisions are at the basis, of school dropout, which has been increasing in recent years, up to 9.7% in Europe and 13.1% in Italy in 2021 (Eurostat, 2021). Moreover, such a condition broadly relates to the social phenomenon of Not in Education, Employment, or Training (NEET) status (ISTAT, 2021). That is, the phenomenon of disengagement, as well as levels of unemployment, and not in education of young people. According to Eurostat data, the percentage of NEET among young adults aged between 15 to 29 years old in the UE during 2019 was 12.9%, which later increased in 2020 to 14% (Eurostat, 2020). In Italy, the scenario appears even more dramatic. The percentage of NEET swung from 22.3% in 2019 to 23.5% in 2020 (ISTAT, 2022). Even though the number of NEETs in Europe and specifically in Italy has always been alarming, with the Covid-19 pandemic, it had just gotten worst (Aina et al., 2021).

In this scenario, policymakers and scholars stress the imperative of scoping out new investigations on the processes through which young adults make their career decision (Turker and Selcuk, 2009). Notably, there is a need for educational institutions to recognize the role of situational and dispositional factors influencing career decidedness, to provide support for students aiming at developing their career pathways. In response, career development research has shifted its focus from aligning individual's interests, needs, and values with organizational demands, towards advocating the development of career competencies essential for career and work adjustment (Savickas, 2005). These competencies comprise more than just the acquisition of technical and intellectual skills necessary for functional decisions in one's chosen career. They also include transferable soft skills (e.g., self-efficacy, conscientiousness, resilience) that help individuals persevere in the face of uncertainty (Richardson et al., 2012) which, in turn can interact with each other's (Richardson et al., 2012). These skills are also influenced by facilitating factors (teacher's, parents', and peer's support) (Nghia, 2019).

The literature in the field has mainly focused on understanding how career self-efficacy influences career decision-making by considering career optimism and facilitating conditions as antecedents (Edomwonyi, 2018; Rigotti et al., 2020). However, there is scarce evidence on how career optimism can moderate the relationship between facilitating conditions, career self-efficacy and career decision making. To fully understand the role of these elements in the

process of career decision making means to consider also how they combine improving career decision-making. An understanding of this process is important as it may lead to the development of more accurate interventions aimed at inoculating students from career undecidedness and nonfunctional choices.

Figure

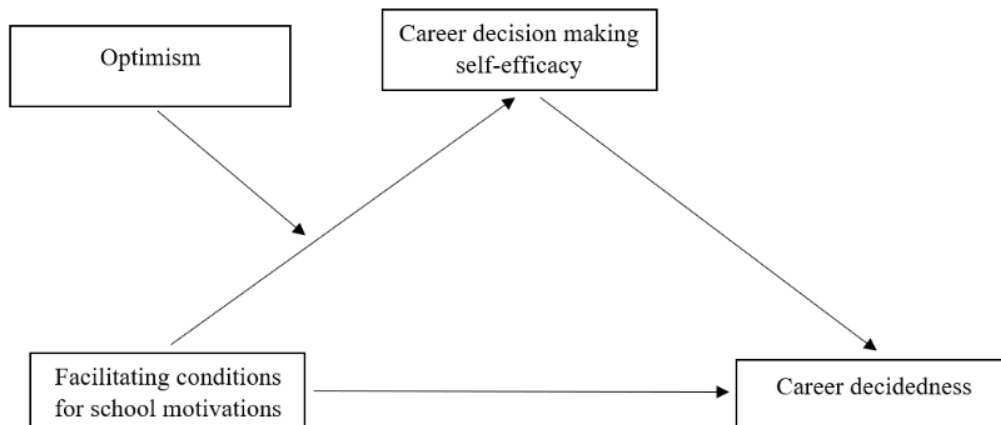


Figure 2 Graphical representation of the relationships found.

In this paper, we address this issue by examining the relationships between career relevant sources of support (familiar, teachers' and peers' support), career decision-making self-efficacy, and career optimism among young adults (see Figure 2.1). Drawing from social cognitive theory (Bandura, 1986), we propose that parental, peers' and teachers' support positively influence career decision-making through the development of career decision-making self-efficacy and career optimism (see Figure 2.1). That is, parental, teachers' and peers' support shape an individual's confidence in making career-related decisions. This, in turn, enhances one's positive outlook about their future career. Overall, it is predicted that facilitating conditions for school motivations will have a positive effect on career decision-making, with career self-efficacy partially mediating this relationship. Additionally, it is hypothesized that career optimism will moderate the relationship between facilitating conditions and career self-efficacy, meaning that students with high levels of optimism will experience a stronger positive effect of facilitating conditions on career self-efficacy. Overall, examining domain-specific sources can potentially contribute towards the development of more targeted career counselling interventions for students. In the following sections, we

elaborate on our proposed model, generate and test predictions concerning the expected relationships among them and discuss the implications of our findings.

The paper is divided into three sections. The first section provides a literature review of previous research on career decision-making and examines the role of personal and environmental factors, as well as the importance of self-efficacy and optimism. The second section details the study design and findings, including descriptive statistics, correlations, and structural equation modelling analysis. The final section discusses the implications for practice and future research, including the importance of parental and peers' support and the need for interventions to enhance career decision-making self-efficacy and optimism. The paper provides practical implications for career counsellors and educators and contributes to the understanding of the factors that influence career decision-making.

Theoretical foundation of the model

Career decision making and facilitating conditions: parents' and teachers' support:

Facilitating conditions or contextual factors, such as parents', teachers' and peer's support have a relevant role on one's career decision, by providing support in a young adult's career decision making. According to social cognitive theory, the relevance of contextual support depends on the extent to which the object of influence possesses high levels of status, competence, and power over outcomes that are considered important by individuals (Bandura, 1986). Prior work has established that those who have relevant influence on a young adult's life may facilitate or inhibit one's achievement motivation and behaviour both in academic success and in the process of a career decision. Notably, research has demonstrated a positive relationship between young adults' perceptions of support and caring from parents, and academic achievement (Bean, et al., 2003; Kristjansson and Sigfúsdóttir, 2009; Chohan and Khan, 2010). Parents are considered the primary providers of both career-related instrumental and socio-emotional support (Turner and Lapan, 2002) due to their direct interaction with and involvement in their children's career development. Furthermore, adolescents view their parents in high regard and consider them as providers of valuable guidance and advice (Wiese and Freund, 2011). Indeed, empirical evidence show that parents' attitudes towards their children's abilities is much more predictive of their children's expectancies for success than

actual performance (McGrath and Repetti, 2000). Those who perform the role models figures in a young adult's life plays an important part in choosing a career. Role model within the family and teachers are the closest examples which can be followed. Teachers can identify aptitudes and abilities, and encourage students to take certain subject options, or take part in work experience, or employment visits. Parents and teachers can take part in the career decision making process by working together organizing talks, attachment and guidance. According to Ramlee and Norhazizi (2009), in making a career decision, not all teenagers are systematic and rational. Many teenagers are still indecisive about their own stand after finishing secondary school and change their jobs for a number of times without having a clear plan based on sufficient information. Creamer and Laughlin (2005) reported that career choices that are made primarily based on personal experience or exposure. Important facts about career would also help students to know the academic, mental and physical needs which are required in a technical career. Anderson and Gilbride (2005) also reported that students who still undecided about their future career choice and could be positively influence by receiving career information which could assist the students to make decision based on concrete and updated information. Accordingly, we predict that:

Hypothesis 1a: *Parental support is positively related to career decision making.*

Hypothesis 1b: *Teachers' support is positively related to career decision making.*

Career decision making and facilitating conditions: peers' support

Another salient source of social support for students comes from peers. Perceived emotional and social support from peers in fact, have been related to the pursuit of academic and prosocial goals and intrinsic value (Wentzel, 2014; Daly et al., 2009; Wentzel et al., 2018).

The support peers can provide also consists in a sense of belonging and validation. This can be especially important for young adults who may be exploring different career options and struggling to define their identity. Peer support can provide a safe space to discuss concerns and receive validation for their aspirations (Slaten and Baskin 2014). Peers can also provide feedback on individuals' strengths and weaknesses, which can help them identify potential career paths that align with their interests and abilities. Peers' may also offer information and

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advice about different career options, such as job requirements, training or educational programs, and career advancement opportunities (Wentzel et al., 2016). Peers' support can offer encouragement and motivation during the career decision-making process. Peers can help individuals stay focused on their goals and provide reassurance during times of doubt or uncertainty (Wentzel et al., 2017).

All these supportive actions are significant among adolescents in a developmental phase of self-exploration that may involve challenges such as indecision and low motivation during the hard process of a career decision making (Gu et al., 2020). Accordingly, we predict that:

Hypothesis 1c: *Peers' support is positively related to career decision making.*

Career decision making and career self-efficacy

The above-described factors may influence career decision-making by increasing one's career decision making self-efficacy. Career decision-making self-efficacy is defined as the belief in and judgment of one's ability to successfully perform specific tasks and engage in specific behaviours when making a career decision (Guo and Jiang, 2003). According to social cognitive theory, one's judgments of self-efficacy are formed based on four sources of experiential learning: a) personal performance accomplishments, b) vicarious learning, c) emotional support from others, and d) others' verbal encouragement (Bandura, 1986). In the career decision making context, social cognitive theory has been applied to explain the process by which individuals make career (Lent et al., 1994, Taylor and Betz, 1983). Career self-efficacy has been found to positively influence career decision making with students choosing to major in fields they feel confident in (Bullock-Yowell et al., 2011). Prior work has shown that parental teachers' and peers' support positively predicts career decision-making self-efficacy (Gushue and Whitson, 2006; Restubog et al., 2010). This is because parents, teachers, and peers contribute to the different sources of self-efficacy and information above mentioned. All three sources of support can also contribute to self-efficacy growth through providing emotional support and verbal encouragement in the face of challenges and difficulties (Alliman-Brissett et al., 2004, Metheny et al., 2008). These supportive actions are particularly important among adolescents who are in a developmental phase of self-exploration which may involve anxiety and indecision (Nota et al., 2007).

Given these theoretical and empirical justifications, we propose that the positive influence of parental, teachers' and peers' support on career decision making is mediated by career decision-making self-efficacy. That is, parental and teacher support facilitate positive expectations about future career outcomes via increasing one's perceived self-efficacy in performing some of the necessary tasks in making career decisions. Adolescents who are fully confident about engaging in career exploration, goal selection, and problem solving (i.e., career decision-making tasks) would anticipate a positive career future despite career setbacks and difficulties. Thus, we present the following hypotheses:

Hypothesis 2: *Career decision-making self-efficacy mediates the association between peers', teachers' and parental support and career decision-making.*

Career decision making and the role of career optimism

Career optimism is defined as the tendency for individuals to “expect the best possible outcome or to emphasize the most positive aspects of one's future career development” (Rottinghaus et al., 2005, p. 11). While career optimism is positively related to work hope (i.e., a positive motivational state that enables individuals to derive a sense of successful agency, pathway, and goals in work situations), it is well established that they are conceptually and empirically distinct from each other (Juntunen and Wettersten, 2006). Career optimism has been found to positively influence various career outcomes such as career aspirations, choice, exploration (Rottinghaus et al., 2012; Rottinghaus et al., 2005), and academic satisfaction (McIlveen et al., 2013). More importantly, career optimism was found to be positively related to indicators of adaptability such as adjustment to college (Perera and McIlveen, 2014) and coping with unemployment (Lee, 2008). Although this construct was initially conceptualized as a dispositional characteristic (Scheier and Carver, 1985), recent work suggests that career optimism is malleable in that it can be shaped and strengthened by a supportive environment (Higgins et al., 2010).

Career optimism as a moderator between facilitating conditions and career self-efficacy

Given these theoretical and empirical justifications, we propose that the positive influence of facilitating conditions on a young adult's career decision making is moderated by career optimism. That is, parental, teachers', and peers' support facilitates positive expectations about

future career outcomes via increasing one's confidence in performing tasks necessary in making career decisions. Adolescents who are fully confident about engaging in career exploration, goal selection, and problem solving (i.e., career decision-making tasks) would anticipate a positive career future despite career setbacks and barriers. Indeed, research has shown that contextual supports at home and in school enhance career decision-making self-efficacy, which in turn helps students cope with challenges, allowing them to persist in their chosen career (Restubog et al., 2010). These propositions are also consistent with prior work suggesting that career optimism is characterized by both confidence and persistence amidst adversity (Carver and Scheier, 2010). Therefore, we predict that:

Hypothesis 3: *Career optimism has a moderation role on the relation between familiar, teachers' and peers' support and career self-efficacy.*

Method

Participants and procedure

We conducted a longitudinal study in which data were collected from a sample of students from different educational streams (high schools, initial vocational education, and training) in northern Italy. Quantitative data collection was part of a joint research project (co-managed with the educational institutions involved) aiming at investigating the role of different factors on school motivations. Prior to run the survey, all participants and their parents were informed about the purposes of the project (i.e., collecting parental releases and data to understand the role of situational and dispositional factors influencing school motivations) and a statement ensuring the confidentiality of their individual results. The research group delivered the surveys to the students and supervised completion of the questionnaires. A total of three questionnaires were administered to the participants on three different times of the school year, one each four month, beginning in September and ending in June. The first questionnaire aimed at measuring facilitating conditions and career optimism; the second questionnaire included the mediator variable which is career self-efficacy; the third questionnaire included the measurement of the outcome, meaning career decision making. In this study, we used a cross-lagged approach to test the relationships between the variables of interest. This approach is particularly useful when examining the temporal ordering of variables and assessing their reciprocal relationships

over time. In contrast to a traditional cross-sectional study, which only examines the associations between variables at a single point in time, a cross-lagged approach allows to investigate how changes in one variable are associated with changes in another variable across multiple time points.

The study included a total of 815 participants who were invited to complete self-reported measures of optimism, facilitating conditions for school motivations, career decision-making self-efficacy, and career decidedness at each wave. A total of 725 valid responses were collected, indicating a response rate of 89%. Among the respondents, 63% (N=456) were males, and 37% (N=269) were females. Furthermore, most of the participants (87.7%) were Italian citizens, while the remaining 12.3% claimed to be of a different nationality. It is important to note that the number of participants was the same at each wave, ensuring consistency and reliability in the data collection process.

Measures

Optimism

The construct of optimism was measured with the revised *Life Orientation Test* (LOT-R; Glaesmer et al., 2012). It is a 10-item, self-report measure. Of the six scored items, three are phrased in a positive direction, and three are negatively worded. The scale reported an internal reliability coefficient of *Cronbach's* $\alpha = .80$. Respondents indicated the extent to which they agree with each of the items on a 5-point scale. We only considered the three items that were phrased in a positive direction. An example of a positive direction item is “*I’m always optimistic about my future;*” one of the reversed items is “*If something can go wrong form me, it will*”.

Facilitating conditions for school motivations

Facilitating conditions for school motivations were measured with 15 out of the 26 items of the original version of Mc Inerney and colleagues (2005) scale. In our study a 5-point Likert-type scale (from 1 = strongly disagree to 5 = strongly agree) was used for the respondents to rate the statements. Among the 15 items, 5 specific facilitating condition factors were considered. Value, as in perceived value of schooling, measured with 3 items; Affect, assessed with 3 items aiming to investigate whether the respondents like schooling or not. One of which being “I hate

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learning or studying of any kind.”; Peer Positive, in which perceived positive contributions of peers’ to perceptions of schooling was measured with 4 items such as “*Most of my friends want to do well at school*”; Parent Positive, in which perceived positive contributions and specifically psychological support of parents were assessed with 3 items. An example of the items we used is “*My mother thinks that I am bright enough to go on to college or university*”; Teachers, in which 3 items were used to infer perceived positive support from teachers toward schooling and further education. An example of the items we used is “*If I decided to go on to college or university, teachers at this school would encourage me.*” The scale reported a good level of reliability *Cronbach’s* $\alpha = .87$.

Career decision-making self-efficacy

Italian validated version of the Career decision making self-efficacy (Short version) (Lo Presti et al., 2012) scale was used to assess the levels of career decision-making self-efficacy. Only 15 out of the 25 items the original version of the scale was used for our study, which showed an internal reliability of *Cronbach’s* $\alpha = .84$. The response continuum was a 5-point Likert scale (ranging from 1=does not describe me at all to 5=describes me very well). Some examples of the items we used are “*If others knew me better, they would say I am one who strongly believes in his/her decisional abilities*” and “*I am so sure of my abilities that sometimes I like to devote myself to very difficult things*”.

Career decidedness

The measure of career decidedness chosen for this study was developed and validated by Lounsbury and colleagues (1999). As a sub-component of the Transition to College Inventory (TTC) (Lounsbury, 2003) the Career Decidedness scale is composed of six statements where respondents indicate their level of agreement based upon a 5-point Likert-type scale (ranging from strongly disagree=1; to strongly agree=5). Example items include: “*I have made a definite decision about a career for myself*”, and “*I am having a difficult time choosing among different careers.*” Internal consistency for this scale resulted of *Cronbach’s* α equal to .83.

Results

Descriptive statistics

A total of 815 questionnaires were distributed to young adults to measure their levels of optimism, facilitating conditions for school motivations (FCSM), career decision-making self-efficacy (CDSE), and career decidedness (CD). We received 725 valid responses, with 63% (N=456) of respondents being males and 37% (N=269) being females. The average age of the participants was 17, and the age range was 15 to 21 years. Among the respondents, 87.7% were Italian citizens, and the remaining 12.3% claimed to be of a different nationality. For what concerns the Italian educational context is it necessary to specify that the Italian high school system is quite unique if compared to the rest of the world educational path. High schools in Italy last for a mandatory minimum of 3 years to a maximum of 5 and they are categorized into several types, each with its own specific focus or specialization. Scientific high schools, typically focus on mathematics, physics, chemistry, and biology. Human Science high schools that typically focus on humanities, social sciences, and psychology. Foreign Language high schools, focus on language studies, while Professional institutes, provide vocational education and training in a specific field. Professional licensing courses, provide training in specific trades or professions, such as mechanics, electronics, or agriculture. Technical institutes, provide training in technical fields such as engineering, computer science, and telecommunications. In terms of educational backgrounds, 46.3% (N=334) were studying at a scientific high school, 2.8% (N=20) in a Human Science high school, 11.9% in a Foreign Language high school, 16.8% (N=121) were in a Professional licensing course, 21% in a Professional institute (N=155), and only 0.7% (N=5) in a technical institute. Moreover, only 14.9% (N=108) of the participants had previous work experience, while 85.1% (N=617) had never worked before.

Table 1. Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Age											
2. Career commitment	-.013										
3. Self-Efficacy (SE)	-.011	.164**									
4. Optimism	-.075*	.163**	.332**								
Facilitating conditions											
5. Value	-.114**	.140**	.144**	.269**							
6. Affect	.062	.145**	.073*	.101**	.238**						
7. Peers	-.058	.137**	.017	.04	.039	.081*					
8. Parents	.034	.008	.175**	.066	.133**	.087*	.041				
9. Teachers	-.006	-.007	.212**	.142**	.207**	.159**	.133**	.399**			
10. Career Decision-Making SE	-.025	.187**	.487**	.374**	.241**	.095*	.016	.257**	.262**		
11. Career Decidedness	-.011	.258**	.130**	.193**	.189**	.172**	.093*	.059	.111**	.115**	

Note. * $p < .05$, ** $p < .01$.

Table 2 Correlation Matrix

Correlations matrix show the relationships between career decidedness and its associated factors using Pearson's correlation coefficient. Results revealed that career decidedness was positively correlated with career self-efficacy ($r = 0.130$, $p < .05$), optimism ($r = 0.193$, $p < .01$), and facilitating conditions ($r = 0.189$, $p < .01$). Furthermore, a moderate positive correlation was found between career decidedness and career decision-making self-efficacy ($r = 0.258$, $p < .001$). These findings suggest that individuals who have higher levels of self-efficacy, optimism, and facilitating conditions are more likely to exhibit higher levels of career decidedness. Thus, interventions that enhance self-efficacy, optimism, and social support may help young adults make better career decisions. In particular, the results highlight the importance of promoting the development of career decision-making self-efficacy, which is found to play a significant role in enhancing career decidedness.

Model testing

Path analysis, conducted using AMOS, revealed that career decision making self-efficacy partially mediates the relationship between facilitating conditions for school motivations and career decidedness. Notably, although the direct effect of facilitating conditions for school motivations on career decidedness is negative ($B = -.13$; $p < .05$), the relationship linking facilitating conditions for school motivations to career decision making self-efficacy ($B = .51$;

$p < .01$), as well as that linking career decision making self-efficacy and career decidedness ($B = .40$; $p < .001$), is positive (see Figure 1). The model had a good fit, as indicated by the fit indices $\chi^2(2) = .618$, $p = .734$, RMSEA = .04, and CFI = .95. These results suggest that the development of career decision making self-efficacy is crucial in promoting higher levels of career decidedness. Additionally, optimism was found to positively moderate the relationship between facilitating conditions for school motivations and career decision making self-efficacy ($b = .09$; $p < .05$; 95% ci [.0057, .1180]). A simple slope analysis revealed that optimism moderates the relationship between facilitating conditions for school motivations and career decision making self-efficacy for individuals scoring high and low on this trait.

This study provides important insights about the factors to be considered when designing career-counseling programs able to support dynamic career pathways, including horizontal mobility among different educational streams. It highlights the importance of supporting the development of career decision-making self-efficacy in order to positively influence career decidedness.

Discussion

This longitudinal study explored the role of facilitating conditions, career optimism, and career decision-making self-efficacy, on career decision-making among students. Drawing on that, we tested a moderated mediation model that includes career self-efficacy as a mediator between the two and the construct of optimism as a moderator variable of the relationship between facilitating conditions and career self-efficacy. This because we wanted to explore whether optimism would affect the relationship between facilitating conditions and career decision-making self-efficacy and whether the same relationship is moderated by career self-efficacy. We hypothesized that if optimism moderates this relationship, individuals who receive more support from their parents, teachers, and peers would have higher levels of career decision-making self-efficacy, but only if they also have high levels of optimism. On the other hand, if an individual has low levels of optimism, they may not experience the same positive effects of receiving support from others on their career decision-making self-efficacy. By testing this moderated mediation model, we were able to explore these potential effects and gain a better understanding of the complex relationships between facilitating conditions, career self-efficacy, and optimism in the context of career decision-making. Our results showed that

career decision making self-efficacy mediates the relationship between facilitating conditions for school motivations and career decidedness while, optimism exerts a positive moderating effect on the association between facilitating conditions for school motivations and career decision making self-efficacy. This suggests that both facilitating conditions and individual factors play a role in career decision-making. Notably, our study found that young adults who receive support from their parents and peers in the context of a career choice are more likely to make a career decision that align with their interests and goals. This is because these individuals are likely to feel more optimistic about their ability to make a good career decision, which in turn enhances their career decision-making.

Overall, our study's findings highlight the importance of considering both external and internal factors when designing career counseling and educational programs to support individuals in making informed career decisions. By focusing on enhancing both facilitating conditions and individual optimism, we can help individuals develop the self-efficacy needed to pursue their desired career paths. Following Bandura's model (1986), we hypothesized that facilitating conditions or contextual factors, such as parents', teachers' and peer's support have a relevant role, by providing support in a young adult's career decision making. Hypothesis 1a and 1b were confirmed by this study since our result show that the peers' and familiar support do predict career decision making. Hypothesis 1c, on the other hand was not: according to our results teachers' support does not influence ones' career choice. In other words, finding that peers' and familiar support predict career decision-making supports the idea that external factors play a crucial role in shaping an individual's career decision-making process. Peers and family members may provide advice, encouragement, and resources that help young adults navigate their career choices. On the other hand, the lack of a significant relationship between teachers' support and career decision-making may suggest that teachers have a more limited role in this process. It is possible that teachers' influence is more indirect, through their impact on students' academic performance and motivation. Future research may explore the specific mechanisms through which different sources of support contribute to career decision-making.

Since prior work has shown that parental teachers' and peers' support positively predicts career decision-making self-efficacy (Gushue and Whitson, 2006; Restubog et al., 2010) and contribute to the different sources of self-efficacy (Alliman-Brissett et al., 2004, Metheny et

al., 2008), we hypothesize that facilitating conditions can predict career decision making because this relationship is mediated by career self-efficacy. Our results suggest that the development of career decision-making self-efficacy is key to promote higher career decidedness because it mediates the relationship between facilitating conditions and the ability to make a functional career decision, confirming Hypothesis 2.

Limitations and future research

This longitudinal study employed a three-wave data collection approach, with each wave utilizing a different questionnaire. The primary rationale for this approach was to mitigate participant fatigue and potential response biases. By using different questionnaires in each wave, we aimed to maintain participants' engagement and minimize the likelihood of response fatigue. However, this study design also carries certain limitations. First, the use of different questionnaires in each wave may introduce measurement variance, making it challenging to directly compare responses across waves. Although efforts were made to ensure consistency in the constructs assessed, subtle differences in item wording or response options may have influenced participant responses. Future research could consider utilizing a single comprehensive questionnaire across all waves to improve comparability and reduce potential measurement variability.

Furthermore, while the staggered data collection approach helped minimize participant burden, it may have introduced other limitations. The time gaps between waves may introduce confounding factors or events that influence participants' career decision-making processes. External factors such as changes in personal circumstances, educational experiences, or socio-economic conditions could impact participants' perceptions and decision-making outcomes. Longitudinal studies with shorter intervals between waves or additional control measures could provide more robust insights into the dynamic nature of career decision-making.

In conclusion, while the three-wave data collection approach in this longitudinal study served to address participant fatigue and response biases, it also introduced limitations related to measurement variance and the potential influence of external factors between waves. Future research should consider utilizing a single questionnaire with all relevant variables and

exploring methods to minimize the impact of confounding factors on career decision-making processes.

Applied implications

Based on our findings, career decision making self-efficacy appears to be one of the core dimensions for career decision-making. In terms of potential applied implications, school counselors may use self-efficacy enhancing procedures, such as vicarious learning, social persuasion, and emotion regulation techniques, to facilitate students' vocational self-awareness (Lent et al., 2002; Lent and Brown, 2019; Capa-Aydin et al., 2018) . Additionally, given the importance of support from parents and peers in career decision-making, counselors should also consider involving families in the process. This approach may help to address individual differences, such as for example the lack of perceived career self-efficacy that may influence career decision-making, while also leveraging the resources and support available from students' close ones. By combining these strategies, school counselors may be better able to support students in making informed career decisions and enhancing their career decision-making self-efficacy. Self-efficacious students in career decision making are more confident in future orientation, demonstrate flexibility to uncertain situations (Aspinwall et al., 2001) and develop strategies for coping with career indecision (Lipshits-Braziler et al., 2015). Moreover, assessing students' level of optimism and its link to familiar support, could add to the counselor's understanding of the individual mechanisms employed in career decision self-efficacy and set the bases to also include the parents in the orientation counseling. Support from the family and peers enhances optimism in career planning and thinking about one's career choices and reduces ineffective decision-making. The findings of this study may have practical implications for career advisors designing programs to enhance students' career self-efficacy. Specifically, our results suggest that involving young adults' close ones in the career decision-making process may provide valuable resources for pursuing goals, fostering persistence, and remaining open to opportunities. Therefore, career advisors may consider incorporating

strategies that leverage the support of parents and peers to help enhance students' optimism and career decision-making self-efficacy.

Conclusion

In this longitudinal study, we explored the role of facilitating conditions, career optimism, and career decision-making self-efficacy in career decision-making among students. Our results suggest that both external and internal factors play a role in career decision-making. By considering these factors, we can help individuals develop the self-efficacy needed to pursue their desired career paths.

Disclosure and Conflicts of Interest

The author(s) declare that there are no conflicts of interest concerning the present study.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

4.3 Study 3 – Design-Based Intervention Study

The Erasmus+ KA2 SupportSphere Project

An Applied European Initiative Based on the Findings of Study 2

The third study of this cumulative dissertation presents SupportSphere, an Erasmus+ KA220-VET project (2024–2026) designed and co-developed by our research group and successfully funded by the European Commission. The project represents the applied and translational component of the theoretical and empirical work conducted in the previous chapters. Specifically, SupportSphere operationalises the longitudinal evidence produced in Study 2 – Unrevealing the Interplay Between Internal and External Factors Leading to Career Decidedness, translating the SCCT-based model into a multi-level intervention targeting teachers, VET trainers, and peer networks.

From a methodological perspective, Study 3 adopts a design-based and practice-oriented approach, aiming to translate empirically validated mechanisms into scalable educational interventions within real-world contexts.

The project is implemented across four European countries through a transnational consortium involving partners from Italy, Spain, Greece, and Belgium, and coordinated by SEAK Egaleo (Greece), with the Department of Human Sciences of the University of Verona contributing to the conceptual and methodological design. Completion is expected in March 2026.

The intervention primarily targets students enrolled in Vocational Education and Training (VET) programmes, a population disproportionately exposed to NEET risk and unstable career trajectories. Across the partner countries, SupportSphere directly involves approximately 300 VET and secondary-school students and around 120 teachers and VET trainers through pilot activities, training sessions, and peer-support initiatives. By including both general secondary and VET pathways, the project enhances the generalisability, scalability, and policy relevance of the applied component of this dissertation.

Conceptual Rationale

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The conceptual rationale of SupportSphere is twofold. First, it acknowledges that many European initiatives addressing NEET conditions have predominantly focused on individual guidance or institutional placement services, often underestimating the psychological and relational determinants of career development. Second, it directly incorporates the mediational pattern empirically identified in Study 2: contextual supports from teachers and peers enhance career decision-making self-efficacy and optimism, which in turn sustain higher levels of career decidedness.

Accordingly, the project focuses on strengthening contextual actors that are realistically reachable within an EU-funded intervention, namely teachers, VET trainers, and peer networks. Although family support represents a crucial component within SCCT, it was not included as a direct target group due to feasibility constraints typical of European cooperation projects (e.g., time, budget, and access). Nonetheless, the intervention design anticipates future extensions in which family-level mechanisms may be integrated more explicitly.

The SupportSphere intervention can be conceptualised as a multi-level, context-enhancing model of career development, in which relational agents (teachers, trainers, and peers) act as proximal sources of support influencing students' self-efficacy and optimism, ultimately fostering career decidedness.

Objectives, Priorities and Target Groups

SupportSphere aligns with Erasmus+ priorities related to inclusion, support for the teaching profession, and prevention of early school leaving and NEET status. Its overarching aim is to foster sustainable career development among young people at risk by improving the quality and availability of social support within educational environments.

The project pursues four interrelated objectives:

- Supporting young adults in career decision-making
By strengthening the career-related support provided by teachers, VET trainers and peers, the project aims to reduce inequalities in access to guidance resources among students from diverse social, educational and economic backgrounds.
- Empowering teachers and VET trainers
In line with Erasmus+ priorities, the project enhances educators' competencies in career

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guidance and psychologically informed social support, reinforcing their role as key facilitators of students' self-efficacy and optimism.

- Developing structured peer mentorship mechanisms
Peer-to-peer components involving both general secondary and VET students are designed to address early disengagement, learning disadvantage and NEET risk through modelling, vicarious learning and horizontal support.
- Fostering collaboration across educational stakeholders
The project promotes cooperation between schools, VET centres, young adults and slightly older “working peers”, contributing to a more integrated guidance ecosystem.

The **primary target groups** are:

- VET trainers,
- VET students.

Indirect beneficiaries include VET schools' leaders, guidance professionals and policymakers seeking evidence-informed tools for NEET prevention.

3.2. Intervention Components and Intellectual Outputs

Study 3 is structured around three main intellectual and practical outputs, all explicitly grounded in the mediational mechanisms identified in Study 2.

SupportSphere Handbook for Teachers and VET Trainers

The SupportSphere **handbook** (which is included as an appendix to this dissertation) represents the core integrative output of the project, translating both empirical findings and contextual needs into a structured, practice-oriented resource. It integrates SCCT principles with applied career guidance strategies, with a particular focus on strengthening relational support, career decision-making self-efficacy, and career optimism.

The development of the handbook was informed by a combination of desk research and qualitative focus groups conducted across partner countries (Italy, Spain, Greece, and Belgium). The desk research aimed to identify systemic challenges, gaps, and good practices within national career guidance systems, while the focus groups involved students, teachers, and VET trainers in order to capture lived experiences, perceived needs, and contextual constraints.

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Overall, the data collection involved more than 60 participants across stakeholder groups and countries. This co-constructive process ensured that the handbook reflects both cross-national patterns and context-specific needs.

The handbook is structured into two main sections. The first section provides a synthesis of findings from the desk research and focus group activities, highlighting key challenges such as fragmented guidance systems, limited access to personalised support, and the central role of relational dynamics in career development processes. The second section offers practical tools, activities, and guidelines designed to support educators in their daily practice.

Specifically, the handbook supports teachers and VET trainers in:

- understanding how relational and instructional behaviours influence students' self-efficacy and optimism;
- identifying early signals of fragility and NEET risk;
- implementing emotional, informational, and instrumental support strategies.

A more comprehensive presentation of the findings derived from the desk research and focus group activities is available in the SupportSphere handbook, included as an appendix to this dissertation.

Training Programme for Teachers and VET Trainers

The second output is a modular training programme developed within a train-the-trainers framework. The training is directly grounded in the findings of the desk research and focus groups, and operationalises the tools and strategies presented in the handbook.

The programme is designed to support teachers and VET trainers in translating theoretical principles into practice, equipping them with concrete skills to foster students' career development processes. Learning units and micro-learning materials focus on:

- career self-efficacy, optimism, and contextual support mechanisms;
- communication and guidance skills;
- integration of career guidance into everyday teaching practice.

The training follows a cascading model: a transnational online master training prepares key trainers in each country, who then pilot the programme locally with teachers and VET trainers.

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Pilot activities include supervised career guidance sessions with small student groups, allowing educators to apply the handbook tools in real contexts.

At the time of writing, the training programme has been fully designed but is currently in the implementation phase. Feedback collected during pilot activities will inform iterative refinement of both the training and the handbook.

E-learning Platform and Peer-Support Components

The third output is a digital e-learning platform hosting multimedia resources for students. A core feature is a set of pre-recorded interviews with working peers, with each partner contributing narratives representing different educational and occupational trajectories. These narratives provide vicarious learning experiences that support students' optimism and perceived attainability of career goals.

The platform also supports online interactions (e.g., Q&A sessions, virtual events) and dissemination through social media and the project website, extending the intervention's reach and scalability.

All intellectual outputs, training materials, and digital resources developed within SupportSphere are publicly available through the official Erasmus+ Project Results Platform, ensuring transparency, replicability, and long-term accessibility:

<https://erasmus-networks.ec.europa.eu/search/resources>

Findings Achieved to Date

Desk Research Findings

The desk research was **conducted** across the **four partner countries** (Italy, Spain, Greece, and Belgium) and highlighted several structural challenges affecting career guidance systems within European educational contexts.

Across countries, a consistent **lack** of continuous and **personalised career guidance services** emerged, particularly within Vocational Education and Training (VET) systems. Guidance provision was often described as fragmented, with limited integration between educational institutions and labour market actors.

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Furthermore, the analysis identified **significant gaps** in the availability of **structured support mechanisms** for students at risk of disengagement or NEET status. In many cases, existing initiatives focused primarily on information provision rather than on the development of psychological resources such as self-efficacy and career optimism.

Overall, the desk research highlighted the need for more integrated, **student-centred, and psychologically informed career guidance approaches**, capable of addressing both contextual and individual dimensions of career development.

Focus Group Findings

Participants across stakeholder groups, including students, teachers, and VET trainers provided complementary perspectives on the challenges of career guidance.

Students frequently described their experience as **fragmented and insufficiently tailored** to their personal trajectories. Many reported receiving only sporadic or one-off guidance, lacking the continuity needed to support complex career decision-making processes.

From the perspective of **teachers** and **trainers**, a recurrent theme concerned the **lack of structured tools and training** to effectively support students' career development. Participants highlighted feeling responsible for providing guidance yet insufficiently equipped with practical strategies and resources to do so in a systematic and consistent manner.

Additionally, educators emphasised the **difficulty** of addressing **diverse student needs** within time and institutional constraints, particularly in VET contexts where transitions to the labour market occur early.

Across both groups, **relational support emerged as a central element**. While students stressed the importance of trust and accessibility in their interactions with teachers and peers, educators recognised the importance of their role in fostering motivation, self-efficacy, and realistic career expectations.

These complementary perspectives highlight a systemic gap between the demand for continuous, personalised support and the current availability of structured, evidence-based tools for practitioners.

Outputs Achieved to Date

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The SupportSphere Handbook

Building on the findings from both desk research and focus group activities, the SupportSphere handbook was developed as the main integrative output of the project.

The handbook translates the **identified needs, challenges, and gaps into a structured set of practical tools and guidelines aimed at supporting career decision-making** processes among VET students and young people at risk of disengagement.

It is organised into **two** main **sections**.

The **first section** provides a **synthesis of the cross-national analysis**, outlining key risk factors, systemic limitations, and emerging needs within career guidance systems. **The second section adopts a practice-oriented perspective**, offering concrete tools, activities, and strategies that teachers and VET trainers can directly apply in their daily practice.

In particular, the handbook **focuses on strengthening those contextual mechanisms identified as central in Study 2** - namely relational support, career decision-making self-efficacy, and career optimism. The proposed activities are designed to enhance students' confidence in their abilities, support reflective decision-making processes, and promote more realistic and attainable career expectations.

At the same time, the handbook **addresses the needs expressed by teachers and trainers** during the focus groups, providing structured and accessible resources that can be implemented within existing educational constraints. This dual focus ensures alignment between students' needs and practitioners' capacities.

The development process followed a co-creation approach, involving educational institutions and project partners across four European countries. As a result, the handbook reflects a balance between theoretical grounding and practical applicability, making it suitable for diverse educational contexts.

The full handbook is available through the Erasmus+ Project Results Platform and constitutes a key resource for the implementation and scalability of the SupportSphere intervention.

Expert Evaluation of the Handbook

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To further strengthen the **quality, clarity, and applicability** of the developed materials, the SupportSphere handbook was subjected to an expert evaluation process involving professionals in the field of career guidance and vocational education and training across the partner countries.

The evaluation was conducted through a structured questionnaire composed of multiple items rated on a 5-point Likert scale (*1 = strongly disagree; 5 = strongly agree*). The instrument assessed key dimensions such as clarity, structure, relevance of content, usability of the proposed activities, inclusiveness, and overall applicability within educational contexts.

The questionnaire was **administered online** to 80 **career guidance experts** across the participating countries (20 per country), ensuring a cross-national perspective on the quality and usefulness of the materials.

The **results** of the evaluation were highly positive across all assessed dimensions. The overall rating of the handbook reached a mean score **of 4.78 out of 5**, indicating a high level of perceived quality. All specific dimensions showed consistently high scores, ranging from 4.60 to 4.91.

In particular, the clarity of the five-pillar framework ($M = 4.91$), the professional structure of the handbook ($M = 4.87$), and the usefulness of the tools and resources ($M = 4.83$) were especially appreciated. The handbook was also evaluated as highly relevant for both practitioners and students ($M = 4.78$), as well as supportive of inclusive and student-centred career guidance practices ($M = 4.77$).

These results not only confirm the perceived quality of the materials but also provide preliminary support for the ecological validity and practical feasibility of the intervention within diverse educational contexts.

Methodological Approach and Contribution to the Dissertation

Methodologically, Study 3 adopts a **design-based research and intervention development approach**, integrating:

- longitudinal evidence from the structural model tested in Study 2;
- qualitative input from teachers and students;

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- iterative co-creation and piloting with practitioners across four European countries.

The project is organised into interconnected work packages focusing on:

- (a) handbook development through desk research and focus groups;
- (b) design, piloting and refinement of the training programme;
- (c) creation and testing of the e-learning platform and peer-interview format.

Within the cumulative logic of the dissertation:

Studies 1a and 1b provide validated measurement instruments;

Study 2 identifies the longitudinal mechanisms linking context, self-efficacy, optimism and decidedness;

Study 3 translates these mechanisms into a multi-level, system-oriented intervention;

Study 4 extends the framework to adults with fragile literacy skills through a psycho-linguistic intervention.

SupportSphere therefore represents the **applied cornerstone of the thesis**, demonstrating how SCCT-based longitudinal evidence can be transformed into scalable educational innovation and policy-relevant tools for NEET prevention and sustainable employability. It contributes to the literature by demonstrating how longitudinal SCCT-based evidence can be systematically translated into a design-based, multi-level intervention, integrating quantitative modelling, qualitative needs analysis, and iterative co-creation with practitioners.

4.5 Study 4

Introduction

Study 4 represents the final step in the cumulative logic of this dissertation, extending the SCCT-based framework developed in Studies 2 and 3 to a more vulnerable population. While previous studies examined the psychological and contextual determinants of career decision-making and translated them into structured interventions, the present study shifts the focus to young adults with fragile literacy skills, whose career development processes are rarely examined in mainstream psychological literature. These vulnerabilities are particularly salient in the Italian context, where a significant proportion of young adults enrolled in vocational and adult education pathways present difficulties in reading comprehension, expressive language,

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and meta-cognitive regulation (Waterhouse & McHardy, 2012; Dilnot et al., 2017). Such fragilities directly affect not only academic trajectories but also the ability to process career information, articulate aspirations, and pursue coherent vocational goals (Beetham & Okhai, 2017; Costantini et al., 2020).

The empirical investigation presented in this chapter was conducted within E-FRALIT (Enhancing Fragile Literacy), a regional project funded by Fondazione Cariverona, aimed at strengthening the linguistic, cognitive and motivational resources of young adults at risk of educational and occupational exclusion. Unlike national or European-scale programmes, E-FRALIT was conceived specifically to address territorial needs within the Veneto region, where literacy vulnerability, dropout risk and reduced employability disproportionately affect students enrolled in vocational education and adults with learning or linguistic challenges. The project provided a unique opportunity to examine how psycho-linguistic interventions can enhance foundational capacities essential for sustainable employability (Stuer et al., 2019; Magnano et al., 2019).

Within this framework, the study implemented a structured psycho-linguistic programme combining literacy reinforcement, vocabulary expansion, meta-cognitive training, and guided reflective self-narration. This multi-component approach reflects a growing body of research showing that classical career interventions-focused exclusively on guidance, counselling or decision-making strategies-may be insufficient for individuals whose linguistic or cognitive fragilities hinder their ability to understand information, plan trajectories, or internalize support (Costantini et al., 2020; Schippers & Ziegler, 2019). In line with Social Cognitive Career Theory (SCCT), strengthening foundational linguistic and meta-cognitive abilities is expected to enhance self-efficacy, agency, and future-oriented identity-core mechanisms for effective career decision-making. Within this perspective, employability and sustainable career development can be conceptualised as downstream manifestations of SCCT-based mechanisms, whereby self-efficacy, outcome expectations, and contextual supports not only shape career decision-making but also sustain individuals' capacity to enter, navigate, and remain in the labour market over time (Fugate et al., 2004; Sartori et al., 2023).

The intervention targeted two groups at elevated risk of long-term marginalization: individuals with dyslexia and L2 migrant learners. Both groups commonly report reduced academic

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confidence, avoidance of complex tasks, limited access to guidance services, and difficulties in processing career-related materials (Doyle & McDowall, 2019; Beetham & Okhai, 2017). Consistent with this, preliminary regional evidence indicates that fragile literacy conditions predict lower vocational identity, weaker perceived agency, and unstable or mismatched employment outcomes (Macey, 2013; Waterhouse & McHardy, 2012). Recruitment procedures were adapted to the characteristics of the target populations in order to ensure accessibility and inclusiveness. Participants with developmental dyslexia (DD), who are typically more difficult to engage in research settings, were provided with a small financial compensation for their participation. In contrast, L2 participants, who were primarily adults already involved in educational or work-related pathways, were offered practical support in the form of guided curriculum vitae (CV) development following each assessment session. These differentiated approaches were designed to provide equivalent and context-appropriate benefits while maintaining voluntary participation and avoiding any form of coercion. Study 4 therefore addresses an important gap in the literature by extending psychological models of career development to youth whose learning conditions fundamentally challenge traditional SCCT pathways. Extending the framework to these populations represents a critical test of its robustness, as fragile literacy conditions introduce additional cognitive and structural barriers that can disrupt standard career development pathways.

Methodologically, the study employed a pre–post design integrating quantitative assessment with qualitative reflective practices. The study was conducted in accordance with ethical standards and was approved by the Ethics Committee of the Department of Human Sciences of the University of Verona. All participants provided informed consent prior to participation. Results show meaningful improvements in employability perceptions, self-efficacy, linguistic competence, and future-oriented identity following participation in the programme. These findings extend the cumulative evidence generated in Studies 1–3 by demonstrating that the SCCT-related mechanisms identified in earlier analyses are not only predictive, but also malleable through intervention, even in populations characterised by higher levels of cognitive and linguistic fragility (Costantini et al., 2020; Sartori et al., 2023). By situating this analysis within a territorially grounded, foundation-funded project, Study 4 highlights the importance of designing context-sensitive interventions capable of addressing both psychological and structural vulnerabilities. E-FRALIT exemplifies how regional initiatives, when informed by

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solid theoretical frameworks and rigorous evaluation, can produce scalable and impactful innovations in sustainable employability, particularly for fragile youth who are often overlooked by mainstream research and policy.

Study 4 - Facilitating Sustainable Career Development in Fragility: A Psycho-Linguistic Intervention for Employability of Individuals with Fragile Literacy Skills

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Abstract: The brief report examines the burgeoning interest in sustainable career development by discussing the role of employability of individuals with fragile literacy skills, i.e., second-language learners (L2), and individuals with developmental dyslexia (DD). Considering sustainable career development as the umbrella of practices facilitating individuals flourishing, we aim to present an integrated flexible intervention to promote the employability of individuals with fragile literacy skills (DD and L2) that combines both the promotion of linguistic skills and psychological resources. Using experimental research design, we tested our training intervention on language skills (reading and writing) coupled with psychological training intended to enhance psychological resources and psychological capital. A total of 38 individuals with DD took part in our examination ($n = 22$ in the experimental group) and $n = 26$ L2 ($n = 11$ in the experimental group). We measured employability skills and psychological capital pre and post our interventions both in control and in experimental groups. Our results show that the intervention led to a significant improvement in L2 and DD. We discuss our results and implications for research and practice.

Keywords: *employability; developmental language disorders; second-language learners; training; sustainable career.*

Introduction

Employability is a topic of interest in most of the core areas of organizational psychology and in particular for the understanding of sustainable career development. The notion of employability covers both the individuals' actual ability and perception of being able to enter in the labour market, yet it also applies to the individual's ability to maintain their careers in the workplace. Following this broad definition of employability, it should not be a surprise how employability had become a relevant topic for sustainable career development and especially in respect to specific populations, e.g., individuals with fragile literacy skills. Sustainable career

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development is an umbrella term that highlights the multiple challenges of contemporary society. It recalls aspects of the current labour market and how individuals with specific needs can obtain a job and maintain their careers. This is the case of individuals with developmental dyslexia (DD) and second language-learner migrants (L2), described as low-educated second language and literacy acquisition (LESLLA). These individuals might have different perceptions of their level of employability due to their language fragilities. Such populations are considered fragile as the presence of language and literacy difficulties can relate to the low likelihood of finding and maintaining a job. In literature there is only a limited amount of research on how to facilitate individuals with fragile literacy skills in their career development and particularly on how to sustain their level of employability. For example, existing research tends to limit the focus on the promotion of specific psychological skills or the promotion of linguistic skills. Considering the umbrella of sustainable career development, it is imperative to address the topic of employability of fragile individuals and realize initial attempts to inform on how to sustain these individuals via training interventions. On the one hand, the relevance of employability appears particularly in respect to the notion of career development sustainability, with employability being at the nexus of the very meanings of career, development, and sustainability. On the other hand, employability applies to the notion of sustainable career of fragile individuals as an object of intervention to facilitate their career development. International surveys and scientific literature inform that individuals with dyslexia can have more difficulties in finding an occupation in today's labour market. In addition to difficulties in verbal and written communication, DD individuals can also have complications in organization, time management, planning, and adaptation to change, as well as psychological worries such as the feeling of insecurity about their future and psychological resources. For example, in Italy only 65.2% of DD individuals have an occupation, among which 19% is represented by the 19–25 years of age population. This is the same for L2 individuals who may find difficulties in verbal and written communication, addressing cultural barriers and adaptation to the labour context. In the Italian context, this is reflected in the 61.4% of migrants with an occupation (both formal and non-formal employment). Despite these contextual conditions, the literature still has a lack of understanding on how to sustain such populations in their career development. In the present brief report, we aim to present and test the effectiveness of an integrated flexible intervention to promote the employability of

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individuals with fragile literacy skills (DD and L2) that combines both the promotion of linguistic skills and psychological resources. To sustain the career development of DLD and L2 individuals, the literature highlights specific intervention at the institutional level. This is the case of non-profit organizations and local educational authorities, working to offer training and education services to improve literacy skills. However, such institutional interventions may show relative effectiveness in the view of the lack of psychological resources and linguistic gaps. Considering the contribution of the psychological literature, we argue that supporting individuals with fragile literacy skills can represent the means to facilitate a sustainable career development. Ultimately, we suggest that by combining the promotion of literacy and language skills with the promotion of psychological resources, DD and L2 individuals can experience and perceive higher levels of employability that, in turn, can help them in the determination of employment opportunities. In the rest of the report, we proceed as follows. First, we present the theoretical background concerning the promotion of employability with a specific focus on the individuals with DD and L2. Second, we continue with the methodological approaches and present our intervention, and the experimental procedure used. In this section, we report the results of our study meant to test the effectiveness of integrated flexible intervention to promote the employability of individuals with fragile literacy skills (DD and L2). We conclude by discussing our results and present future perspectives for research and practice in the field.

2. Facilitating Sustainable Career Development in DD and L2

Unsurprisingly, facilitating the sustainable career development of DD and L2 individuals highlights the importance of literacy skills as key drivers for the integration process and the increase in employability [6,7]. In this respect, the literacy process takes on a much broader meaning than just the acquisition of reading and writing skills. Literacy is not only about teaching reading and writing, but also about expressive skills to claim rights and negotiate meanings. Literacy is, thus, much more than the learning of a complex communication technique and reading–writing skills. It marks access to the universe of relationships of an information-driven society in which writing is an imperative medium that, to a large extent, replaces direct interpersonal relationships and constitutes a powerful means of production, mediation, and circulation of social and cultural meanings. Assuming this vision allows interventions, initiatives and training projects aimed at implementing this competence take on a broader characterization of a psychosocial nature, insofar as it is impossible not to include individual, social, and cultural dynamics and exclude

the dual effect that adequate literacy exerts not only on the employment level but, in general, on the entire social and cultural apparatus, as well as on the wellbeing of the individual who benefits from it. The Linguistic Perspective Literacy skills, intended as the ability to read and spell fluently, as well as the comprehend written texts, extend far beyond formal education. The presence of difficulties in reading and writing that are observed in people with dyslexia and L2 learners can have a profound effect on both their cultural and professional life. Studies on adults with dyslexia report that despite accumulating years of reading experience, DD still continue to face severe literacy as well as linguistic deficits, affecting, in particular, phonological awareness and lexical access, which, in turn, pose a substantial obstacle to effective reading comprehension. Nevertheless, recent studies have also shown that it is possible to pursue an improvement in reading abilities also in adulthood. In a recent systematic review of the literature, Vender and colleagues reported that a proper literacy intervention can provide sensible gains in reading and spelling skills in adults. The most effective treatments seem to be those that promote and integrate phonological and morphological training, as well as those that stimulate fluency by imposing time constraints on reading through computerized programs. As for L2 learners, studies focusing on linguistic interventions are still rather limited and frequently based on practitioner observations rather than rigorous experimental testing. Efficient literacy development practices for such learners have been found to benefit significantly from a balanced and holistic approach, combining both bottom-up (i.e., starting covering letters, sound/symbol correspondences, and building up to words and sentences, emphasizing automatic recognition over understanding meaning) and top-down (beginning with recognizing common words and short sentences, and introducing letters and sounds later on) strategies. Explicit instruction in phonemic awareness and phonics is crucial, helping learners to understand the relationship between letters and sounds, and develop decoding skills. This should be complemented with activities that promote vocabulary growth and comprehension skills, ensuring that learners are able to make meaning from text. Contextualized learning, where literacy skills are taught within the context of real-life situations, has also proven effective as it enhances the relevance of the learning material, thereby increasing learner motivation and engagement. Providing ample opportunities for practice, along with immediate feedback, further enhances skill acquisition and mastery. The Psychosocial Perspective Reviewing the general literature on psychosocial interventions for

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promoting employability, scholars have provided relative evidence concerning those interventions aim at fostering psychological resources. This is the case of life-crafting intervention considered as one prominent, sustainable, and practical intervention that can be used independently of cultural differences and individuals' age and experience. In the literature, life-crafting intervention demonstrates a certain degree of effectiveness in helping individuals find purpose and set meaningful goals that represent core aspects of employability of individuals. Individuals are trained to align their goals (e.g., finding a job opportunity) with values and interests (e.g., previous work experience, interests) and make concrete plans to work towards them. Moreover, the intervention has the potential to positively impact individuals' well-being, performance, and overall satisfaction with life by promoting core psychological capital and psychological resources, which, ultimately, can increase the level of perceived employability. Scholars have demonstrated the effectiveness of life-crafting intervention in study success, as evidenced by higher academic achievement and decreased dropout rates, particularly among ethnic minority and male students who had previously underperformed. The intervention helped students develop skills for self-management and management of others, and encouraged them to consider the impact they can have on the world. In respect to the phases of life-crafting intervention, it consists of three stages. In the first stage, individuals are invited to reflect on their values and passions in various areas of life. This helps them gain clarity about what is important to them. In the second stage, they translate their values and passions into specific goals and formulate plans to achieve them. This stage emphasizes the importance of setting self-concordant goals, which are goals that align with one's values and interests. The third stage involves a photoshoot where individuals create a statement starting with "I WILL" that represents their commitment to their goals. Moreover, considering the topic of employability, life-crafting intervention can be integrated with a specific phase in which participants present their curricula and develop awareness around their competences. This highlights the role of competences and education in promoting the perception of employability in addition to a sense of fulfillment and meaning

Method

In the present study, we address the impetus to contribute to the definition of the notion of sustainable career development by considering the promotion of employability of fragile

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individuals. We do so by testing an interdisciplinary intervention developed by the integration of linguistic and psychological perspective. Then, our overarching aim is to test the effectiveness of this mixed perspectives intervention for the promotion of literacy and psychosocial skills in order to promote the level of perceived employability in L2 subjects and DD. We referred to the methodological ground described above and we designed an experimental studies. We created two groups for each of the fragile individuals' samples, i.e., L2 group and a DD, with a further internal division into experimental and control groups. The experimental groups of DD and L2 received both language and psychosocial training. The control group did not receive any training. In order to verify the effectiveness of the intervention, we measured the level of employability and psychological capital before and after the intervention for the experimental group, while for the control group we only administered the same questionnaire at two different times, i.e., one month apart. Subsequently, we analyzed the data separately by running a series of t-tests for independent and paired samples in order to compare the control and experimental group within the two populations and for a time comparison, pre- and post-intervention.

Participants and Procedure

In total, $N = 64$ subjects took part in the study, of whom $n = 26$ were L2 (88.5% women, mean age 33.8, $SD = 7.98$) and $n = 38$ subjects with dyslexia (68.4% women, mean age 21.4, $SD = 3.19$). With regard to the L2 population, only $n = 11$ participants took part in the trial, while for the DD population, there were $n = 22$. The procedure of our study lasted one year (from June 2022 to June 2023) and comprised recruitment and training interventions. Individuals were randomly assigned to the experimental or the control group. With respect to the recruitment stage, we followed different recruitment procedures for L2 and DD. The L2 subjects were recruited through local social promotion networks operating for the literacy of the immigrant population. In these terms, in parallel with the literacy activities, L2 subjects were offered the opportunity to participate in an individual psychosocial skills promotion course, on a voluntary basis. For the control group, on the other hand, they were asked to complete questionnaires during the lessons with the support of the researchers involved, before and one month after individuals were recruited through the use of advertisements disseminated on the university campus, via social networks (e.g., Facebook page of the authors' department)

and via a snow-ball approach. Participation in the experimental group was on a voluntary basis for the identified population. For the control group, on the other hand, financial compensation was offered for their participation in the pre- and post-questionnaires at one-month intervals. All participants had independently received a diagnosis of dyslexia based on standard criteria; their reading and spelling skills were measured in the pre-test assessment, ensuring that all DD individuals, both of the experimental and of the control group, still experienced marked reading and spelling deficits in standardized reading tasks. Moreover, detailed information about their linguistic profile was collected by administering tasks assessing phonological and morphological awareness as well as lexical access skills. With respect to the intervention, the linguistic training was administered through a web-application with literacy activities differentiated based on the participants' profile and their specific needs. The training proposed to the DD participants aimed at enhancing reading speed and accuracy, as well as their spelling abilities and it involved the independent use of the app (on a computer, tablet, or smartphone) for three days a week (each session lasting approximately 15–20 min) for eight weeks, thus, for a total of 8 h for each participant. Different types of activities were developed and integrated in the program. However, the training was highly personalized and tailored to each participant, taking into account their needs and learning experience. This personalization was achieved by adjusting the advancement through different levels, with progression being permitted only when specific accuracy thresholds were successfully met (for more details on the intervention). The training for L2 participants complemented their regular in-person attendance at Italian language courses with the use of a web application. Through this application, participants were offered activities primarily aimed at reinforcing reading and writing skills, as well as developing a basic vocabulary deemed beneficial for them. The intervention was structured over a total of eight weeks: each week, participants were presented with nine sets of activities organized around a thematic core. For each thematic core, ten lexical items that could be potentially useful in the daily lives of the learners (e.g., shopping for groceries, health, etc.) were introduced, which then served as the basis for the activities. In the item selection process, particular attention was devoted to the orthographic and syllabic complexity of the items, which increased as the intervention progressed. Consistent with the recommendations to combine and integrate bottom-up and top-down approaches, the activities always began with the presentation of whole words, then gradually shifted to sub-lexical units (syllables and

individual phonemes/graphemes), before returning to focus on whole words again. The psychological intervention consisted of two sessions of two hours per session during which we combined both life-crafting and competence mapping. The researchers involved started with competence mapping in order to collect the materials for the second session. Then, the researchers continued with the three phases of the life-crafting intervention (see the description in the previous section). The study was approved by the Ethics Committee of the Department of Human Sciences of the University of Verona. Each participant was asked to read the information form and sign the consent to participate in the study and allow for the use and processing of the data by the researchers.

Measures

For the evaluation of the effectiveness of the intervention, two traditional measurement instruments for assessing the level of employability were used: the Psychological Capital measure [35] and the employability scale, in Italian and English for L2. The Psychological Capital Questionnaire (PCQ) measure comprises 24 items measured with a 5-point agreement scale (from 1 = not at all agree to 5 = totally agree). The measure consists of four dimensions that contribute to the total psychological capital value: hope, resilience, self-efficacy, and optimism (Cronbach's $\alpha = 0.90$). The employability scale, on the other hand, consists of 27 items measured by a 5-point agreement scale (from 1 = do not agree at all to 5 = totally agree). The measure consists of 4 dimensions that contribute to the unique value of employability: social capital and networking, human capital and professional development, career identity and selfmanagement, and environmental monitoring (Cronbach's $\alpha = 0.91$).

3.3. Data Analytic Plan

To test the effectiveness of the treatment, we initially compared the measurements over time by means of paired-sample t-tests comparing the measurements at time 1 and time 2 in the experimental group for the two populations. We then compared the experimental groups with the control groups at time 1 and 2 by means of t-tests for independent samples. We carried out these analyses focusing initially on the individual sub-dimensions of the two measures and subsequently on the total scores. To run the analysis, we used SPSS v. 22.

4. Results

For the L2 sample, the experimental group shows significantly higher scores at time 2 than at time 1 on all dimensions considered except for human capital and professional development ($t(7) = 1.83, p = 0.06$) and environmental monitoring ($t(7) = 1.82, p = 0.06$) dimensions. On the other

hand, for the dimensions of hope ($t(7) = 5.46, p = 0.001$), self efficacy ($t(7) = 9.67, p = 0.001$), resilience ($t(7) = 4.57, p = 0.001$), and optimism ($t(7) = 4.40, p = 0.002$), as well as for the general dimension of psychological capital ($t(7) = 7.79, p = 0.001$), there are significantly higher scores. The same applies to the dimensions of employability and the level of employability itself ($t(7) = 5.21, p = 0.001$), specifically social capital and networking ($t(7) = 9.47, p = 0.001$) and the level of career identity and self-management ($t(7) = 4.46, p = 0.001$). In the pre-intervention comparisons, the L2 sample shows that at time one both groups, experimental and control, are almost equal. At time two, on the other hand, the comparison between the two groups shows only one significant difference for the hope dimension for the experimental group ($t(17) = 1.81, p = 0.04$). For the DD sample, the experimental group shows a significant increase for all dimensions after the intervention. For the dimensions hope ($t(21) = 2.49, p = 0.011$), self-efficacy ($t(21) = 2.57, p = 0.009$), resilience ($t(21) = 2.17, p = 0.02$), and optimism ($t(21) = 1.69, p = 0.05$), as well as for the general dimension of psychological capital ($t(21) = 2.80, p = 0.005$), there are significantly higher scores. The same is true for the dimensions of employability and the level of employability itself ($t(21) = 4.33, p = 0.001$), specifically social capital and networking ($t(21) = 3.92, p = 0.001$), human capital and professional development ($t(21) = 3.92, p = 0.001$), environmental monitoring ($t(21) = 3.90, p = 0.001$). and the level of career identity and self-management ($t(21) = 2.65, p = 0.001$). In the pre-intervention comparisons, the DD sample shows that at time 1, both groups, experimental and control, are equal except for human capital and professional development dimension ($t(36) = 4.32, p = 0.001$), with a higher score in the control sample and for the environmental monitoring dimension ($t(36) = 4.07, p = 0.001$), again with higher scores for the control group. Likewise, the control sample shows a higher total level of psychological capital ($t(36) = 1.61, p = 0.001$) as well as a higher level of total employability ($t(36) = 4.20, p = 0.001$). Thus, in the post-intervention comparison, no significant differences are found between the two groups. Looking at the comparison between time 1 and time 2 of the control sample, it can be seen that there are no statistically significant scores for any of the dimensions considered.

5. Discussion

The present work aimed at contributing to the critical understanding of the notion of sustainable career development by providing evidence of the effectiveness of an interdisciplinary intervention for the promotion of the employability of individuals with fragile literacy skills. We realized a training intervention combining two separate disciplinary approaches, i.e.,

psychological and linguistic. Using an experimental research design, we tested our interventions in two separate groups of and L2 and compared their level of employability with respective control groups. Results of paired and independent t-test show that our interdisciplinary intervention had led to an increase in the level of employability.

Theoretical Contribution

In our intervention to support the employability of such individuals, we focused on both linguistic and psychological aspects through which we aimed at promoting both literacy skills and psychological resources and psychological capital. In the L2 sample, our analyses show that the experimental group have significantly higher levels at time 2 (i.e., after the intervention) for all the dimensions considered except for the human capital and professional development and environmental monitoring dimensions of employability. On the other hand, the dimensions hope, self-efficacy, resilience, and optimism, as well as the general dimension of psychological capital, have significantly higher scores. The same applies to the dimensions of general employability with higher levels for the dimensions of social capital and networking and career identity and selfmanagement. In the pre-intervention comparisons, the scores obtained by both groups (experimental and control) are almost equal in the first treatment, while the subsequent comparison between the two groups (post-intervention) shows a significant difference for the dimension hope in the experimental one. We can explain such results by considering the numerosity of the control group. It is interesting to note that both the promotion of literacy skills coupled with psychological resources results in an increase not only of employability perception but also in the dimension of hope, self-efficacy, resilience, and optimism. These appear as crucial elements for such individuals, who may perceive themselves as not able to deal with the labour market. With respect to the sample, the experimental group shows a significant increase for all the general dimensions of psychological capital and employability and their subdimensions. In the pre-intervention comparisons, the scores of both groups (experimental and control) are the same except for the dimensions of human capital and professional development and environmental monitoring, which, together with the total level of psychological capital and employability, are higher in the control group. In the post-intervention comparison, there are no statistically significant scores for any of the dimensions considered. Considering that the experimental group has independently lower levels of skills

with respect to the control group, this absence of differences in the post-test assessment is taken as evidence for the effectiveness of the intervention proposed to the former. Despite this, it is interesting to note the effect of the combined promotion of psychological resources with literacy skills in the experimental group, which has significantly increased their level of employability and psychological capital. This highlights the importance of a tandem work of two separate trainings that can help in facilitating the employability of fragile individuals

Limitations and Future Directions

In both the and L2 groups, we found that the control group's total psychological capital and employability levels already showed high levels for both dimensions. This suggest that the results of the comparison should be taken with caution and, at the same time, not be assumed to invalidate the intervention, given the significance found at time 1 and 2 in the experimental sample. Furthermore, in both the L2 sample and the sample, the number of participants in the experimental and control group are unbalanced, resulting in a higher participation in the control group and, thus, indicating the potential effect of the sample size. In parallel, our study is limited by the total number of participants, which is not representative. Despite the sample size and distribution of the two populations, these results suggest that initiatives such as interdisciplinary intervention may be effective in supporting a number of personal resources that are important in enabling adults and young adults with low literacy skills to enter into the labour market and better adapt in the workplace. Strengthening such resources can enable an improvement in real and perceived levels of employability. Therefore, while acknowledging the methodological limitations given by the sample, the results of this study are a first attempt in demonstrating that interventions aimed at strengthening psychological resources, in particular each person's psychological capital, could bring about significant improvements in those individuals disadvantaged in the workplace, for example, by increasing self-confidence, self-control, proactivity, and stress management even when faced with work demands that require reading and writing skills and induce personal discomfort. Future research and practice can consider these initial results for interventions aimed at facilitating sustainable career development of fragile individuals.

Conclusions

The present study follows the vast supporting literature that contributes to understanding sustainable career development. It achieved this by addressing the promotion of employability in populations characterized by fragile literacy skills, i.e., young adult subjects suffering from DD and subjects who, due to their migratory background, have learned Italian as a second language (L2) in a migrant context and with low literacy. Linguistic competence, literacy, and comprehension of texts constitute areas of fragility for these populations and can lead to a disadvantage when entering in the labour market. Furthermore, these difficulties can also have implications on the individual dimension, i.e., translate into a perception of oneself as an individual with characteristics that are unsuitable for the workplace and, consequently, negatively affect overall employability levels. This study can help advance the idea that supporting psychological resources of DD and L2 individuals can be effective in increasing their perceived and actual employability if combined with literacy interventions.

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Conflicts of Interest

The authors declare no conflict of interest.

5. Synthesis and Discussion

5.1 Integration of findings across papers

The four empirical studies included in this cumulative dissertation collectively advance a comprehensive and multilayered understanding of the psychological and contextual determinants of career decision-making and sustainable employability among young adults. Although each study addresses a distinct level of analysis - measurement validation, longitudinal modelling, programme design, and targeted intervention - they converge in demonstrating that career development is a dynamic, systemic process shaped by the interdependence of individual resources, contextual affordances, and structural vulnerabilities.

Study 1 (parts a and b) provides the psychometric foundation for the dissertation by validating two essential instruments for the Italian context: the *Career Decidedness Scale* and the *Facilitating Conditions for School Motivation Scale*. These tools enable rigorous measurement of constructs that are central to both theoretical models and applied interventions. The newly established validity, reliability, and cultural appropriateness of these Italian versions respond to a longstanding gap in national research and ensure methodological coherence across the following studies. In particular, Study 1 a and b confirms that career decidedness is a multidimensional psychological construct that can be reliably assessed among Italian adolescents, and that facilitating conditions represent a measurable environmental resource with important developmental implications.

Study 2 builds directly upon these validated instruments through a three-wave longitudinal analysis modelling the dynamic interplay between internal psychological factors (self-efficacy, optimism) and external contextual supports (facilitating conditions). The study demonstrates that facilitating conditions do not exert a straightforward direct influence on career decidedness; rather, their impact is predominantly indirect, operating through self-efficacy as a mediating mechanism. Furthermore, career optimism moderates these pathways, amplifying the positive influence of contextual supports on self-efficacy. This integrated model provides one of the few multi-wave examinations of Social Cognitive Career Theory (SCCT) processes in an Italian adolescent population and contributes a nuanced understanding of how internal and external influences co-evolve to shape career clarity over time.

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Study 3 (SupportSphere), developed from the empirical insights of Study 2, illustrates how theoretical models can be translated into multi-level, real-world interventions. The Erasmus+ project - co-designed by the research team and funded by the European Commission - directly targets the constructs identified as most influential in earlier chapters: the self-efficacy and optimism of VET students, strengthened indirectly through the training of teachers and peer-mediated activities. SupportSphere operationalizes the SCCT-informed findings by designing an employability support system that acts simultaneously on contextual facilitators (teachers, peers, school climate) and psychological resources (agency, confidence, future orientation). It represents a practical and scalable application of longitudinal evidence, demonstrating the translational relevance of research for European youth guidance and NEET-prevention strategies.

Study 4, conducted within the regional E-FRALIT project funded by Fondazione Cariverona, further expands the scope of the dissertation by focusing on young adults with fragile literacy skills, dyslexia, or linguistic vulnerabilities - groups largely absent from mainstream career development literature. This intervention demonstrates that the psychological mechanisms examined in Studies 1 and 2 do not operate uniformly across populations: fragile literacy conditions can disrupt the SCCT pathways by limiting comprehension, reflective capacity, and self-regulatory processes. The psycho-linguistic intervention improves employability-related outcomes by strengthening linguistic competence, meta-cognitive skills, reflective self-narration, and perceived agency. Study 4 thus confirms that interventions aimed at sustainable employability must integrate cognitive-linguistic components, especially for youth experiencing structural disadvantages.

Taken together, the four studies reveal a coherent pattern:

1. **Accurate measurement is foundational** for assessing career development constructs (Study 1).
2. **Career development is shaped by dynamic interactions between context and psychology**, mediated by self-efficacy and moderated by optimism (Study 2).
3. **Interventions must act at multiple ecological levels**, engaging teachers, peers, families, and educational systems - not only individuals (Study 3).

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4. **Fragile youth require tailored approaches** that address underlying cognitive-linguistic vulnerabilities in addition to motivational factors (Study 4).

Collectively, these findings support an integrated, context-sensitive model of sustainable career development, in which career decidedness emerges from the joint activation of psychological strengths, enabling conditions, and foundational capacities such as literacy and meta-cognition. The dissertation therefore advances both theoretical knowledge and applied practice by demonstrating how career development research can respond to contemporary socio-economic challenges, particularly within populations at heightened risk of exclusion.

5.2 Theoretical Contribution

The findings emerging from this cumulative dissertation offer several theoretical advancements that enrich contemporary understandings of career decision-making, Social Cognitive Career Theory (SCCT), and sustainable employability. The four studies, collectively, contribute to refining existing theoretical frameworks, extending them to understudied populations, and integrating contextual, psychological, and cognitive-linguistic perspectives into a unified developmental model.

1. Advancement of SCCT Through Multi-Wave Evidence

A central theoretical contribution lies in the empirical validation of SCCT mechanisms using multi-wave longitudinal data. While SCCT proposes dynamic, reciprocal interactions between contextual support, self-efficacy, and career outcomes, most empirical research has relied on cross-sectional designs. Study 2 provides rare longitudinal evidence demonstrating:

- that **facilitating conditions** influence career outcomes primarily through **self-efficacy**,
- that **optimism moderates** these relationships, amplifying the internalization of contextual support,
- and that these mechanisms unfold **over time**, rather than instantaneously.

This confirms SCCT's temporal assumptions and extends its applicability to an Italian adolescent population - offering one of the most detailed developmental examinations of these processes in Southern Europe.

2. Introduction of Facilitating Conditions as a Distinct Contextual Construct

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Studies 1a and 1b contribute theoretically by validating the *Facilitating Conditions for School Motivation* construct in the Italian context. This expands the SCCT-based conceptualisation of contextual supports by operationalising:

- relational resources (teachers, peers, families),
- motivational affordances,
- and school-based scaffolding mechanisms.

The finding that facilitating conditions have **a negative direct effect** but **a positive indirect effect through self-efficacy** challenges linear models of contextual influence. This duality suggests that overly structured environments may suppress autonomy unless psychological resources are simultaneously strengthened. This nuance enriches SCCT by adding complexity to the pathway between context and behaviour.

3. Refinement of Career Decidedness as a Multidimensional Construct

Study 1b establishes a culturally valid operationalisation of *career decidedness*, demonstrating:

- its multidimensional nature,
- its stability as a developmental outcome,
- and its sensitivity to contextual and psychological predictors.

This contributes to theoretical debates about whether decidedness is a trait-like or state-like variable. The findings support a hybrid interpretation: decidedness reflects a stable cognitive-emotional orientation, yet remains malleable through changes in self-efficacy and contextual affordances.

4. Integration of Career Optimism into SCCT Models

The dissertation highlights the importance of *career optimism* - a construct often mentioned but seldom integrated systematically into SCCT. By validating the bi-dimensional LOT-R in Italy (Study 1a) and demonstrating its moderating role (Study 2), the dissertation contributes to:

- distinguishing optimism as a **cognitive amplifier**,

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- differentiating **positive expectancy** from **low pessimism**,
- and clarifying how optimism activates self-efficacy processes.

This suggests that SCCT models should systematically incorporate optimism as a moderating factor, particularly in contexts of socio-economic uncertainty.

5. Expansion of Career Theory to Populations with Fragile Literacy

Study 4 provides one of the first attempts to integrate career development theory with insights from psycho-linguistics and fragile-literacy research. This produces a theoretical shift in two directions:

1. **New determinants added to career models:**
cognitive-linguistic skills, meta-cognitive monitoring, and expressive abilities.
2. **Recognition of disrupted SCCT pathways:**
literacy fragilities can limit the internalization of support, weaken self-efficacy, and impair reflective career processes.

This expands career theory beyond traditional psychological variables and invites the incorporation of foundational cognitive skills into models of employability and decision-making.

6. Development of an Integrated Model of Sustainable Career Development

Across the four studies, the dissertation proposes and empirically grounds a **multi-level, integrated framework** for understanding career decision-making. This model synthesises:

- **individual psychological resources** (self-efficacy, optimism, adaptability),
- **contextual affordances** (facilitating conditions, family, teachers, peers),
- **cognitive-linguistic foundations** (literacy skills, meta-cognition, narrative competence).

This integrated conceptualisation advances existing theories by showing that sustainable career development cannot be captured by any single level of analysis. Instead, career decidedness emerges from the **intersection** of these systems over time.

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5.3 Practical Implications for Guidance, Education & Policy

Across the four studies, this dissertation generates a set of practical implications that inform career guidance practice, educational systems, and youth-employment policies. The findings collectively highlight the need for multi-level, evidence-based interventions that integrate psychological, contextual, and cognitive-linguistic determinants of career development. These implications are particularly relevant for countries such as Italy, where high NEET rates, substantial regional disparities, and structural fragilities make career development a key social priority.

1. Strengthening Career Guidance Through Validated Assessment Tools

The validation of the *Career Decidedness Scale* and the *Facilitating Conditions for School Motivation Scale* (Study 1) offers practitioners reliable and culturally appropriate instruments for assessing career development among Italian adolescents. These tools allow counsellors, teachers, psychologists and youth workers to:

- identify students with low career clarity or weak contextual support,
- monitor changes in self-efficacy and decision-making readiness over time,
- design targeted interventions aligned with students' specific needs,
- and evaluate the effectiveness of guidance programmes using empirical indicators.

In a system where guidance practices often lack standardisation, the availability of validated tools represents a critical step toward evidence-based career counselling in Italian secondary and VET schools.

2. Integrating SCCT Mechanisms Into Counselling and Educational Practice

Study 2 demonstrates that **self-efficacy is the primary pathway** through which contextual supports influence career decidedness, and that **career optimism enhances this mechanism**.

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This empirical insight suggests that guidance professionals should prioritise strategies that explicitly strengthen these internal resources. Effective practices include:

- mastery-oriented learning experiences,
- structured career exploration activities,
- modelling and vicarious learning through mentors or peers,
- cognitive restructuring to enhance optimistic future expectations.

Educators and counsellors should complement information-based guidance with psychological skill-building that enhances agency, confidence, and adaptive coping - factors shown to be predictive of long-term employability.

3. Designing Multi-Level School Interventions

The results of Studies 2 and 3 converge on the importance of **contextual ecosystems**, where peers, teachers, and school climate collaborate to foster career development. SupportSphere (Study 3) offers a practical blueprint for educational institutions by demonstrating how multi-level programmes can:

- train teachers in SCCT-informed guidance and motivational communication,
- strengthen peer-to-peer support networks,
- transform school climate into a facilitating environment,
- indirectly enhance students' self-efficacy and optimism.

Such systemic interventions, grounded in empirical evidence, go beyond traditional counselling by embedding career development into the everyday functioning of VET schools - a setting where many students face academic disengagement and employability risks.

4. Addressing the Needs of Fragile Learners Through Cognitive-Linguistic Support

Study 4 highlights that young adults with fragile literacy skills, dyslexia or linguistic disadvantage require tailored interventions that address the foundations of learning and self-

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regulation. The E-FRALIT psycho-linguistic programme demonstrates that strengthening literacy, vocabulary, meta-cognition and reflective self-narration produces notable improvements in:

- employability perceptions,
- career decision-making readiness,
- psychological agency,
- and future-oriented identity.

This suggests that career guidance for fragile learners must incorporate cognitive-linguistic and meta-cognitive components, rather than relying solely on motivational or informational approaches. Policymakers and educators should consider integrating psycho-linguistic support into VET programmes and adult education pathways.

5. Implications for NEET-Prevention Strategies and Public Policy

The cumulative findings of the dissertation emphasise the need for national and regional policies that:

- support early identification of youth at risk of disengagement using validated tools,
- implement SCCT-based interventions in schools and VET centres,
- invest in structured teacher training on motivational and career-supportive communication,
- develop programmes that simultaneously strengthen individual skills and contextual supports,
- address literacy and linguistic vulnerabilities that undermine labour-market integration.

Policies should shift from fragmented, short-term interventions to **system-level, sustainable approaches**. This aligns with European strategies on lifelong learning, youth employability and NEET reduction, as well as national reforms under the PNRR and regional initiatives funded by philanthropic foundations such as Fondazione Cariverona.

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6. Enhancing Scalability and Transferability Through Digital and Community-Based Platforms

The Erasmus+ SupportSphere project provides a scalable model for transferring evidence-based practices across educational systems. Its digital outputs, training modules and resources can be integrated into broader networks of European guidance initiatives. All materials are accessible via the Erasmus Networks platform:

A complete repository of SupportSphere outputs and resources is available at:
<https://erasmus-networks.ec.europa.eu/search/resources>

This reinforces the potential for cross-country collaboration and continuous improvement in youth guidance practices.

In summary, the dissertation demonstrates that sustainable career development requires interventions that are psychologically informed, contextually grounded, and sensitive to structural vulnerabilities. By translating empirical evidence into practical strategies, the studies contribute to building more inclusive, resilient, and future-oriented pathways for young adults - particularly those at heightened risk of fragility.

5.4 Methodological Limitations

Despite the overall coherence and robustness of the cumulative research programme, several methodological limitations must be acknowledged in order to contextualise the findings and guide future investigations.

First, the studies relied primarily on self-report questionnaires, which, although widely used in career development research, are subject to social desirability bias, common method variance, and limitations in accurately capturing complex cognitive or emotional processes. This is particularly relevant for constructs such as career optimism, perceived support, and self-efficacy, which may fluctuate depending on mood, context, or relational expectations. Multi-informant approaches, behavioural measures, and triangulation with qualitative data would strengthen future research.

Second, the samples used across the four studies - although adequate and aligned with the research aims - are geographically restricted to specific Italian regions. The validation studies

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(Studies 1a and 1b) and the longitudinal investigation (Study 2) rely primarily on high-school students from Northern Italy, which may limit the generalisability of results to adolescents living in Southern regions or in socio-economically disadvantaged contexts. Likewise, E-FRALIT (Study 4) focuses on a population from Veneto and Trentino, which may not reflect the diversity of fragile literacy groups at national or European level. Future studies would benefit from replicating these findings across multiple regions and countries.

Third, the longitudinal design employed in Study 2, although stronger than cross-sectional methodologies, is limited by the relatively short timeframe. A three-wave design enables the modelling of mediation and moderation processes, but it does not capture the full developmental trajectory of career decidedness across adolescence and early adulthood. Longitudinal studies extending over multiple academic years or spanning the school-to-work transition more explicitly, are necessary to fully understand dynamic career processes.

On the other hand, the intervention-based studies (SupportSphere and E-FRALIT) present limitations inherent to applied field research. For SupportSphere, the project design is influenced by the practical constraints of Erasmus+ funding cycles, institutional priorities, and partner availability. The activities implemented in schools and VET centres may differ in fidelity and intensity, potentially affecting outcome comparability. In the case of E-FRALIT, the psycho-linguistic intervention involved relatively small sample sizes and lacked a fully randomised controlled design, reducing causal inferential power. Although promising, the findings should be interpreted with caution.

In addition, the studies did not fully address the potential bidirectionality between contextual supports and psychological resources. SCCT posits reciprocal relationships - for instance, higher self-efficacy may increase help-seeking behaviour, which in turn reinforces support. However, analytic models used in this dissertation mainly evaluate unidirectional pathways. Advanced statistical techniques such as cross-lagged panel models or dynamic structural equation modelling could clarify reciprocal influences.

Moreover, structural factors such as socio-economic status, parental education, and school-level variables were not systematically controlled across all studies. While some analyses incorporated background indicators, the complexity of Italian educational inequalities requires

more nuanced modelling. Without these controls, some associations may be partially confounded by unobserved structural variables.

Finally, the dissertation's integrative framework is limited by the absence of neurocognitive or linguistic assessments in the mainstream samples. Although Study 4 provides important insights into fragile literacy groups, the lack of comparable measures in Studies 1 and 2 prevents a full evaluation of cognitive-linguistic contributions to career development within the SCCT model. Integrating cognitive, motivational, and socio-environmental dimensions in future research would advance the field substantially.

Collectively, these methodological limitations do not undermine the theoretical or empirical contributions of the dissertation; rather, they highlight the complexity of studying career development and underscore the need for multilayered, longitudinal, and mixed-method approaches capable of capturing the dynamic interplay between contextual, psychological, and structural factors.

5.5 Future Research Directions

Building on the methodological reflections and empirical contributions presented in this dissertation, several directions for future research emerge as particularly relevant for advancing a more comprehensive understanding of young adults' career development, especially within socio-economically fragile contexts.

A key priority concerns the adoption of extended multi-wave longitudinal designs spanning critical educational and vocational transitions, such as the shift from lower- to upper-secondary school, the completion of compulsory education, and the transition to tertiary pathways or the labour market. Longer timeframes would allow researchers to capture the developmental unfolding of SCCT variables, examine reciprocal relationships between contextual support and psychological resources, and identify key turning points in the formation of career decidedness and employability. In this regard, advanced analytical approaches such as cross-lagged panel models and dynamic structural equation modelling may provide valuable insights into causal mechanisms and feedback loops.

At the same time, the findings of this dissertation highlight the importance of integrating cognitive, linguistic, and meta-cognitive dimensions more systematically into career

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development models. Evidence from the E-FRALIT project suggests that literacy fragilities, vocabulary limitations, and reduced reflective capacities may significantly hinder the activation of self-efficacy and future-oriented planning. Future research would therefore benefit from incorporating standardised assessments of literacy, comprehension, working memory, and reflective ability, in order to explore how these dimensions interact with core SCCT constructs and potentially extend the theoretical framework to include cognitive-linguistic precursors of career development.

Another crucial direction involves the inclusion of vulnerable and underrepresented youth populations, such as VET students, individuals with specific learning difficulties, migrants and L2 learners, NEETs, and adolescents from rural or marginalised contexts. Despite facing disproportionate risks of career indecision, disengagement, and unstable transitions, these groups remain underrepresented in mainstream career development research. Greater attention to stratified sampling strategies, partnerships with community organisations, and the development of context-sensitive assessment tools would enhance representativeness and strengthen the generalisability of findings.

In parallel, there is a need to develop more sophisticated multi-level ecological models capable of simultaneously capturing individual, relational, institutional, and structural determinants of career development. Incorporating school-level and community-level indicators, such as school climate, teacher training practices, regional labour-market conditions, and socio-economic factors, would allow for a more comprehensive understanding of how contextual layers interact with psychological processes. Methodological approaches such as multi-level modelling and hierarchical SEM are particularly suited to addressing this complexity.

The applied dimension of career development research also warrants further expansion. While the SupportSphere and E-FRALIT projects provide promising examples of intervention design, additional evidence is needed regarding the effectiveness, scalability, and long-term impact of multi-component interventions that simultaneously target psychological empowerment and contextual support systems. Future studies employing randomised controlled designs, mixed-method approaches, and longitudinal follow-up would contribute to identifying the most effective intervention strategies.

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Expanding research beyond national boundaries represents another important step forward. The validation of key instruments within the Italian context opens opportunities for cross-cultural and comparative studies examining whether the patterns identified in this dissertation, particularly those related to mediation and moderation processes, are consistent across different socio-economic and cultural environments. Collaborative research within European VET systems could contribute to the development of more generalisable theoretical models and inform evidence-based policy.

Finally, future research should more explicitly address the policy and systemic implications of career development models. Integrating empirical findings with labour-market data, educational policies, and European youth strategies may support the development of sustainable and evidence-based guidance systems. This includes the design of scalable digital platforms, structured teacher training programmes, and community-based interventions grounded in the findings of this dissertation.

Overall, these directions outline a research agenda centred on methodological innovation, ecological validity, and social relevance. By embracing complexity and addressing youth vulnerabilities more systematically, future research can contribute to the development of more inclusive, sustainable, and scientifically grounded career guidance systems in Italy and across Europe.

6. Conclusion

6.1 Summary of Key Findings

This cumulative dissertation examined the contextual and psychological determinants of career decision-making among young adults, with particular emphasis on those at heightened risk of educational and labour-market fragility. Across four interconnected studies, the research provided converging evidence that career development is shaped by the dynamic interaction between individual resources - such as career decision-making self-efficacy, optimism, and reflective capacity - and contextual affordances, including facilitating conditions, teacher and peer support, and broader socio-educational structures.

Studies 1a and 1.b addressed a foundational gap in the Italian literature by validating two essential psychometric instruments: the *Career Decidedness Scale* and the *Facilitating Conditions for School Motivation Scale*. These tools demonstrated robust factorial structure, reliability, and construct validity, enabling culturally grounded measurement of key determinants of career development among Italian adolescents. Their validation created the methodological foundation for subsequent empirical testing and opened the possibility for longitudinal and cross-cultural comparisons previously limited by the absence of reliable instruments.

Study 2, a three-wave longitudinal investigation, tested a theoretically grounded model derived from Social Cognitive Career Theory. Findings confirmed that facilitating conditions exert an indirect positive influence on career decidedness through career decision-making self-efficacy, while optimism strengthens these relationships as a cognitive-motivational moderator. The study provided a nuanced, temporally-sensitive contribution by demonstrating that contextual support does not directly predict career clarity unless internalised as increased self-efficacy. These results support an integrated view of career development in which psychological resources mediate the impact of contextual variables over time.

Study 3 extended this theoretical and empirical knowledge into an applied framework through the Erasmus+ project *SupportSphere*. Operationalising insights from Study 2, the project introduced a multi-level system targeting teachers and peer networks in the VET sector - one of the youth populations at highest risk of educational disengagement and NEET status. The study demonstrated how SCCT-based principles can be translated into scalable intervention

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designs aimed at strengthening environmental support that indirectly enhance self-efficacy, optimism, and career readiness in adolescents.

Study 4, embedded in the regional *E-FRALIT* project funded by Fondazione Cariverona, broadened the dissertation's scope by addressing youth with fragile literacy skills - an underrepresented population in career development research. Results showed that psycho-linguistic interventions which enhance vocabulary, meta-cognition, and narrative skills can significantly improve employability perceptions, self-efficacy, and future-oriented identity. This study highlighted that traditional career interventions overlook cognitive-linguistic vulnerabilities that constrain young adults' ability to process information and engage in reflective decision-making.

Taken together, the four studies provide converging evidence for a multi-layered model of career development in which **contextual conditions, psychological resources, and cognitive-linguistic capacities** interact in shaping young people's readiness to make adaptive and sustainable career decisions.

6.2 Unified Contribution Statement

This dissertation offers a unified contribution to career development theory, methodology, and applied practice. The research advances the field in four principal ways:

Theoretical

Advancement

It provides empirical support for an expanded SCCT-informed model of career decision-making that incorporates contextual supports, self-efficacy, career optimism, and fragile cognitive-linguistic capacities. The findings emphasise that career decidedness is not a function of psychological resources or environmental supports alone, but emerges from the *interaction* between the two, shaped over time by the internalisation of contextual affordances.

Methodological

Innovation

By validating two psychometrically sound Italian instruments, the dissertation fills a longstanding gap in the measurement landscape and provides researchers with reliable tools for assessing career-relevant constructs in Italy. This methodological contribution enhances national research capacity and allows alignment with international studies.

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Empirical Insight Through Longitudinal Evidence

Study 2's multi-wave design offers some of the first longitudinal evidence in Italy testing SCCT pathways in adolescents. The findings clarify temporal mechanisms through which contextual resources influence career outcomes, positioning self-efficacy as a central mediator and optimism as a key moderator.

Applied Impact Through Multi-level Interventions

The SupportSphere and E-FRALIT studies demonstrate how empirical findings can be translated into coherent intervention frameworks - one at European level and one at regional level. Together, they illustrate actionable pathways for strengthening employability among fragile youth by targeting both environmental scaffolding and cognitive-linguistic empowerment.

In sum, this dissertation provides an integrated and context-sensitive contribution that connects theoretical frameworks, validated measurement, longitudinal modelling, and applied intervention design, thereby enriching both scientific understanding and practical capacity in youth career development.

6.3 Final Reflections

The findings of this dissertation highlight a central message: **career development is inherently systemic**, emerging from the intersection of personal strengths, relational contexts, and structural opportunities. For young adults - especially those with fragile profiles or located in socio-economically constrained environments - career decision-making is not simply a matter of individual motivation or rational choice. Instead, it reflects complex negotiations between internal variables, social support, access to opportunities, school climate, and cognitive-linguistic competencies.

This multidimensionality demands a rethinking of how education systems, guidance services, and public policies conceptualise employability. Interventions that focus exclusively on skill acquisition or psychological empowerment risk being insufficient unless they simultaneously address the environmental conditions that support or constrain young people's agency. Conversely, interventions that target teachers, families, or peer networks may be ineffective

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unless accompanied by strategies that foster self-efficacy, optimism, and reflective capacity within the individual.

By integrating psychometric validation, longitudinal evidence, and applied interventions, this dissertation contributes to a growing movement toward **sustainable, inclusive, and evidence-based youth career development**. Its findings resonate strongly with European lifelong learning strategies, Italian policy priorities (including PNRR objectives), and ongoing debates on how to reduce NEET rates and enhance social inclusion.

Ultimately, fostering young people's ability to envision, plan, and sustain meaningful careers is not only an academic challenge but a societal imperative. As the labour market continues to evolve, supporting adolescents in developing adaptive and future-oriented career pathways represents an investment in collective resilience and human potential. The hope is that the insights generated through this research will serve as a foundation for continued theoretical innovation, more inclusive guidance practices, and broader systemic transformations capable of promoting equitable and sustainable employability for all young adults

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Appendix A – SupportSphere Handbook



SupportSphere: Preventing VET students from going NEET

SupportSphere Handbook

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Introduction

Across Europe, many young people face significant challenges in making confident and informed career decisions. The rapid transformation of the labour market-driven by technological change, environmental transitions, and the lingering effects of the COVID-19 pandemic-has created new pressures and uncertainties. Career indecision and lack of structured support remain widespread among youth, contributing to rising NEET rates (Eurostat, 2024). Young adults are disproportionately vulnerable to labour market exclusion, especially those from disadvantaged backgrounds or with interrupted educational paths (CEDEFOP, 2023).

SupportSphere - Preventing VETs from Going NEET, co-funded by the Erasmus+ programme, aims to counteract this trend by strengthening the role of VET systems in preventing youth disengagement. The project is coordinated by **SAEK Egaleo** (Greece), in partnership with **Instituto Montecastelo** (Spain), **ENAIP NET** and **University of Verona** (Italy), **EVTA** (Belgium), and **Euricon** (Greece). The University of Verona is responsible for the coordination of this work package and the development of the present handbook.

The **general objective** of the project is to intervene on those contextual factors that can influence the career decision-making process of young adults-specifically by empowering teachers and peers, and by providing a safe and supportive network around VET students. This handbook is one of the project's key intellectual outputs.

It builds on the results of a **longitudinal study** conducted by the University of Verona and published in the *Australian Journal of Career Development* (Sartori et al., 2024). The study explored how **internal factors** (e.g., career optimism and career self-efficacy) and **external factors** (e.g., facilitating conditions for school motivation) interact in shaping young people's level of career decidedness. These dynamics are critical to designing career guidance systems that are responsive to real-life complexity and diversity.

To ground the project in real needs and practices, two complementary research activities were conducted:

A series of **focus groups** involving more than 60 participants, including both VET students and VET trainers, guidance experts, and educators. The discussions with students explored

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expectations, decision-making processes, and perceived barriers; while the sessions with trainers examined existing support practices, systemic obstacles, and emerging needs.

Desk research across four countries (Italy, Spain, Greece, and Belgium), focused on the structure of national VET and guidance systems, the availability of tools, and the gaps reported by students and professionals.

From these analysis, five key **pillars** of career guidance were identified as common across countries. These include:

- Strengthening self-awareness and personal development
- Bridging the gap between education and the labour market through experiential learning
- Empowering career exploration and decision-making
- Building inclusive and sustainable career guidance ecosystems
- Enhancing access to career information and resources

These pillars were derived through thematic analysis of the qualitative data and triangulated with the evidence from desk research. They reflect a shared understanding across countries and stakeholder groups of what constitutes effective and inclusive career guidance in VET. Each of the following chapters presents one of these pillars. For each, we propose a set of **concrete strategies, tested tools, and links to existing European resources**, with the aim of equipping VET professionals with a rich and adaptable toolkit. The content has been selected through a review of **scientific literature** and **European practices**, including CEDEFOP, Euroguidance, and Erasmus+ project outputs.

The handbook is structured in two parts. The first presents the findings from qualitative focus groups and cross-country desk research, offering insights into the current needs of VET students and professionals. The second part explores each of the five pillars in depth, with practical strategies and tools for implementation.

Chapter 1 - Qualitative Insights: Focus Group Findings Across Four Countries

As part of the Erasmus+ KA2 project *SupportSphere - Preventing VETs from Going NEET*, a series of qualitative focus groups were conducted in four European countries: Italy, Spain, Greece, and Belgium, with the aim of delving into the lived experiences of young people enrolled in Vocational Education and Training (VET) and of the professionals who support them. These sessions were designed to uncover key challenges and expectations regarding career guidance, especially for youth at risk of becoming NEET (Not in Education, Employment, or Training (Eurostat, 2024).

1.1 Methodology of the focus groups

More than 60 participants took part in the focus groups conducted across the four partner countries, divided into two main target groups:

VET students aged 15 to 25, currently enrolled in upper secondary or post-secondary vocational pathways;

VET trainers, teachers, guidance counsellors, and professionals working in employment or support services.

The average age of student participants was approximately **18.7 years**, with a relatively balanced gender distribution (**55% female, 45% male**). Among professionals, the average age was **43 years**, with participants coming from diverse institutional backgrounds (VET schools, employment centres, training agencies).

Focus groups were conducted between **March and May 2025**, both **in person** and **online**, depending on the national and institutional context. **Informed consent** was collected prior to participation: for online sessions, consent was gathered through digital forms; for face-to-face sessions, written consent was signed on paper. In each country, the discussions were conducted in the local language, and participants were assured of confidentiality and anonymity.

The **University of Verona (UNIVR)**, coordinator of the project's Work Package 2, developed a shared **methodological guide**, which included structure, facilitation tips, and a list of **prompt questions** to ensure comparability while allowing flexibility for context-specific adaptation.

Some of the guiding questions included:

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For students:

“What kind of support do you wish you had when making career decisions?”

“What do you find most confusing about the world of work?”

For trainers and counsellors:

“What tools or strategies do you use when helping students plan their futures?”

“What are the main challenges you face in supporting students’ career decision-making?”

Data analysis

Data was analyzed using **thematic analysis** as outlined by Braun and Clarke (2006), which allowed for the identification of recurring patterns and themes within the qualitative material. This flexible method enabled both within-country and cross-national comparisons, ensuring that context-specific issues could be acknowledged while also distilling shared challenges and opportunities across the four focus countries.

1.2 Results from VET students

The focus group discussions revealed diverse experiences and opinions, yet several cross-cutting themes consistently emerged across countries. These are presented in the next sections—first from the viewpoint of VET students, then from that of VET trainers and experts—followed by a cross-national comparison and a synthesis highlighting key needs and opportunities for improving career guidance practice. Among VET students, a recurrent theme was the deep sense of uncertainty and confusion surrounding career decision-making. Many reported feeling overwhelmed by the multitude of pathways and underprepared to make informed choices. This aligns with existing literature on *Career Construction Theory*, which highlights the psychological and social challenges faced by youth in an increasingly complex labour market (Savickas, 2013; Cedefop, 2021a).

The themes below represent key patterns identified during the analysis. Each of them highlights specific challenges faced by students and offers valuable insights for improving guidance systems.

Lack of Personalised and Continuous Support

A widespread issue across all four countries was the limited availability of tailored guidance. Students often described receiving generic information through school-wide presentations or brief counselling sessions. Although some individuals recalled helpful teachers or mentors, most perceived career guidance as impersonal and disconnected from their interests. This reflects long-standing critiques of traditional guidance models, which often neglect the individuality and evolving identity of learners (Watts & Sultana, 2004; Hooley et al., 2016).

Sociocultural Pressures and Inequities

Especially in Greece and Italy, students spoke of pressure from families to choose “safe” or socially prestigious careers—typically those linked to public employment or traditional professions. These expectations often clashed with students’ personal goals, leading to feelings of anxiety and internal conflict. In Belgium, students from migrant backgrounds identified language barriers and unfamiliarity with the local system as additional challenges to accessing quality guidance (Hooley & Sultana, 2016; Maree, 2020; UNESCO, 2021).

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The Call for Real-World Experience

Students consistently expressed a desire for practical exposure to the labour market. Opportunities such as internships, job shadowing, and professional encounters were seen as essential to bridge the gap between education and work. These experiential learning formats have been shown to increase career adaptability and informed decision-making among youth (CEDEFOP, 2020; Sweet, 2014).

Reimagining Digital Career Tools

While digital platforms were widely used, many students found them static and uninspiring. There was strong demand for more interactive, personalised, and AI-driven tools that could align career suggestions with individual skills and evolving market needs (Cedefop, 2021b). This suggests a potential for innovation in digital guidance ecosystems that are both engaging and effective.

The Emotional Dimension of Guidance

Finally, students emphasised the need for relational support-guidance figures who could listen empathically, validate doubts, and help build confidence. This emotional component is often underplayed in institutional guidance systems but crucial to helping students build a coherent, resilient, and self-directed career identity in a rapidly changing world (Savickas & Porfeli, 2012; Thomsen, 2014).

1.3 Unmet Needs

The focus group discussions revealed persistent and cross-national gaps in the career guidance experiences of VET students across the four countries. While the exact expressions varied by national context, four core areas of unmet need emerged. First, students expressed a strong desire for structured mentoring. Many felt adrift when making career decisions, lacking consistent access to adults who could offer personalised advice and track their progress over time. This aligns findings that highlight the importance of sustained, trust-based relationships in career guidance (DuBois et al., 2011; Savickas, 2013). Secondly, participants emphasised the need for explicit training in soft skills-such as communication, teamwork, networking, and problem-solving. These skills are critical for adapting to the dynamic demands of the labour market and for long-term employability (Cedefop, 2020). Third, students highlighted the importance of psychological and emotional support in the face of career-related stress, low confidence, and decision-making anxiety. As Savickas & Porfeli (2012) argue, career guidance is both an informational and relational process, requiring emotional attunement. Finally, students consistently called for greater access to practical, real-world insights. Internships, job-shadowing opportunities, and interactions with professionals were seen as essential for bridging the gap between abstract information and lived experience (Cedefop, 2021). These unmet needs directly inform the intervention strategies and practical tools proposed in the following chapters, structured around five core pillars of effective career guidance.

1.4 Results from VET Trainers and Career Experts

The focus groups conducted with VET trainers, educators, and career professionals across the four countries revealed several recurring challenges, as well as innovative responses emerging from practice. Their insights are organised thematically below:

Future-Proofing Career Guidance

A consistent concern across countries-especially in Italy and Greece-was the difficulty of preparing students for a fast-evolving labour market. Trainers described the pressure of equipping young people with skills for jobs that do not yet exist, particularly in sectors undergoing digital and green transitions. Many acknowledged their own professional knowledge gaps, especially in new and emerging fields. These concerns underscore the need

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for continuous professional development and updated labour market intelligence for guidance providers (Cedefop, 2020; Cedefop, 2021).

Managing Diversity in the Classroom

Trainers across all partner countries highlighted the increasing diversity of student profiles, in terms of academic level, cultural background, language skills, and levels of motivation, which requires flexible and differentiated support strategies. Spanish educators highlighted the need for flexible, differentiated approaches that adapt to individual learner needs. These insights align with inclusive education models that stress equity, personalisation, and learner-centred strategies in career guidance (Watts & Sultana, 2004).

Lack of Resources and Institutional Support

Participants commonly reported limited institutional backing for guidance activities. Many had to create their own materials or search independently for digital tools, often while balancing teaching duties. Belgian and Greek trainers noted the absence of structured training opportunities in counselling methods, including areas such as emotional intelligence, soft skills, and intercultural communication. These challenges reveal a need for system-level investment in training, tools, and coordination (Cedefop, 2021; Euroguidance, 2022).

Engaging Disengaged and Vulnerable Learners

Motivating students who appeared apathetic or disengaged was frequently mentioned as a major challenge. Trainers linked low engagement to factors such as school failure, unclear goals, and low self-esteem. In response, many trainers advocated for alternative and student-centred approaches, such as storytelling, peer mentoring, and project-based learning, which foster emotional connection and support identity development processes, especially among disengaged youth. These perspectives are aligned with narrative career guidance frameworks and psychosocially oriented models of student engagement (Savickas, 2013).

Examples of Promising Practices

Despite structural barriers, trainers shared several innovative practices. Belgian participants emphasised the value of **integrated service models**, such as the *Cités des Métiers*, which consolidate employment, training, and guidance services in one location. Greek trainers

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pointed to **experiential projects**, such as entrepreneurship simulations or partnerships with local businesses, as effective ways to embed guidance into meaningful learning contexts.

The Need for Multi-Stakeholder Collaboration

Finally, a key recommendation across all countries was to strengthen partnerships between schools, families, employers, and community actors. Trainers saw this kind of ecosystemic collaboration as essential for reaching youth at risk of disengagement or NEET status. Strengthening partnerships between schools, families, employers, and community actors emerged as a key recommendation across countries, aligning with recent EU policy emphasis on lifelong guidance within lifelong learning strategies (European Commission, 2020). Taken together, the findings from students and professionals reveal a strong alignment: both groups call for more personalised, relational, and experiential forms of career guidance. This shared perspective reinforces the need for systemic investment and cross-sector collaboration, which will be explored in the subsequent chapters.

1.5 Comparative Analysis: Cross-Country Insights and Context-Specific Needs

Building upon the findings from the focus groups and complementary desk research conducted in Italy, Spain, Greece, and Belgium, this section offers a cross-country comparison of the main challenges faced by VET students and the professionals who support them. Despite national differences in education systems and institutional capacity, a set of common patterns emerged that point to pan-European gaps in career guidance systems. The following challenges were identified as recurring across all national contexts, pointing to systemic limitations in career guidance for VET students:

Shared Challenges Across Countries

Several recurring themes were identified across all four partner countries:

Widespread uncertainty and anxiety among students navigating career decisions, often exacerbated by the unpredictability of the labour market and the pressures of technological transformation (Cedefop, 2021; Cedefop, 2023).

Insufficient real-world exposure, including limited opportunities for internships, workplace visits, and mentoring. Students consistently expressed a desire for more practical insights into professional life (Cedefop, 2020).

A lack of personalised, emotionally supportive guidance. While informational resources exist, students described them as generic and detached from their personal experiences, highlighting the importance of relational and empathetic guidance (Watts & Sultana, 2004; Savickas & Porfeli, 2012).

Family pressure and cultural expectations as critical influences, often in tension with students' individual aspirations. This dynamic was especially prominent in Greece and Italy, and is consistent with research highlighting how socio-cultural norms and intergenerational expectations shape career pathways (Hooley & Sultana, 2016).

Deficits in soft skills such as communication, problem-solving, and proactivity were reported by both students and trainers as a key obstacle to employability and decision-making. These findings are aligned with international evidence on transversal skills as critical drivers of adaptability in the future labour market (Cedefop, 2020; World Economic Forum, 2020).

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Insufficient training and institutional support for guidance professionals, many of whom must balance counselling with teaching responsibilities and rely on outdated or fragmented tools, reflects long-standing concerns about system-level investment and professionalization needs in career guidance services (Cedefop, 2021; Euroguidance, 2022; European Commission, 2020).

Context-Specific Nuances

While the general landscape presents consistent gaps, some national differences emerged that point to the importance of tailoring guidance systems to specific populations:

In **Greece and Italy**, students frequently reported **emotional and psychological stress** related to familial expectations, career insecurity, and a perceived lack of social mobility, which reflects wider evidence on the role of family pressure and limited opportunities in shaping young people's transitions (Watts & Sultana, 2004; Eurofound, 2021). In **Belgium**, students with migrant backgrounds highlighted **language barriers** and a limited understanding of the local educational and employment systems. These challenges are consistent with research on migrant youth facing compounded obstacles to educational and career integration (OECD, 2019; UNESCO, 2021).

In **Spain**, regional disparities in the availability and quality of guidance services were noted by trainers. They called for stronger coordination between regional authorities, schools, and employers, in line with European findings on uneven service provision and the need for multi-level governance in career guidance (Cedefop, 2020; European Commission, 2020).

1.6 Implications for Action

The results from the comparative analysis underscore the urgent need for career guidance systems that are flexible, context-sensitive, and relationally grounded. In particular, systems should be:

- Integrated with the labour market and community networks;
- Tailored to learners' diverse backgrounds and emotional needs;
- Supported by institutional structures and well-trained staff;
- Equipped with dynamic, digital tools and experiential learning pathways.

Conclusion to the Focus Group Chapter: From Voices to Strategic Needs

The focus groups conducted across Italy, Spain, Greece, and Belgium have offered a rich and nuanced picture of the challenges faced by young VET learners and the professionals who support them in their career development. While each national context brings its own institutional and cultural specificities, a strong set of shared patterns emerged, echoing European findings on the need for more personalised, inclusive, and future-oriented career guidance systems (Cedefop, 2020; European Commission, 2020).

Through thematic analysis, five key areas of need were identified. These constitute the **five strategic pillars** that underpin the structure and purpose of the *SupportSphere* handbook:

- Strengthening self-awareness and personal development
- Bridging the gap between education and the labour market through experiential learning
- Empowering career exploration and decision-making
- Building inclusive and sustainable career guidance ecosystems
- Enhancing access to career information and resources

Building on the qualitative insights from Chapter 1, the next chapter presents the results of the desk research conducted across the four countries. This second phase aimed to map national

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guidance systems, identify gaps in tools and training, and further contextualize the five pillars guiding this handbook.

Chapter 2 - The SupportSphere Desk Research

This comparative chapter summarises the findings of national desk research carried out in Belgium, Spain, Greece, and Italy as part of the Erasmus+ *SupportSphere* project. Its main objective is to analyse and compare the structures, strategies, and practices of career guidance services for young people in VET pathways who are at risk of becoming NEET. By analysing the current state of national guidance systems, the report highlights both structural similarities and differences across the four partner countries, with the aim of identifying key strategic challenges, successful approaches, and opportunities for cross-country learning.

Methodology

The results were then comparatively analysed by the University of Verona and synthesised into a transnational overview, forming the basis for evidence-based recommendations presented in the following chapters. The key areas of investigation included:

National and regional NEET statistics, with a focus on VET students, drawing on official monitoring data (Eurostat, 2024).

Legislative and policy frameworks for career guidance, such as the Italian *National Guidelines for Lifelong Guidance* (Ministry of Labour and Social Policies, 2022) and EU-level frameworks (European Commission, 2020).

Institutional actors and service provision models, reflecting differences in national governance of VET and employment services (OECD, 2019).

Innovations in digital tools, dual training systems, and blended approaches, aligned with European strategies for modernizing career guidance (Cedefop, 2021).

The relational and pedagogical dimensions of guidance provision, underlined by constructivist and psychosocial approaches to career development (Savickas, 2013; Maree, 2020).

Challenges linked to regional disparities, access inequality, and fragmented governance, frequently reported in comparative reviews of education and training systems (Eurofound, 2021; UNESCO, 2021).

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2. NEET Rates and Common Challenges Across Italy, Belgium, Spain and Greece

In all four countries, the NEET phenomenon reflects a complex intersection of economic uncertainty, regional inequality, limited guidance access, and misalignment between education and labour market demands (Eurofound, 2021; OECD, 2021).

In **Italy**, despite a gradual decline in overall unemployment, youth NEET rates remain structurally high, particularly among 15–24-year-olds in Southern and rural regions. This persistent disparity reflects a broader combination of socio-economic inequalities, low access to quality guidance services, and limited alignment between training systems and labour market demands (Eurostat, 2024a). To address these challenges, Italy has introduced several interconnected policy frameworks, notably the *National Guidelines for Lifelong Guidance* (MLPS, 2012), the *National Recovery and Resilience Plan* (Presidenza del Consiglio dei Ministri, 2021), and the *Garanzia di Occupabilità dei Lavoratori – GOL* programme (MLPS, 2022). While these reforms promote personalised employment plans and targeted upskilling pathways, implementation remains uneven due to regional disparities in service quality and coordination (Cedefop, 2023a).

In **Belgium**, the NEET rate among young people has decreased significantly since 2000, reaching 9.6% in 2023. However, strong regional disparities remain, with Flanders performing better (7.3%) than Brussels (11.2%) and Wallonia (13.0%) (Statbel, 2024). These differences reflect Belgium's decentralised governance, where each linguistic community defines its own youth and employment strategies (OECD, 2019). Regional services such as VDAB in Flanders, Le Forem in Wallonia, and Actiris in Brussels play a central role in delivering personalised guidance and work-based learning opportunities (Eurydice, 2023). While Belgium has a robust infrastructure for guidance services, challenges persist in improving cohesion across regions and strengthening support for vulnerable youth.

In **Spain**, youth NEET rates remain elevated (13.4% nationally in 2024), with higher prevalence among women and rural populations (Eurostat, 2024b). Despite a growing VET enrolment and reforms such as *Ley Orgánica de Modificación de la LOE – LOMLOE* and the *Plan de Modernización de la Formación Profesional 2022–2025* (MEFP, 2022), labour market integration remains difficult. Dual VET systems and initiatives like the *Youth Guarantee Plan*

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aim to reduce mismatches between qualifications and labour market needs, but regional disparities and limited access to high-quality apprenticeships persist (Cedefop, 2023b). Digital platforms such as TodoFP.es provide additional resources, though their effectiveness is uneven across autonomous communities (European Commission, 2020).

In **Greece**, NEET rates remain among the highest in the EU despite a series of structural reforms (Eurostat, 2024c). Key legislative initiatives, most notably *Law 4763/2020* and *Law 5082/2024*, have sought to modernise the VET system through new apprenticeship schemes and the creation of VET Centres (*KEEK*) (Ministry of Education and Religious Affairs, 2024). Career guidance is primarily coordinated by EOPPEP, which provides digital tools such as *e-Stadiodromia* and *PLOIGOS* (EOPPEP, 2023). Nevertheless, fragmented governance, regional disparities, and low employer engagement continue to hamper service delivery and limit the system's effectiveness in supporting NEET youth (OECD, 2023).

Despite substantial contextual differences, the four national desk research studies reveal a number of **converging trends** that shape the landscape of career guidance and NEET prevention across Europe. Based on the cross-country synthesis, the following trends and recommendations emerged as particularly significant:

There is a growing consensus on the necessity of initiating career guidance at an earlier stage, with tailored interventions that reflect the socio-economic and educational diversity of young people. Particularly within VET pathways, developmentally appropriate and individualised support is seen as critical to maintaining engagement and fostering realistic career aspirations (Cedefop, 2020; OECD, 2021).

All countries have introduced or expanded dual training systems and digital platforms in an effort to modernise guidance provision and enhance the alignment between education and employment. While these innovations hold significant potential for outreach and personalisation, disparities in accessibility, especially in rural, underserved, or socio-economically marginalised regions, risk entrenching existing inequalities rather than alleviating them (Cedefop, 2021; UNESCO, 2021).

Persistent regional and structural disparities continue to hinder equitable access to high-quality career guidance. Young people from migrant or minority backgrounds, those living in

remote areas, and individuals with lower levels of prior educational attainment remain disproportionately vulnerable to disengagement and adverse labour market outcomes (Eurofound, 2021; OECD, 2019).

Across all national contexts, **the relational dimension of career guidance emerges as a key determinant of effectiveness.** The presence of empathetic, trusted adults, whether teachers, trainers, counsellors, or mentors, is shown to be instrumental in motivating young people, supporting identity formation, and facilitating the transition into the labour market (Savickas, 2013; Maree, 2020).

Career guidance should not be viewed as a simple tool for occupational decision-making. Rather, it is a multidimensional and relational process that fosters personal agency, socio-economic inclusion, and psychological resilience. Addressing NEET risk requires comprehensive, coherent, and person-centred guidance ecosystems at both national and European levels (European Commission, 2020; UNESCO, 2021).

Collectively, these national case studies highlight a set of systemic challenges and innovations that are highly relevant to the development of more inclusive, adaptive, and effective career guidance strategies across Europe.

2.2 How Countries Are Supporting Young People: National Policies and Career Guidance Initiatives

All four countries involved in the SupportSphere project have undertaken targeted efforts to enhance career guidance systems and facilitate smoother school-to-work transitions. While meaningful progress has been made, significant differences remain in how services are organised and delivered, shaped by national priorities, available resources, and institutional systems (Cedefop, 2020; European Commission, 2020). Access to quality guidance often depends on regional structures, the degree of coordination among services, and whether guidance is treated as a practical priority rather than a policy intention (OECD, 2021; Eurofound, 2021). The most effective systems tend to align clear strategies with strong implementation, skilled professionals, and accessible tools, particularly for young people facing higher risks of social or economic exclusion (UNESCO, 2021).

Italy: Personalized Support and New Investments

Italy's career guidance system is rooted in the principle of **lifelong support**, aiming to assist individuals not just during school years but throughout their working life. The *National Guidelines for Lifelong Guidance* (2012) laid the foundation by promoting career education, counselling, and labour market information in schools and training centres.

Two major recent initiatives have aimed to modernise and expand this framework:

The **National Recovery and Resilience Plan (PNRR)**, part of the EU's post COVID strategy, is investing heavily in digital tools, training infrastructure, and inclusion programmes.

The **Garanzia di Occupabilità dei Lavoratori (GOL)** targets vulnerable groups, including NEETs, by offering personalised employment plans, reskilling pathways, and access to local support services.

Despite these efforts, access to guidance remains uneven, especially in the South and in rural areas. Many young people still say they've never received career advice.

Belgium: Regional Strategies

In **Belgium**, youth and education policies are managed by the three language communities: Flemish, French, and German-speaking. This means there is no single national strategy, but

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rather a collection of regional approaches aligned with European Union objectives (Eurydice, 2023; OECD, 2019).

Key features of regional initiatives include:

Digital career tools, such as online counselling platforms and job-matching portals.

Dual learning programmes, which blend classroom instruction with hands-on work experience and have shown effectiveness in strengthening school-to-work transitions (Cedefop, 2020).

Targeted actions, including mentorship schemes and workshops for young people neither in employment, education, or training (NEET).

A good example is the *Flemish Employment and Vocational Training Service* (Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding, VDAB) Career Guidance Programme in Flanders, which offers individual coaching, online resources, and labour market orientation for vocational education and training (VET) students. Regions like Wallonia have also achieved positive outcomes, such as lower dropout rates, through strong partnerships with local industries and tailored initiatives delivered by the *Office for Vocational Training and Employment* (*Le Forem*) (Statbel, 2024; Eurydice, 2023).

Spain: Legislative Framework and National Programmes

In **Spain**, the career guidance system is supported by a strong legal framework. The *Ley Orgánica de Modificación de la LOE* (LOMLOE) Education Law (2020) and the *Vocational Education and Training Law* (VET Law, 2022) mandate that career education be integrated into schools and training institutions, with a strong focus on digital skills and employability (MEFP, 2022; Cedefop, 2023).

Key national initiatives include:

The **Youth Guarantee (YG) Plan**, which helps young people under 30 access work, education, or training within four months of leaving school (European Commission, 2020).

The **VET Modernisation Plan 2022–2025**, which includes over 200 new qualifications and supports dual training and digitalisation (MEFP, 2022).

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However, education is governed at the regional level, leading to inconsistent implementation. While regions such as Catalonia and the Basque Country have shown strong leadership in VET reform, others have struggled to keep pace (Eurostat, 2024; OECD, 2021).

Greece: Institutional Reforms and Career guidance Systems

Greece has taken important steps to reform its VET and career guidance systems with the adoption of **Laws 4763/2020 and 5082/2024**. These reforms introduced:

New SAEK institutions (Schools of Advanced Vocational Training).

Improved training infrastructure for vocational education.

Expanded apprenticeship opportunities to strengthen links with the labour market.

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New Schools of Advanced Vocational Training (Scholes Anoteris Epangelmatikis Katartisis, SAEK).

Improved **training infrastructure** for vocational education.

Expanded **apprenticeship** opportunities to strengthen links with the labour market (Cedefop, 2023).

Career guidance is coordinated by the *Hellenic National Organisation for the Certification of Qualifications and Vocational Guidance (Ethniko Organismo Pistopoiisis Prosonton kai Epangelmatikos Prosanatolismos, EOPPEP)*. EOPPEP offers digital platforms such as *e-Stadiodromia* and *PLOIGOS*, which help young people explore careers and training options (EOPPEP, 2023). Despite these reforms, fragmented governance, regional disparities, and low employer engagement remain persistent challenges (OECD, 2023).

The **Public Employment Agency (DYPA)** also supports job seekers with individual action plans, workshops, and coaching. However, persistent fragmentation between ministries and insufficient inter-agency coordination continue to undermine the consistency and equity of service delivery across regions.

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2.3. The Relational Core of Career Guidance: Building Trust, Motivation, and Belonging

While career guidance discussions often emphasise laws, policies, and digital platforms, one of the most powerful and enduring influences on young people's career development is the presence of trusted human relationships. Teachers, trainers, counsellors, family members, and peers can play a decisive role, particularly for students who feel uncertain, demotivated, or disconnected from school (Savickas & Porfeli, 2012; Thomsen, 2014). Across all four countries, research underscores the pivotal role of vocational education and training (VET) trainers as both educators and informal mentors. Their capacity to foster trust, provide encouragement, and offer practical advice significantly contributes to student engagement and career success (Cedefop, 2020; Eurofound, 2021; Maree, 2020).

Italy: The Importance of Soft Skills and Relationships

In Italy, numerous studies highlight how emotional and psychological resources, such as self-esteem, resilience, optimism, and courage, play a central role in shaping young people's career decisions and overall well-being (Pombeni & Ghedin, 2018). VET trainers who support students not only by providing information, but by encouraging self-reflection on values, aspirations, and personal strengths, are associated with more positive outcomes. This is particularly important for students who face uncertainty or lack confidence in their abilities (Soresi & Nota, 2022). Career counsellors are increasingly expected to adopt a more personalised approach, helping students develop skills like planning, decision-making, and problem-solving, while also working to improve their motivation and sense of self-efficacy (Pombeni, 2021). Tools such as personality assessments, **SMART** goal-setting techniques, and even experiential activities (e.g., job shadowing) are becoming more common in guidance practices. Family involvement remains a crucial psychosocial factor. Evidence shows that support from parents and caregivers significantly boosts students' confidence and optimism regarding their future (ISFOL, 2014; MIUR, 2017). As a result, many programmes, especially those in disadvantaged areas, are placing greater emphasis on involving families in career guidance processes. Guidance strategies now often include awareness campaigns, training for families, and school-based initiatives to help them support their children more effectively. Finally, innovative projects like TWIST, led by ENAIP Veneto, represent best practices in action. **TWIST** promotes a holistic, community-based model of guidance that integrates

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experiential learning, personalised coaching, soft skills development, and strong collaboration between educators, families, and local businesses (ENAIP Veneto, 2023). Its emphasis on early and continuous orientation reflects the growing consensus that effective career guidance must begin early, be ongoing, and place the young person at the centre as an active agent in their own development (Soresi & Nota, 2022). Similar relational dynamics have been observed in other partner countries, each implementing their own approaches to integrating emotional support into guidance systems.

Belgium: Integrating Social Support Networks into Career Guidance

In Belgium, young people benefit significantly from the involvement of multiple actors, teachers, peers, family members, and employers, when making career decisions. A study by Van Landeghem et al. (2022) found that students who received strong social support reported significantly higher levels of career self-efficacy, particularly those from disadvantaged backgrounds. This insight has contributed to the adoption of collaborative guidance models in many schools and VET institutions, where career guidance is delivered through a networked approach involving educators, counsellors, and external stakeholders.

Among the most effective practices are structured peer support groups, which offer students a safe space to share doubts, aspirations, and experiences, reinforcing their motivation and sense of belonging. These models not only enhance confidence but also help reduce dropout rates. Regional initiatives such as the **Forem Youth Action Plan** in Wallonia and the VDAB programmes in Flanders further highlight the importance of mentorship, early intervention, and personalised coaching as key tools to reach NEET youth and support their transition into the labour market.

Spain: Bridging Inequalities Through Personalised and Localised Support

Some VET centres in Spain are responding to unequal access by developing mentoring programmes and offering individualised guidance, particularly for students at risk of early school leaving (Cedefop, 2023). These approaches are grounded in building trust and listening actively - factors that increase student engagement and help clarify career goals (Cedefop, 2021). Good practices include the work of centres like CPR Montecastelo, which combines personalised counselling with practical workshops on CV writing, interview preparation, and

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digital career tools. Regional initiatives such as **Emple@Joven** in Andalusia reinforce this model, offering tailored training and counselling to NEET youth through community-based partnerships (Junta de Andalucía, 2022). Although digital platforms like TodoFP.es and Educa2020 expand access to information, studies confirm that they are most effective when supported by human interaction. When students feel genuinely supported by educators and mentors, they are more likely to remain motivated and make informed decisions about their future (Ferrer & González, 2021).

Greece: Moving towards Stronger Personal Connections

In **Greece**, despite the development of digital platforms such as *e-Stadiodromia* and *PLOIGOS* provided by the *Hellenic National Organisation for the Certification of Qualifications and Vocational Guidance* (*Ethniko Organismo Pistopoiisis Prosonton kai Epangelmatikos Prosanatolismos*, EOPPEP), the human dimension of career guidance remains underdeveloped. Services often prioritise the delivery of information over meaningful interaction, leaving many students and young people neither in employment, education, or training (NEET) without consistent emotional or motivational support (EOPPEP, 2023).

To address this, some vocational education and training (VET) institutions are beginning to adopt more student-centred approaches. Initiatives such as personalised action plans by the *Public Employment Service* (*Dimosia Ypiresia Apascholis*, DYPA) and counselling services within *Schools of Advanced Vocational Training* (*Scholes Anoteris Epangelmatikis Katartisis*, SAEK) aim to support individuals through tailored advice, workshops, and one-on-one sessions (Ministry of Education and Religious Affairs, 2020; OECD, 2023). For example, the Internship Office at SAEK Egaleo offers structured guidance that goes beyond technical preparation, including CV building, mock interviews, and soft skill development, all designed to build confidence and readiness for the job market (Cedefop, 2023).

Nonetheless, research highlights that fragmented governance and a lack of coordination among institutions remain key barriers (OECD, 2023). For digital tools and policy frameworks to be truly effective, they must be accompanied by real human engagement, through well-trained mentors, counsellors, and educators capable of building trust and fostering motivation in the young people they support (Savickas & Porfeli, 2012; Thomsen, 2014).

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These country-level insights confirm that while technological innovation is important, the true engine of effective career guidance lies in sustained, trust-based relationships. A balanced integration of policy, digital infrastructure, and human connection is essential for reaching and supporting all young people, especially those at risk of exclusion.

2.4. Technology as a Bridge: How Digital Tools Are Changing Career Guidance

In all four countries participating in the SupportSphere project, digital technologies are playing an increasingly central role in shaping career guidance systems. Online platforms, self-assessment tools, virtual counselling services, and labour market information systems are increasingly used to enhance the accessibility, adaptability, and reach of guidance provision, particularly for learners who may have limited contact with traditional services (Cedefop, 2021; OECD, 2021).

Rather than replacing in-person support, these tools are progressively being embedded into hybrid models that combine digital resources with personalised, practitioner-led guidance. This approach recognises the importance of human mediation in helping users navigate, interpret, and act on the information provided through digital means (UNESCO, 2021; European Commission, 2020).

However, the extent and quality of implementation vary significantly across national and regional contexts, influenced by both systemic and infrastructural factors. Challenges related to infrastructure, digital literacy, and professional capacity continue to influence the effectiveness and equity of digital guidance (Eurofound, 2021; OECD, 2019). The country examples that follow highlight different strategies for integrating technology within broader institutional frameworks, with the shared objective of supporting meaningful and inclusive transitions for young people. This reinforces the idea that digitalisation, to be effective and inclusive, must be embedded within a coherent pedagogical and relational framework (Savickas, 2013; Maree, 2020).

Italy: Blended Models and the Human Mediation of Digital Tools

In **Italy**, the integration of digital tools into career guidance has accelerated in recent years, supported by both national reforms and European Union (EU)-funded initiatives. Platforms such as online personality assessments, career simulations, and digital repositories of labour market data are increasingly used in educational and employment settings (Cedefop, 2023a). Some studies also highlight the potential of game-based tools and simulations to support career adaptability by enhancing self-awareness, decision-making skills, and motivation (Maree, 2020).

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However, Italian research consistently underlines that technology alone is not sufficient. Many young people, particularly those with low self-esteem or limited digital skills, need personalised support to interpret results, reflect on their aspirations, and take action. For this reason, the current trend is moving towards a blended guidance model, where digital tools are embedded within broader relational processes (Savickas & Porfeli, 2012).

The *Garanzia di Occupabilità dei Lavoratori* (GOL) Programme exemplifies this approach. It combines the use of online platforms and profiling tools with face-to-face counselling, personalised coaching, and targeted interventions for vulnerable groups, including young people neither in employment, education, or training (NEET). Career services under GOL are designed to support each user through an individualised plan, guided by trained professionals who ensure that digital instruments are accessible, meaningful, and adapted to each user's profile (MLPS, 2022).

Despite these advances, challenges remain. Digital literacy is uneven across regions and socio-economic groups, and access to infrastructure, especially in southern or rural areas, can be limited (OECD, 2019). Moreover, guidance practitioners often require additional training to effectively integrate digital tools into their practice. National strategies increasingly recognise this need, and some regions have started piloting capacity-building initiatives for educators and counsellors (Presidenza del Consiglio dei Ministri, 2021). Rather than replacing traditional guidance, digital tools in Italy are increasingly seen as a complement to human interaction: a means to enrich and extend personalised support, not to automate it.

Belgium: Regional Platforms and Hybrid Models of Guidance

In Belgium, digital tools are widely integrated into career guidance through the public employment services of the three language communities. Notably, the VDAB platform in Flanders offers a broad range of services, including self-assessment instruments, labour market intelligence, and interactive career planning modules. Similar systems are in place in Wallonia (Le Forem) and Brussels (Actiris), reflecting regionally structured but complementary approaches to digitalisation.

A defining feature of the Belgian model is the use of **hybrid guidance systems**, where digital tools are systematically combined with personalised, in person support. In schools and VET

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centres, learners often begin with digital assessments or career guidance modules, followed by structured sessions with counsellors or trainers to interpret results and plan next steps. This approach helps retain the relational dimension of guidance while improving accessibility and scalability.

Digital platforms are considered most effective when integrated into formal pedagogical processes and accompanied by adequate professional training. Efforts to promote digital inclusion include support for users with low digital literacy and ongoing training for staff. Platforms such as Competent and the AI enhanced features of VDAB represent emerging efforts to increase personalisation and responsiveness in service delivery. Remaining challenges include disparities in infrastructure, variable access to devices and connectivity, and inconsistent levels of digital integration across institutions and regions.

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A defining feature of the Belgian model is the use of hybrid guidance systems, where digital tools are systematically combined with personalised, in-person support. In schools and vocational education and training (VET) centres, learners often begin with digital assessments or orientation modules, followed by structured sessions with counsellors or trainers to interpret results and plan next steps. This approach helps retain the relational dimension of guidance while improving accessibility and scalability (Cedefop, 2020).

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Remaining challenges include disparities in infrastructure, variable access to devices and connectivity, and inconsistent levels of digital integration across institutions and regions (Statbel, 2024).

Spain: Enhancing Guidance Through Digital Platforms and Regional Innovation

In **Spain**, digital tools have been progressively integrated into both national and regional career guidance systems. Platforms such as *TodoFP.es*, *Educa2020*, and *OrientaLine* provide online career guidance content, labour market information, and practical tools for CV creation, self-assessment, and training exploration. These tools are particularly relevant in rural or underserved areas, where in-person services are limited (MEFP, 2022).

At the regional level, some autonomous communities, such as Catalonia and the Basque Country, have developed more advanced models that combine digital platforms with personalised guidance. Initiatives like *FP Orienta* exemplify integrated approaches in which students can access digital resources within structured school programmes supported by trained staff (Cedefop, 2023).

However, implementation varies significantly across regions. Not all schools have the technological infrastructure or staff training needed to ensure effective use of these platforms. As a result, digital guidance may remain superficial or inaccessible for students in areas with fewer resources, reinforcing existing inequalities in career development support (OECD, 2021).

National policy frameworks, including the *Ley Orgánica de Modificación de la LOE* (LOMLOE, 2020) and the *Vocational Education and Training Modernisation Plan 2022–2025* (VET Modernisation Plan), now explicitly support the inclusion of digital tools in guidance activities. Yet ensuring digital equity, through investments in infrastructure, professional training, and pedagogical integration, remains a central challenge for achieving consistent access and quality across the country (European Commission, 2020).

Greece: Integrating Digital Tools Within Evolving Guidance Practices

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To address this, some vocational education and training (VET) institutions are beginning to adopt more student-centred approaches. Initiatives such as personalised action plans by the *Public Employment Service* (*Dimosia Ypiresia Apascholisis*, DYPA) and counselling services within the *Schools of Advanced Vocational Training* (*Scholes Anoteris Epangelmatikis Katartisis*, SAEK) aim to support individuals through tailored advice, workshops, and one-on-one sessions (Ministry of Education and Religious Affairs, 2024). For example, the Internship Office at SAEK Egaleo offers structured guidance that goes beyond technical preparation, including CV building, mock interviews, and soft skill development, all designed to build confidence and readiness for the job market.

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Aspect	Italy	Belgium	Spain	Greece
NEET Rates	High, especially in the South	Lower, but with regional differences	High, especially among youth and women	Among the highest in the EU
Policy Framework	National strategies: PNRR and GOL	Regional strategies by communities	Recent legal reforms: LOMLOE, VET Law	Major reforms since 2020
Career Guidance Access	Limited in some areas; often informal	Well-structured; digital tools widespread	Variable by region; urban-rural gap	Fragmented; mainly informational
Role of VET Trainers	Seen as emotional/mentoring figures	Peer-supported, part of local networks	One-on-one mentorship emerging	Guidance role under development
Use of Digital Tools	Blended tools with in-person support	Strong digital infrastructure (e.g. VDAB)	Useful for rural access; uneven rollout	EOPPEP platforms; low uptake
Regional Disparities	Strong North-South divide	High in Wallonia and Brussels	Access gaps in rural areas	Widespread inequality
Youth Guarantee	Implemented through GOL	Implemented regionally	Comprehensive, but varied by region	Updated in 2018; challenges persist
Dual Training Integration	Limited but growing	Well integrated	Legally reinforced; expanding	Pilots and limited implementation

Comparative Summary Table: Career Guidance and NEET Prevention in VET

Conclusion

The desk research phase complemented and deepened the qualitative insights gathered through the focus groups, offering a structured overview of the policy frameworks, institutional models, and emerging needs that shape career guidance systems across the four countries involved in the SupportSphere project.

In each national context, project partners:

Mapped existing regulatory **frameworks** and strategic orientations in the field of guidance.

Identified key **challenges** faced by young people during school-to-work transitions.

Collected and **analysed relevant tools, initiatives, and services** aimed at supporting career decision-making among VET students.

This comparative analysis revealed both shared systemic gaps and promising practices that could be adapted across contexts. Crucially, it confirmed and reinforced the thematic areas that emerged from the focus groups, validating their relevance from both institutional and practitioner perspectives.

The five pillars of the *SupportSphere* framework - originally shaped through the lived experiences of VET learners and professionals - thus gained further robustness through alignment with academic literature, policy documents, and concrete national experiences.

Together, the findings from the focus groups and the desk research constitute the empirical and conceptual foundation of this handbook. They inform the five pillars presented in the next chapters, which serve as a practical and adaptable structure for designing tools, strategies, and systems to support the career development of young people in vocational education across Europe.

Chapter 3 – Five Key Pillars for Improving Career Guidance in VET

The findings from both the desk research and focus groups conducted as part of the Erasmus+ KA2 project *SupportSphere - Preventing VETs from Going NEET* reveal a consistent and urgent need to enhance the quality and responsiveness of career guidance in Vocational Education and Training (VET) systems across Europe. We will address these needs by facing 5 major pillars of intervention that we have identified:

Strengthening self-awareness and personal development

Bridging the gap between education and the labour market through experiential learning

Empowering career exploration and decision-making

Building inclusive and sustainable career guidance ecosystems

Enhancing access to career information and resources

Each of the following sub-chapters explores one of these key pillars in detail, offering practical strategies and tools that VET trainers and counsellors can adopt in their daily practice. These interventions are designed not only to respond to identified gaps, but also to inspire more engaging, empathetic, and future-oriented guidance methodologies.

3.1 - Strengthening Self-Awareness and Career Agency through the Skills Portfolio

Addressing the first pillar “Strengthening self-awareness and personal development”, this chapter introduces a structured yet adaptable tool that helps young people reflect on who they are, what they can do, and what they want to become. The goal is to help students identify their skills, aspirations, and goals while developing autonomy, motivation, and the ability to make informed career decisions. Literature in career development underscores the importance of self-reflection and narrative identity construction as core to building career adaptability (Savickas, 2013; Savickas & Porfeli, 2012). The skills portfolio is not a bureaucratic exercise, but a narrative and practical journey of self-discovery. Used effectively, it enables learners to assess their experiences, name their strengths, and identify areas for growth—all of which are foundational to career adaptability. Trainers can introduce this tool as a guided reflection path that builds confidence and clarifies options.

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Step 1: Framing the Process

Rather than presenting the portfolio as a form to complete, trainers should introduce it as a reflective companion. It is a tool for exploring the learner's evolving identity and aspirations. Clarify that there are no right or wrong answers, and that its use will be supported, not assessed. A compelling example is Catapult Your Career, a digital intervention designed for youth (17–23 years), including VET students. This gamified tool guides users through self-assessment, personalised career suggestions, and a hands-on micro-project, while awarding digital badges and creating a portable skills portfolio.

Step 2: Discovering Personal Experiences

Self-awareness begins with storytelling. Drawing from the Career Construction Interview (Savickas, 2013), trainers can ask learners to reflect on key moments in their lives: who their role models are, what activities they enjoy, and which experiences have shaped them. These stories often reveal values, interests, and themes that guide career choices.

Step 3: Mapping Skills and Strengths

Next, support learners in identifying their competencies, both technical and transversal. The **ESCO framework** offers a comprehensive structure for this purpose, aligned with European standards. Encourage students to think beyond school, as skills may come from hobbies, caregiving, part-time jobs, or teamwork in sports. Trainers can use self-assessment grids to prompt reflection on communication, problem-solving, adaptability, and other soft skills essential for today's labour market (OECD, 2021).

Step 4: Collecting Meaningful Experiences

Invite learners to build a **personal timeline** of past experiences. These could include formal education, internships, volunteering, travel, or even overcome challenges. Each entry should be linked to a skill or insight gained. Visual formats such as posters, digital folders, or illustrated maps work well for students with low literacy or linguistic barriers.

Step 5: Exploring Values and Professional Interests

Questions such as “What matters to me? or What kind of life do I want?” are often overlooked in traditional career guidance, yet they lie at the heart of motivated decision-making. Encourage

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learners to rank or discuss values such as autonomy, creativity, stability, or helping others. For time-limited interventions, the **Career Guidance 90' Online programme** (Hungary) shows how a short, volunteer-led online session can foster self-awareness and professional exploration through group activities and structured reflection.

Step 6: Investigating Career Options

Once a clearer self-image has emerged, guide students through a structured career exploration. Encourage them to compare at least three professions based on personal interest, required qualifications, work conditions, and opportunities. Tools like **EURES - the European Job Mobility Portal** offer an accessible and comprehensive platform for discovering job opportunities, exploring labour market conditions across European countries, building a Europass CV, and receiving advice from career advisers (EURES, European Labour Authority). Furthermore, organising job-shadowing visits, alumni talk, or virtual company tours adds a reality check and enhances engagement.

Step 7: Building an Action Plan

The final component of the Skills Portfolio is the creation of a **personalised action plan**, a concrete, goal-oriented map that translates self-awareness into meaningful steps forward. After reflecting on personal strengths, values, experiences, and professional interests, learners are encouraged to define **short- and medium-term goals** aligned with their aspirations. These goals may be related to further education, skills development, networking, or self-awareness building.

For example, a student who has discovered an interest in the social care sector might set the following goals:

Short-term: “Interview an acquaintance who works in social services.”

Medium-term: “Apply for a summer internship at a care facility.”

To structure this planning phase, trainers can guide learners in formulating **SMART goals** that are **Specific, Measurable, Achievable, Relevant, and Time-bound**. This method helps students create clear and realistic goals that are easier to follow and adjust over time.

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A practical tool to support this process is the **SMART Goals Worksheet**, which can be printed or used digitally. Learners can fill in goal statements, break down the required steps, anticipate possible challenges, and note any support they may need (e.g., from peers, trainers, or family). This process also introduces students to essential **self-management and planning skills**, which are crucial for lifelong learning and employability.

Step 8: Reflect and Share

The final step of the Skills Portfolio focuses on **consolidation and sharing**. After engaging in deep reflection, mapping competencies, exploring values, and planning future steps, it's essential that learners are given a chance to **pause, look back, and share** what they have discovered about themselves.

This reflection phase serves multiple purposes:

It helps students **internalise their learning** by articulating it to others.

It builds **confidence and ownership**, reinforcing the value of their individual path.

It fosters **peer learning**, as listening to others' journeys can inspire new ideas or perspectives.

Trainers can organise a **“Portfolio Presentation Day”** or a more informal **“Reflection Circle”**, where each student presents one or two highlights from their portfolio. This could be a new skill they discovered, a goal they are excited about, or a personal story that shaped their aspirations. Closing the process in a shared and celebratory way reinforces learners' sense of achievement, validates their personal growth, and helps them see their journey not as a checklist of tasks, but as a meaningful step towards a self-directed future (CEDEFOP, 2020).

Tools and Resources Mentioned in this Section

Catapult Your Career - [Euroguidance.eu](https://euroguidance.eu)

ESCO Framework - <https://esco.ec.europa.eu/it>

Career Guidance 90' Online (Hungary) - <https://euroguidance.eu/hungarian-euroguidance>

EURES - European Job Mobility Portal - https://eures.europa.eu/index_en

MindTools SMART Goals Guide - [MindTools.com](https://www.mindtools.com/pages/newbystr/smartgoals.htm)

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Conclusion

The Skills Portfolio is more than a technical exercise: it is a structured journey of self-reflection that helps students connect past experiences, personal values, and aspirations with concrete career plans. By combining narrative tools, digital platforms, and guided reflection, VET trainers can empower learners to gain clarity, confidence, and agency in their career development. When supported by structured steps and practical tools, the portfolio becomes not only a record of competencies but also a living document that evolves with the student and strengthens their readiness for lifelong learning and employability.

3.2 - Experiential Learning for Career Readiness: Bridging Education and Labour Market

Addressing the second pillar identified in the *SupportSphere* project “**Bridging the gap between education and the labour market through experiential learning**” this section focuses on practical, participatory strategies that can expose students to the realities of work, enhance motivation, and cultivate informed career decision-making. One of the strongest findings from both desk and qualitative research is that VET students often struggle to connect what they learn in the classroom with real-world work environments. This disconnection, according to the findings of our focus group, limits their ability to make informed choices, increases their risk of disengagement, and potentially contributes to the NEET phenomenon. Literature widely supports experiential learning as a remedy to these issues, in fact, recent studies show that participation in structured work-based learning experiences significantly increases career clarity and reduces the likelihood of school-to-work discontinuity (OECD, 2021). Kolb’s Experiential Learning Theory (1984), which outlines a four-stage cycle of learning - concrete experience, reflective observation, abstract conceptualization, and active experimentation. Cedefop (2020) and the OECD (2021) likewise underscore the value of direct contact with the labour market through internships, simulations, and employer engagement. Trainers, therefore, play a crucial role in organising and mediating these experiences, guiding students in reflecting on what they learn, and translating it into career-relevant insights. The strategies outlined below are designed to help trainers make this happen, even in resource-constrained contexts.

Creating Structured Workplace Exposure

One of the most impactful strategies is “**Job Shadowing**”: short visits where students follow a professional through their daily tasks. This gives them a tangible sense of work environments, behavioural expectations, and career pathways. Trainers can collaborate with local businesses to set up one-day or one-week shadowing experiences. If formal agreements are not available, informal partnerships and clear verbal expectations can suffice. Site visits and company tours are another option: trainers should brief students beforehand, encouraging them to prepare questions and reflect afterward.

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Organising Project-Based Learning and Simulations

When external placements are not feasible, project-based learning can replicate key aspects of work environments. Trainers can guide students through **collaborative projects, such as planning a community event, designing a mock product, or conducting market research.** These activities build problem-solving, time management, and teamwork skills. Real-world challenges provided by local employers increase authenticity. **Simulations and role-plays** also work well for soft skill development. For example, a job interview simulation where students rotate roles (candidate, employer, observer) can help them understand both sides of the recruitment process. In addition to classroom-based simulations, real-world perspectives from professionals can provide authentic insights and inspiration, especially for students who lack exposure to diverse career paths.

Involving Employers and Alumni

Involving external voices is key. Trainers can **organise career talks with local professionals**, particularly VET alumni, who can offer relatable stories and advice. Panels, roundtables, or short video testimonials all help students link their own path to others' real experiences. As part of the *SupportSphere* project's next phase, a series of recorded interviews with alumni and employers will be uploaded to the project website, featuring tips and responses to frequently asked questions from current students. Additionally, an online conference will be held by June 2026 to foster interaction and peer learning between VET students and alumni. This initiative aims to promote shared knowledge and inspire informed career choices. Co-designing activities with employers can also deepen engagement. For instance, inviting a business to co-lead a workshop or judge a student presentation ensures mutual investment and relevance.

Supporting Students to Create a Curriculum (Europass Format)

To help students consolidate what they have learned from experiential activities, trainers can support them in compiling a professional curriculum using the **Europass CV format**. This familiar European tool allows learners to present their education, training, and informal experiences in a structured and recognizable way. Trainers can guide students in identifying transferable skills and articulating their experiences, making connections between learning and employability.

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Supporting Access and Equity

Some students may face structural barriers - such as financial constraints, geographic isolation, or lack of professional networks - that limit their access to internships or employer interactions. Not all students have equal access to employer connections or unpaid internships. Trainers must be mindful of barriers such as transport or social context. **Offering hybrid alternatives-** such as **virtual job shadowing, online interviews with professionals, or digital career fairs-** can broaden access.

Tools and Resources Mentioned in this Section

SupportSphere Project Website - Recorded alumni/employer interviews & online conference updates: www.supportsphere.eu

Europass CV Builder - <https://europa.eu/europass/en>

Virtual Job Shadow - Online platform offering virtual job shadowing experiences: <https://www.virtualjobshadow.com>

Inspiring the Future - Platform connecting schools with volunteers from the world of work: <https://www.inspiringthefuture.org>

Conclusion

Experiential learning represents a powerful bridge between education and the labour market, giving VET students the opportunity to connect theoretical knowledge with real-world practice. Whether through job shadowing, project-based learning, alumni talks, or the use of structured tools like the Europass CV, these experiences help learners clarify their aspirations, strengthen motivation, and build the skills necessary for successful transitions. At the same time, ensuring equitable access is essential: hybrid formats such as virtual job shadowing and online career talks expand opportunities for those facing structural barriers. By embedding experiential strategies into everyday practice, trainers and institutions can make career guidance more inclusive, relevant, and future-oriented, ultimately reducing the risk of disengagement and NEET status.

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3.3 - Career Exploration and Career Decision-Making: Tools and Techniques

This chapter addresses the third pillar of the *SupportSphere* project: **Empowering students to explore career paths and make informed choices**. Based on insights from the desk research and focus groups, one of the most consistent challenges identified across all four countries was the lack of effective tools and strategies for helping young people envision their future careers. Students expressed confusion and self-doubt when trying to choose direction, often due to limited exposure to options, little support in understanding their own strengths and values, and a lack of guidance in translating interests into viable opportunities.

To meet these needs, this chapter presents a set of structured, practical tools and interactive strategies that VET trainers can use to support career exploration. These methods are inspired by well-established career development models and have been adapted to suit diverse VET contexts. Whether used in individual counselling sessions or group settings, they aim to foster curiosity, build agency, and support meaningful choices.

Self-Assessment and Value Clarification

Developing self-awareness is a crucial first step in any career decision-making process. Tools such as the RIASEC Test (Holland, 1997) support students in identifying their vocational interests and connecting them to suitable work environments. Trainers can use a free version of the test to introduce students to this model. To help students reflect on their core values and motivations, the “**Choose Your Own Adventure**” framework also offers a useful resource for structured introspection. While not developed specifically for career guidance, the “**Choose Your Own Adventure**” framework offers inspiration for designing introspective decision-making exercises. (Note: the referenced paper is theoretical and not a ready-to-use tool). Promising example of these methods in action is the “Career Planning in Vocational Secondary Schools” initiative in Romania. This practice integrates experiential workshops that combine the RIASEC test, visual career mapping, and one-on-one coaching. The result is a guided process that helps students clarify their identity and transform self-assessment outcomes into actionable career plans (Euroguidance, 2022). VET trainers can get inspired by this practice and personalize their student’s experience.

Mapping Career Possibilities with Visual and Interactive Tools

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Once students gain clarity about themselves, they need to explore the world of work. **Career mapping activities** can be useful here. Trainers can print and display visual maps of job families, such as those provided by the **ESCO classification**. These maps show how sectors are organised and allow students to spot patterns, emerging fields, and pathways for upskilling. Interactive digital tools such as **CareerHero**, allows learners to browse video interviews of professionals, discover lesser-known jobs, and understand skill requirements in a fun and accessible way. Trainers can organise engaging activities, such as a “career treasure hunt,” where students use the ESCO portal to research and present three unfamiliar professions, promoting curiosity and digital exploration skills.

Group Guidance and Peer Support

In all participating countries, both focus groups and trainers emphasised the value of creating safe spaces where students can openly express and normalise their doubts about the future. Group-based tools help students build confidence through collective discovery. Activities like the “**Lifeline**” exercise (Chronology of career influences) allow students to reflect on turning points in their lives and share them with peers. Furthermore, while not directly connected to the Lifeline exercise, the **CareerOneStop** toolkit provides useful activities for exploring values and decision-making. For Lifeline-based work, trainers may refer to narrative career counselling manuals or adapt templates from career education practice. Trainers can also implement peer-led career storytelling activities, where alumni or classmates present their journeys using a structured narrative format such as **STAR** (Situation, Task, Action, Result). This technique is useful for interview preparation and reflection. Gamified methods such as the “**Job Jenga**” game in which each block corresponds to a job-related prompt, question, or challenge offer an interactive and low-pressure way to initiate discussions about career aspirations, work values, and decision-making processes. As students remove and respond to each block, they are encouraged to reflect on topics like their ideal working conditions, transferable skills, or personal role models, transforming abstract concepts into tangible interactions. Similarly, **Career Bingo** a game that involves matching career-related statements or achievements with real-life experiences (e.g., “Has completed an internship” or “Knows someone who works in healthcare”) can serve as both an icebreaker and a formative tool for self-assessment. These playful approaches foster peer dialogue, reduce anxiety around career

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exploration, and promote active engagement, especially among learners who may feel intimidated by more traditional guidance formats. When used strategically, gamification can support deeper learning and identity development in vocational contexts.

Motivational Interviewing and Decision Support

Once options are explored, students often need help choosing. Trainers can use basic **motivational interviewing techniques** (Miller & Rollnick, 2012), such as:

- Asking open-ended questions
- Reflective listening
- Exploring ambivalence

These techniques help students articulate their goals and move from indecision to action.

Promoting Continuity: From Awareness to Planning

To avoid drop-off after initial guidance, trainers can support students in developing action plans. Using the SMART goal method-goals that are Specific, Measurable, Achievable, Relevant, and Time-bound-can turn vague intentions into steps. Trainers can also encourage students to keep a "**Career Journal**" where they track ideas, contacts, new learnings, and evolving preferences.

Tools and Resources Mentioned in this Section

RIASEC Test (Holland Codes) - <https://www.123test.com/holland-codes-career-tests/>

Choose Your Own Adventure framework - <https://arxiv.org/abs/1805.09963>

ESCO Classification (Occupations) - https://esco.ec.europa.eu/en/classification/occupation_main

CareerHero - <https://careerhero.ch/en/>

CareerOneStop Work Values Matcher - <https://www.careeronestop.org/Toolkit/Careers/work-values-matcher-assessment.aspx>

Job Jenga (Career Jenga) - <https://cehs.usu.edu/aggieselevated/news/blogs/career-jenga>

Career Exploration Jenga Game Activity - <https://www.teacherspayteachers.com>

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STAR Method - <https://www.career-advice/interviewing>

Career Building Blocks Game - <https://counselorclique.com/54-questions-for-your-career-building>

Motivational Interviewing resources - <https://motivationalinterviewing.org/>

SMART Goals Guide (MindTools) - <https://www.mindtools.com/a4wo118/smart-goals>

Conclusion

Career exploration is not a one-time event but a developmental journey that requires structured tools, supportive environments, and guided reflection. By combining self-assessment, visual mapping, group-based activities, gamified methods, and motivational interviewing, trainers can help learners move from uncertainty to clarity and from passive reflection to active planning. These practices not only strengthen decision-making but also empower students to recognise their strengths, expand their career horizons, and take ownership of their future. Ultimately, fostering curiosity, self-knowledge, and agency equips VET learners with confidence and resilience to navigate increasingly complex and dynamic labour markets.

3.4 - Strengthening Support Systems: Sustainable and Inclusive Career Guidance Environments

This chapter addresses the fourth pillar of the *SupportSphere* framework: **Building inclusive and sustainable support systems for career development**. While earlier chapters focused on helping students explore themselves and the labour market, this pillar looks at the broader environment needed to support such development. The concept of career guidance as an environment, or *ecosystem*, can be framed within Bronfenbrenner's (1979) ecological systems theory, which emphasizes how individual development is shaped by multiple, interconnected layers of influence - from family and school (microsystem) to community institutions (mesosystem) and wider social policies (macrosystem). Applied to career guidance, this perspective highlights the importance of creating coherent, multi-level environments that sustain young people's career development over time. As Watts and Sultana (2004) argue, effective guidance systems should not only provide information or counselling, but also embed in career guidance within broader social, educational, and policy contexts. This systemic approach aligns with recent European policy calls for inclusive and lifelong guidance ecosystems (Cedefop, 2021).

Therefore, with this section, we aim at highlighting the interpersonal, institutional, and community-based mechanisms that help ensure students are continuously guided, emotionally supported, and connected to real-world opportunities. According to both the focus group findings and the desk research, students and trainers often face fragmented support ecosystems. Many students lack consistent mentoring figures or struggle to access information on available guidance services. Trainers and counsellors, on the other hand, often feel ill-equipped to manage diverse learner needs while balancing multiple responsibilities. These issues reflect broader systemic barriers to effective career guidance. To address these concerns, this section outlines four strategic areas of intervention, each grounded in research and practice, and proposes concrete tools and examples for implementation.

Structured Mentoring for Consistent Guidance

One of the most voiced needs among students is to have someone who "knows them" and can follow their development over time. This points to the necessity of structured mentoring

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programs, where guidance becomes relational, consistent, and personalised (DuBois et al., 2011). Implement **peer mentoring schemes** where older students or recent alumni offer informal support to younger peers. Peer mentoring fosters a sense of belonging and reduces the stigma around asking for help. By matching younger students with mentors who have recently navigated similar challenges, the guidance becomes relatable and more impactful. Schools can structure these schemes around shared interests or career goals to increase engagement. Assign career tutors within the VET staff, responsible for a fixed number of students. Designating specific staff members as career tutors ensures that each student has a consistent point of reference throughout their educational journey. This promotes continuity in guidance, facilitates trust-building, and allows tutors to track students' evolving aspirations and needs over time.

The *Mentoring Toolkit* by **MENTOR** offers evidence-based resources to structure effective mentoring, including goal-setting templates, conversation guides, and activities for resilience and growth of mindset. It helps mentors support students in navigating challenges while maintaining a positive self-concept.

Integrating Emotional and Psychological Support

Career development is deeply intertwined with identity formation, self-efficacy, and emotional well-being (Savickas, 2013). Students often face anxiety, fear of failure, or low self-efficacy, particularly those with a history of educational or social disadvantage. A practical example is the I'm Awesome! Occupational and Self-Awareness Development Game. Learners identify with symbolic animals (lion, eagle, chameleon, tortoise) and map those traits to occupational groups. This low-pressure activity encourages self-reflection and connects personal traits to career paths. Trainers can also enrich career reflection sessions, where learners use animal-based self-identification to explore the relationship between personal traits and job profiles, boosting self-awareness in a fun, low-pressure format. This card game is designed to help students reflect on personal traits and match them to occupational groups. Learners identify themselves with one of four animals - lion, eagle, chameleon, or tortoise - and map those attributes to professional profiles. This method enhances self-awareness by encouraging reflection on one's own skills and how they relate to career paths.

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Creating One-Stop Career Guidance Models

Students and trainers often report that services related to career planning, job search, emotional well-being, and academic advising are fragmented across institutions. This lack of coordination can lead to confusion, unequal access, and missed opportunities for timely support. To address this, integrated models, such as the “Cités des Métiers” in France, offer valuable inspiration. These centres bring together multiple stakeholders under one roof, providing comprehensive, user-friendly, and sustainable support systems. At the school level, one practical step is to establish a Career Corner: a dedicated space where students can book appointments, access printed and digital materials or speak directly with a guidance professional. This helps to centralise resources and gives visibility to available support. Rotating in professionals from public employment services, alumni networks, or local businesses can further enrich this space and bring real-world relevance to career conversations. To promote coordination across staff, the Euroguidance Competency Framework and Assessment Tool provide a structured reference for defining roles, assessing competencies, and planning institutional guidance capacity. This tool can be used both for individual self-assessment and for institutional planning. Other practical tools can enhance this integrated model. For example, trainers can display visual career maps using the ESCO occupational classification system to help students better understand the structure of job families and explore possible pathways. Additionally, the **Euroguidance Good Practices database** includes real-life examples of “one-stop-shops” and multi-agency collaborations in the career guidance field. These can serve as blueprints or inspiration when designing local strategies. Trainers and coordinators can consult the National Guidance Systems pages to explore how different European countries have structured their career guidance infrastructures. This comparative view can inform more systemic and context-sensitive interventions.

Engaging Families and Communities in Career Guidance

Families are often excluded from formal guidance systems, yet they play a pivotal role in shaping career identity. To bridge this gap, trainers can use tools like *Useful resources include the Guide to Self-Reflection Based on Career Management Skills* - Parent Edition, which encourages reflective dialogues between young people and caregivers. Similarly, the brochure **The Role of Parents in the Guidance Process** highlights strategies for actively involving

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families beyond occasional events. Similarly, The Role of Parents in the Guidance Process brochure reminds educators that parental involvement must go beyond occasional events- suggesting regular engagement through meetings, school activities, and open communication to intentionally support career development.

Upskilling VET Professionals in Career Guidance

Despite their pivotal role in shaping students' career trajectories, many VET professionals receive little or no formal training in career guidance. As a result, they often rely on instinct, personal experience, or improvised approaches to support students - leading to inconsistent quality, role ambiguity, and missed opportunities. **Upskilling** is not only about increasing individual competence but also about building a shared language and practice across guidance teams. Structured professional development can empower trainers to confidently deliver career-related activities, identify student needs, and make effective referrals to external services. It also contributes to more inclusive, informed, and future-oriented guidance ecosystems. It is helpful to promote access to free online courses and toolkits, such as Cedefop's **Lifelong Guidance Toolkit**, which provides country-level insights and practical resources to help professionals understand policy frameworks, user needs, and effective practices in guidance. In addition, reflective practice can be encouraged through peer-led Career Circles, where trainers regularly share challenges, case studies, and strategies, fostering a culture of continuous learning. Building on this, professionals can establish local communities of practice by leveraging platforms like **EPALE** (Electronic Platform for Adult Learning in Europe), which hosts thematic networks and discussion groups on guidance, adult education, and skills development. Overall, these opportunities not only build technical skills but also promote confidence, collaboration, and a stronger sense of professional identity among guidance practitioners.

Tools and Resources Mentioned in this Section

Mentoring Toolkit (MENTOR) - <https://www.mentoring.org/resource/growth-mindset-toolkit-and-implementation-guide/>

I'm Awesome! Occupational and Self-Awareness Development Game - <https://euroguidance.eu/i-m-awesome-occupational-and-self-awareness-development-game>

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Euroguidance Competency Framework and Assessment Tool - <https://www.euroguidance.eu/competency-framework-and-assessment-tools-for-career-professionals>

ESCO Classification (Occupations) - https://esco.ec.europa.eu/en/classification/occupation_main

Euroguidance Good Practices Database - <https://www.euroguidance.eu/guidance-systems-and-practice/good-practices>

National Guidance Systems (Euroguidance) - <https://www.euroguidance.eu/guidance-systems-and-practice/national-guidance-systems>

Guide to Self-Reflection Based on Career Management Skills - <https://www.Guide to SelfReflection>

The Role of Parents in the Guidance Process (Euroguidance brochure) - <https://euroguidance.eu/images/publications>

CEDEFOP Lifelong Guidance Toolkit - <https://www.cedefop.europa.eu/en/country-reports/inventory-lifelong-guidance-systems-and-practices>

EPALE - Electronic Platform for Adult Learning in Europe - <https://epale.ec.europa.eu/>

Ploteus, Portal on Learning Opportunities - <https://ec.europa.eu/ploteus/en>

MyFuture Platform - <https://www.myfuture.com/>

Conclusion

Strengthening support systems for career guidance requires looking beyond individual interventions and addressing the broader ecosystems in which young people develop. By combining structured mentoring, emotional and psychological support, one-stop guidance models, family engagement, and the upskilling of VET professionals, institutions can create environments where students feel consistently guided, supported, and empowered. Grounding this approach in an ecological perspective ensures that guidance is not treated as an isolated service, but as a multi-level system that connects learners with their families, schools, communities, and policy frameworks. Such coherence is essential for making career guidance

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both sustainable and inclusive, ensuring that no student is left without the relational and structural support needed to make informed, confident career choices.

3.5 - Enhancing Access to Information and Resources for Career Decision-Making

This section addresses the fifth pillar of the *SupportSphere* framework: **Enhancing access to relevant, timely, and youth-friendly career information**. While previous chapters focused on self-awareness, real-world exposure, and mentoring, this final component highlights the crucial role that access to curated, actionable, and inclusive information plays in enabling informed career choices.

Findings from both the focus groups and the desk research reveal that young people in VET often feel overwhelmed, misinformed, or disconnected from up-to-date labour market intelligence. Many rely on fragmented sources-family opinions, outdated websites, or hearsay-rather than structured, evidence-based guidance systems. Meanwhile, trainers themselves often lack time or capacity to filter and personalise information for each student. These challenges reflect what Watts and Sultana (2004) describe as the "information asymmetry" in career guidance: when those in need of direction have the least access to useful, usable information.

Curating Labour Market Intelligence (LMI) in a Youth-Friendly Way

Labour market information on jobs, skills, salaries, or sector trends - is often presented in complex formats that may alienate or confuse younger audiences. VET learners, especially those with limited career exposure or academic confidence, benefit from simplified, visually appealing, and relatable presentations of such data. Trainers can, for example, select a few national or regional portals such as Skills Panorama or national job explorer sites and transform the content into simple posters or classroom info sheets. These can act as daily prompts and stimulate discussion. Another effective method is to guide students through the **ESCO job profiles database** using structured worksheets, which help learners connect occupations to their personal interests and required skills. To build both understanding and engagement, students may also be invited to use free infographic tools such as **Canva** to turn raw labour market data into creative visual outputs, reinforcing their comprehension while at the same time strengthening digital and communication skills. Short group tasks, in which students compare careers using pre-selected resources and present findings to peers, add depth and allow diverse perspectives to emerge.

Promoting Digital and Informational Equity

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Digital and informational inequality remains a major barrier to effective guidance. Some students are well-equipped and digitally confident, while others face limitations in access, connectivity, or digital literacy. Trainers can bridge these gaps by keeping a printed binder of updated local job and training opportunities in the classroom, ensuring inclusion even for those with limited digital means. Projectors can be used to collectively explore a couple of career **platforms** (e.g., Ploteus, MyFuture), modelling navigation techniques and teaching students how to search effectively. Complementary short workshops - on “how to read a job ad” or “how to search smartly online”- equip students with critical skills to evaluate sources and avoid confusion in the vast online environment.

Supporting Trainers as Career Information Mediators

Trainers and teachers play a pivotal role as mediators between labour market intelligence and learners. To strengthen this role, institutions can create small working groups of staff who take responsibility for curating, updating, and sharing career-related resources on a quarterly basis. This prevents duplication and ensures continuous improvement. Using frameworks such as the **Euroguidance Competence Matrix** can support staff in self-reflection and structured professional development. Moreover, setting up a digital hub - a shared drive or institutional platform, where educators upload quality-assured resources, templates, and local contacts can centralise materials and make them more accessible. Informal peer learning sessions, such as lunch seminars, provide additional opportunities for educators to exchange methods, test tools, and reflect collectively on effective guidance practices.

Leveraging Personalization and Smart Tools

AI-powered and personalised guidance platforms are becoming increasingly relevant in supporting students to visualise career paths aligned with their interests and competencies. Trainers may present free or trial versions of platforms such as **Jobiri, MyFuture, or Europass** and guide learners in completing assessments or building their first e-portfolios. Encouraging students to update their online CVs or career profiles nurtures self-awareness and readiness for applications. However, it is essential to discuss both the strengths and limitations of algorithm-based career suggestions, prompting students to critically evaluate whether recommendations align with their aspirations or lived realities. Facilitated group discussions

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following digital exploration help prevent over-reliance on technology and instead foster metacognitive thinking about career choices.

Creating Localized Career Resource Ecosystems

Finally, career information becomes most meaningful when it connects to students' immediate contexts. Localising guidance content makes learning tangible and relevant. Schools can, for instance, establish bulletin boards - either physical or digital - where up-to-date announcements of local job fairs, apprenticeship opportunities, and open days are posted. **Compiling a contact list** of local employers, NGOs, and municipal offices willing to host learners further bridges the gap between school and community. Trainers can also encourage student-led projects such as "career investigations," where learners interview community members about their professions and share findings with peers. Co-created brochures or handouts developed together with local partners can highlight concrete opportunities and reinforce the sense that career development is not abstract but embedded in the learners' own social and economic environment.

Tools and Resources Mentioned in this Section

ESCO Job Profiles Database -
https://esco.ec.europa.eu/en/classification/occupation_main

Canva - Free and user-friendly design platform to create infographics, posters, and youth-friendly LMI materials
<https://www.canva.com>

Ploteus - EU portal on learning opportunities and training across Europe (archived but still useful as reference for historical materials)
<https://ec.europa.eu/ploteus>

MyFuture - Career exploration and planning platform
<https://myfuture.com>

CareerOneStop - Work Values Matcher - Toolkit for reflecting on work values and matching them with career choices
<https://www.inspiringthefuture.org>

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Euroguidance Competence Matrix - Tool for career guidance staff self-assessment and professional development

<https://www.euroguidance.eu/resources/tools>

Jobiri - AI-powered digital career coaching platform

<https://jobiri.com>

Inspiring the Future - <https://www.inspiringthefuture.org>

Europass - Online CV builder and e-portfolio tool for learners across Europe

<https://europa.eu/europass/eng>

VirtualJobShadow.com - Platform providing video job shadowing and career exploration resources

<https://www.virtualjobshadow.com>

Conclusion

Enhancing access to career information is not simply about providing data, but about ensuring that such information is meaningful, equitable, and embedded in supportive learning environments. When labour market intelligence is presented in youth-friendly formats, supported by trainers who act as mediators, and complemented by digital literacy training, it becomes a powerful enabler of agency and informed choice. Personalised and AI-supported tools can further extend opportunities, provided they are introduced with guidance and critical reflection. Finally, by rooting career resources in local contexts, schools and VET institutions can transform abstract knowledge into tangible opportunities that resonate with students' everyday realities. Overall, these strategies strengthen the final pillar of the *SupportSphere* framework and contribute to building an inclusive, future-oriented guidance ecosystem across Europe.

The Handbooks' Conclusion

This handbook was developed to provide practical, research-informed strategies for improving career guidance in vocational education and training (VET), with a special focus on vulnerable youth at risk of disengagement or exclusion. Drawing on both desk research and transnational focus groups, it identifies systemic gaps - such as fragmented guidance structures, limited use of labour market intelligence, unequal access to experiential learning, and insufficient professional development of trainers - and proposes actionable responses organised around five strategic pillars. **The five-pillar model** emphasises: (1) supporting self-awareness and identity development through reflective and narrative-based tools; (2) bridging education and the labour market via experiential learning opportunities such as job shadowing and employer engagement; (3) fostering career exploration through digital platforms, gamified methods, and motivational interviewing; (4) building inclusive and sustainable ecosystems with mentoring, family engagement, and professional upskilling; and (5) enhancing access to reliable, youth-friendly career information, reducing information asymmetry and positioning trainers as key mediators. Together, these pillars promote a holistic, learner-centred approach consistent with European policy frameworks (e.g., Cedfop, 2020; OECD, 2021) and grounded in theories of career development such as Career Construction and ecological models of lifelong guidance (Savickas, 2013; Sultana & Watts, 2004). By embedding each strategy in real-world practices, the SupportSphere framework provides VET professionals with a practical yet adaptable roadmap for strengthening guidance systems across Europe. As labour markets continue to evolve, investing in inclusive and participatory career guidance is not only an educational responsibility but also a social imperative. By aligning evidence, practice, and policy, this handbook contributes to the Erasmus+ mission of supporting innovation, equity, and resilience in the future of vocational education and training.

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Plagiarism Declaration

I, Fatima Abu Hamam, declare that the work presented in this doctoral thesis is the result of my own independent research, carried out during my enrolment in the PhD Programme in Human Sciences (38th Cycle) at the University of Verona.

This thesis has not been submitted, in whole or in part, for the award of any other academic degree or qualification, either at this institution or at any other institution where contributions of others are involved, whether in terms of collaborative research, data collection, or joint publications. Full acknowledgement is given in the appropriate sections of the thesis.

I confirm that all sources used have been properly cited and referenced, and that the thesis complies with the ethical and academic integrity standards required by the University of Verona.