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**EXPLORING PERCEIVED EMPLOYABILITY OF UNIVERSITY STUDENTS AND GRADUATES**

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## Table of Contents

Abstract .....	2
Introduction .....	4
Chapter 1. Employability: Theoretical Perspectives.....	8
1.1. Employability Dimensions in Workplace Learning and Career Studies.....	10
1.2. Broader Understandings of Employability .....	12
1.3. Employability in Higher Education .....	14
1.3.1. Towards a Comprehensive View of Graduate Employability.....	22
1.4. PE.....	26
1.4.1. PE as a Personal Resource in the COR Theory .....	28
1.4.2. Empirical Evidence about PE in Students and Graduates .....	30
1.5. Research Questions and Outline of the Studies .....	35
Chapter 2. Hypothesised PE's Antecedents and Outcomes.....	40
2.1. Personal Antecedents of PE.....	40
2.1.1. CE.....	40
2.1.2. ISE.....	41
2.1.3. Career Resources .....	43
2.2. A Contextual Antecedent of PE: STS .....	45
2.3. Subjective outcomes of PE.....	47
Chapter 3. Study 1 - Contextual and Career Self-management Antecedents and Psychological Outcomes of PE: an Integrated Model with University Students .....	50
3.1. Introduction .....	50
3.2. Study Hypotheses.....	52
3.2.1. STS and PE.....	52
3.2.2. CE and PE .....	55
3.2.3. The Mediating Role of Career Resources .....	57
3.2.4. STS and Career Resources .....	58

3.2.5. <i>CE and Career Resources</i> .....	60
3.2.7. <i>Career Resources and PE</i> .....	61
3.2.8. <i>PE and Subjective Outcomes</i> .....	63
3.2.9. <i>The Mediating Role of PE</i> .....	65
3.3. <b>Method</b> .....	66
3.3.1. <i>Procedure for Data Collection</i> .....	66
3.3.2. <i>Participants</i> .....	68
3.3.3. <i>Measures</i> .....	68
3.3.4. <i>Strategy for Data Analysis</i> .....	71
3.4. <b>Results</b> .....	73
3.4.1. <i>Outliers Detection and Attrition Analysis</i> .....	73
3.4.2. <i>Measures' Psychometric Assessment</i> .....	75
3.4.3. <i>Testing the Structural Model</i> .....	81
3.4.4. <i>Testing the Hypotheses</i> .....	85
3.5. <b>Discussion</b> .....	88
3.5.1. <i>Antecedents of PE</i> .....	88
3.5.2. <i>Outcomes of PE</i> .....	90
3.5.3. <i>Theoretical and Research Implications</i> .....	90
3.5.4. <i>Limitations and Future Research Recommendations</i> .....	93
3.5.5. <i>Practical Implications</i> .....	95
<b>Chapter 4. Study 2 – ISE and CI as Antecedents of PE and PE Psychological Outcomes: an Integrated Model with Students and Graduates</b> .....	99
<b>4.1. Introduction</b> .....	99
<b>4.2. Study Hypotheses</b> .....	100
4.2.1. <i>ISE and PE</i> .....	100
4.2.2. <i>The Predicting Role of CI</i> .....	102
4.2.3. <i>PE and Subjective Outcomes</i> .....	104
4.2.4. <i>The Mediating Role of PE</i> .....	105
<b>4.3. Method</b> .....	106

4.3.1. Procedure for Data Collection .....	106
4.3.2. Participants .....	107
4.3.3. Measures .....	108
4.3.4. Strategy for Data Analysis .....	109
4.4. Results.....	111
4.4.1. Outliers Detection and Attrition Analysis .....	111
4.4.2. Measurement Model .....	113
4.4.3. Testing the Structural Model.....	115
4.4.4. Testing the Hypotheses .....	119
4.5. Discussion .....	122
4.5.1. Antecedents of PE.....	122
4.5.2. Outcomes of PE .....	123
4.5.3 Theoretical and Research Implications .....	123
4.5.4. Limitations and Future Research Recommendations .....	125
4.5.5. Practical Implications.....	127
<b>Chapter 5. Study 3 – The Reciprocal Relationship Between PE and PWB: a Cross-lagged Examination</b>	
<b>with Students and Graduates .....</b>	<b>130</b>
<b>5.1. Introduction .....</b>	<b>130</b>
<b>5.2. Study Hypotheses.....</b>	<b>131</b>
5.2.1. PE and PWB .....	131
5.2.2. The Reversed Effect of PWB on PE.....	131
5.2.3. The Reciprocal Relationship between PE and PWB .....	134
<b>5.3. Method.....</b>	<b>135</b>
5.3.1. Procedure for Data Collection .....	135
5.3.2. Participants .....	136
5.3.3. Measures .....	136
5.3.4. Strategy for Data Analysis .....	137
<b>5.4. Results.....</b>	<b>139</b>
5.4.1. Outliers Detection and Attrition Analysis .....	139

5.4.2. <i>Measurement Invariance</i> .....	141
5.4.3. <i>Testing the Structural Model</i> .....	143
5.4.4. <i>Testing the Hypotheses</i> .....	147
5.5. <b>Discussion</b> .....	148
5.5.1. <i>Theoretical and Research Implications</i> .....	149
5.5.2. <i>Limitations and Future Research Recommendations</i> .....	151
5.5.3. <i>Practical Implications</i> .....	152
<b>Chapter 6. General Discussion</b> .....	155
6.1. <b>Antecedents of PE</b> .....	156
6.2. <b>Outcomes of PE</b> .....	159
6.3. <b>An Integrated View of PE</b> .....	162
6.4. <b>A Dynamic View of PE: Upward Resource Gain Spirals and Reciprocal Relationships</b> .....	162
6.5. <b>Conclusion and Final Remarks</b> .....	163
<b>Acknowledgements</b> .....	166
<b>References</b> .....	167

## Abbreviation List

<b>Abbreviation</b>	<b>Explanation</b>
AVE	Average Variance Extracted
CCF	Confidence in Career Future
CE	Career Engagement
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Career Identity
CI (95%)	95% confidence interval using the bootstrap bias corrected method
COR	Conservation of Resources
COVID-19	Coronavirus Disease 2019
CR	Composite Reliability
DF	Degrees of Freedom
EFA	Exploratory Factor Analysis
ES	Emotional Support
GPA	Grade-point average
ISE	Job Interview Self-efficacy
JI	Self-reported number of Job Interviews
LL	Lower Limit of the Confidence Interval
MJISE	Multi-dimensional Job Interview Self-efficacy Scale
ML	Maximum Likelihood
NNFI	Non-normed Fit Index
NRRP	National Recovery and Resilience Plan
PE	Perceived Employability
PLM	Perceptions of the Labour Market
PWB	Psychological Well-being
RMSEA	Root Mean Square Error of Approximation
SC	Social Capital
SCL	Support for Collaborative Learning
SD	Standard Deviation
SDC	Support in discussing one's career future and providing students with information about job opportunities
SE	Self-efficacy
SEM	Structural Equation Modelling
SM	Teachers' presentation of work-based materials
SP	Support for developing students' problem-solving strategies
SRMR	Standardised Root Mean Square Residual
STP	Support for connecting theory and practice with work-based education
STS	Support from teaching staff
UL	Upper Limit of the Confidence Interval





## **Abstract**

The employment prospects of university students and graduates are being challenged by structural barriers present in the graduate labour market and the impact of the COVID-19 pandemic. This yields notable concerns about the psychological sustainability of the transition-to-work developmental stage nowadays. In such circumstances, employability represents a critical resource for new entrants into the labour market. It reflects the ability to deal with uncertainty and have a sustainable transition-to-work experience.

Although remarkable theoretical research has attempted to describe employability in Higher Education, more empirical research is needed to analyse the complex nature of this concept in the contemporary scenario. Coherently, this dissertation's general purpose is to deepen and expand the understanding of employability among Italian university students and graduates. Specifically, it adopts a psychological approach and focuses on Perceived Employability, the self-perceived ability and possibility to attain sustainable employment, considered a personal resource within the Conservation of Resources Theory. In line with the theory of Perceived Employability and Conservation of Resources Theory, three studies conducted with independent samples of university students and graduates— who completed an online questionnaire—investigate some underexplored antecedents, outcomes, and relationships of Perceived Employability. Study 1—a two-wave time-lagged study with 223 students —aims at testing whether and how Support from Teaching staff and Career Engagement influence Perceived Employability. Study 2—a three-wave time-lagged study with 158 students and graduates— tests whether Job Interview Self-efficacy predicts Perceived Employability and whether Career Identity predicts this relationship. Both Studies 1 and 2 investigate Perceived Employability psychological outcomes, namely Confidence in Career future and Psychological well-being. In both studies, a mediating role of Perceived Employability between its hypothesised antecedents and consequences is posited. Study 3— a three-wave longitudinal study

with 376 students and graduates —advances the exploration of Perceived Employability by testing its reciprocal relationships with Psychological well-being.

Overall, the results obtained with a Structural Equation Modeling approach confirm the expected relationships, providing a noteworthy theoretical contribution. Studies 1 and 2 expand the understanding of the factors shaping Perceived Employability, stressing the role of contextual and career self-management aspects. Moreover, Perceived Employability also appears to have a positive psychological impact, confirming it as a personal resource and expanding the scarce evidence of its beneficial role among new entrants. Study 3 shows that Perceived Employability and Psychological well-being influence each other over time in an upward spiral, providing novel understandings of Perceived Employability as a personal resource. These findings open new potential horizons to expand Perceived Employability research and address the limitations of these studies. The results have relevance at a practical level. They could inform policy-makers actions to foster Perceived Employability in Higher Education, help new entrants deal with the transition to work and promote psychological benefits in coherence with the need for fostering a psychologically sustainable transition endeavour.

## **Introduction**

Youth employment raises serious concerns in our society (International Labour Organization, 2020a; United Nations, 2015). Uncertain and fragile employment prospects could expose young people to the risk of insufficient resources for proper integration into adult life and disregard high societal expectations around the transition to adulthood (Ebner et al., 2021; Ng & Feldman, 2007; Sacks, 2018). Such factors can negatively affect and undermine mental health (Klug et al., 2019; Wanberg, 2012). This problem is witnessed by the United Nations 2030 Agenda for Sustainable development (United Nations, 2015), which points out the need to promote young people's integration into the labour market and full participation in society (i.e., 3<sup>rd</sup> and 8<sup>th</sup> goals for sustainable development). This concern for sustainability is also adopted from a psychological perspective. The psychology of sustainability is concerned with promoting meaningful and fulfilling career experiences despite the challenges and adverse events that characterise contemporary career paths (Di Fabio, 2017a; van der Heijden & de Vos, 2015). The key is understanding how to foster personal resources helping new entrants be responsible for their career and resilient against the challenges of the labour market, aiming not only at material goals but also a psychological sense of well-being and success (van der Heijden & de Vos, 2015). Employability is understood as a crucial personal resource in this regard (Donald et al., 2019; Lo Presti & Pluviano, 2016). Indeed, it reflects the capability to move self-sufficiently in the labour market and secure sustainable employment- and career-related outcomes (Fugate et al., 2021; van der Heijden & de Vos, 2015).

Employability has gained much attention in Higher Education studies as a resource for a sustainable transition to work (e.g., Donald et al., 2019; Tomlinson, 2012; 2017a). Within the broader population of young people, also university students and graduates have been experiencing fragile employment prospects. Indeed, the rise of global competition and the emergence of new forms of work with a higher rate of change have created unpredictability in individual careers (International Labour Organisation, 2020a). Also of great concern for new entrants' prospects is the

global difficulty of absorbing them in a crowded graduate labour market due to a constant increase in graduate supply (Giannakis & Bullivant, 2016; UNESCO, 2021) or, as in the case of Italy, stagnant economy and employers' low capacity to value highly skilled graduates (Italian Government, 2021; OECD, 2017). The COVID-19 pandemic impact has further jeopardised new entrants' prospects (Aucejo et al., 2020). It has interfered with university students' learning processes and skills development (e.g., disruption of educational activities; Aucejo et al., 2020; European Commission, 2021a; 2021b; OECD, 2020) and provoked an erosion of job opportunities to access the graduate labour market (AlmaLaurea, 2021). Even before the pandemic, precariousness challenged students and graduates with poor mental health and a low sense of success (Fiori et al., 2016; Klug, 2020; Klug et al., 2019; Parola & Donsi, 2018). Yet, the pandemic has exacerbated such uncertainty, eliciting worries about the future (International Labour Organization, 2020b; Mahmud et al., 2021). This has globally resulted in mental impairment symptoms like anxiety and depression (Cielo et al., 2021; ILO, 2021; Kamaruddin et al., 2021; Kumari et al., 2021; Mahmud et al., 2021). Some evidence among Italian university students and graduates has shown that the pandemic had them feel stuck without a defined time horizon, with declining employment perspectives, and suffering from poor mental health (e.g., Generali et al., 2020; Parola, 2020).

These circumstances further emphasise employability as a necessary resource to deal with uncertainty and have a sustainable transition-to-work experience (Consiglio et al., 2021; Donald et al., 2021), and its development is a priority on policy-makers agenda (European Commission, 2020; 2021c). Not surprisingly, in recent years, there has been a flourishing of theoretical models describing graduate employability in the current economic and higher education scenario (e.g. Caballero et al., 2020; Clarke, 2018; Römgens et al., 2020; Tomlinson, 2017b), representing it as a complex concept underpinned by personal, psychological, social and contextual factors. Despite its importance asserted at a theoretical level, the scholarly analysis of employability requires more empirical research to investigate its complex nature in the contemporary economic and higher

education scenario (Di Fabio, 2017b; Ma & Bennett, 2021; Jackson & Wilton, 2017). Scholarly research ought to better understand what affects employability in Higher Education (Clarke, 2018; Donald et al., 2018). Moreover, research is demanded to confirm that employability has positive transition-related outcomes, especially in terms of psychological effects (Clarke, 2018; Ma & Bennett, 2021).

In virtue of this, this dissertation's general purpose is to deepen and expand the understanding of employability among Italian students and graduates. In doing so, it adopts the psychological approach and focuses on Perceived Employability (hereafter, PE), the individual estimate of the chance to gain employment (Vanhercke et al., 2014), considered a personal resource within the Conservation of Resources theory (hereafter, COR theory; Hobfoll et al., 2018). PE permits a more profound exploration of employability-enhancing factors related to the individual and the context (Vanhercke et al., 2014). Moreover, PE accounts for subjectivity and defines how people approach their transition to work, influencing thoughts, feelings, and actions, explaining outcomes related to the transition (Silla et al., 2009). This dissertation contributes to the literature about PE by exploring some factors, considered quite overlooked by research (Clarke, 2018), that could influence it, namely career self-management and contextual factors. Career self-management factors are considered antecedents of PE because they are decisive in fostering new entrants' prospects (Bridgstock, 2009). Also, the contextual influence is herein intended as supportive teaching in Higher Education that enhances new entrants' preparation for post-graduation life (Lopez-Minguens et al., 2021). Moreover, this work intends to explore PE psychological outcomes, which is a remarkable contribution because such a relationship has been quite overlooked in research among new entrants (Vanhercke et al., 2016).

The chapters of this dissertation are articulated in a theoretical and background part (Chapters 1 and 2) and a second part consisting of the studies conducted (Chapters 3, 4, 5), and a general discussion section (Chapter 6). Chapter 1 focuses on how employability has been described in the

broader field of workplace learning and career studies and the narrower field of higher education studies. Moreover, it reviews the empirical work about students' and graduates' PE, reports literature gaps, and formulates the studies' main goals and research questions. Chapter 2 introduces the key variables used in the studies. The following chapters (3, 4, 5) describe the studies' hypotheses, methods, and results. Study 1 tests career self-management and contextual antecedents of PE and explores its psychological outcomes. Study 2 further focuses on testing career self-management antecedents of PE and PE psychological outcomes. Both studies test structural models where PE mediates the relationship between its antecedents and outcomes. Moreover, these studies adopt multi-wave research designs, which many scholars have demanded (e.g., Vanhercke et al., 2016). Study 3 intends to expand the findings of the first two studies and reach novel insights into PE among new entrants: a three-wave cross-lagged design tests direct, reverse, and reciprocal relationships between PE and psychological well-being. Altogether, these studies ought to contribute to the debate about employability in Higher Education, which still captures scholarly attention (Tomlinson & Nghia, 2020), and move this field of study forward. The results can expand the knowledge about employability thoroughly, deepening its understanding as a complex phenomenon that involves individual and contextual factors, which underpin a psychological dimension that, in turn, leads to favourable outcomes. Insights into PE antecedents are important to shed light on how to raise PE, and the impact of PE on psychological outcomes can confirm its beneficial effect among students and graduates. Studying antecedents and outcomes of PE may match with the concerns of the psychology of sustainability that requires researching and promoting resources to protect and foster psychological success and well-being (Chiesa et al., 2018; Magnano et al., 2019). The results may inform policy-makers recommendations for Higher Education to develop employability and ease the transition to work (Donald et al., 2021; Tomlinson, 2012). Coherently, a discussion section at the end of each study discusses theoretical and practical implications, and Chapter 6 outlines the relevance of this dissertation in terms of theoretical and practical contributions.

## **Chapter 1. Employability: Theoretical Perspectives**

The topic of employability has received much scholarly attention, and the debate about its nature is far from being exhausted (Fugate et al., 2021). An impressive number of scholarly works studied it to establish its nature, giving plenty of different, yet related, definitions for this concept (to name a few: Forrier & Sels, 2003; Fugate et al., 2004; Hillage & Pollard; Peeters et al., 2019; van der Heijde & van der Heijden, 2006). This notion has grown important to become a buzzword in many research fields such as Labour Economics, Human Resource Management, Higher education, Work and Organisational psychology (Thijssen et al., 2008). However, many have referred to it as a "fuzzy" term, meaning that it is difficult to represent with a rigorous theory, provoking definitional and measurement challenges (Forrier & Sels, 2003; Fugate et al., 2021; Williams et al., 2015). This conceptual problem is easily understandable from the history of this notion, as some reviews point out (e.g., Fugate et al., 2021; McQuaid & Lindsay, 2005; Thijssen et al., 2008; Williams et al., 2016). Changes in the labour market have produced several theoretical approaches giving different interpretations of employability, connecting it with various stakeholders, targets, measures, and development strategies.

Early definitions date back to the half of the twentieth century and rely upon a socio-economic meaning. Employability pertained to the characteristic of being able or willing to work (Forrier & Sels, 2003), reflecting the governments' aim to gain full employment thanks to their policies to facilitate employment access. At this macro-level of analysis, the main stakeholder was the society, which chased the goal of easing the entrance to the workforce for the unemployed and gaining full employment through national interventions, framing employability measures into national employment rates (Fugate et al., 2021).

A second perspective emerged in the seventies of the past century, with firms and companies needing to boost the workforce's flexibility against the transformations of the labour market and work requirements (Atkinson, 1984). At this meso-level of analysis, companies and organisations

were the main stakeholders, and employability pertained to the employers' initiatives to enact employees' functional flexibility to switch from one job to another against changes in the working processes. Employability was then measured by how an organisation operated efficiently (Thijssen et al., 2008).

With the emergence of protean and boundaryless career forms, the concept shifted to a person-centred or micro-level interpretation (Thijssen et al., 2008), which sees the single holding the higher stake in their career development (Arthur et al., 1989; Briscoe et al., 2006). Employability is a personal asset that people possess and harness to self-endorse towards career and life achievements (Forrier et al., 2018; Hillage & Pollard, 1998; Hirschi, 2012). Beyond employment rates and organisational outcomes, employability indicators at this level are the number of transitions, objective and subjective indicators of career success (e.g., satisfaction), and self-reported levels of well-being (Forrier et al., 2015; Fugate et al., 2021). Its development is the core of the transactional relationship between the employers and the employees, where the formers offer strategies (e.g., formal or informal learning and training) to enhance the latter's employability and the chance to find a new job inside or outside the organisation (Thijssen et al., 2008).

Not surprisingly, this person-centred understanding of employability has been dominant in the last two decades. Yet the definition gets more nuanced based on the underlying philosophy, and it has been described as a variegated concept (Fugate et al., 2004). It has been conceived as the chance to get a job (Forrier et al., 2003); an ability (Hillage & Pollard, 1998); a combination of specific and generic competencies, which benefit organisations and individuals (van der Heijde & van der Heijden, 2006); a form of adaptability formed by psycho-social constructs (Fugate et al., 2004; Fugate & Kinicki, 2008); a composite of competencies supporting career mobility (Akkermans et al., 2013; Defilippi & Arthur, 1994); a psychological process which predisposes individuals towards favourable career outcomes (Clarke, 2018; Forrier et al., 2015; Vanhercke et al., 2014).



Despite the differences, these interpretations share the common idea that employability embodies the ability, underpinned by a multi-dimensional structure of individual factors, through which people adapt to, or proactively anticipate, changes in the external and internal labour market to gain or retain meaningful, potential-realising, sustainable employment (Hillage & Pollard, 1998; Peeters et al., 2019; Römgens et al. 2020; Thijssen et al., 2008). In virtue of these characteristics, employability represents a critical personal resource and a new form of career security against growing career turbulence, sustaining workers in all career phases, from career debut, through mid-career to later career stages (Alcover et al., 2021; van Harten et al., 2021). Recent review work done by Römgens et al. (2020) and Williams et al. (2016) has remarked that contemporary theoretical models explaining employability in the workplace and career studies focus mainly on its individual-level determinants, categorised within macro-areas of competencies or capitals.

### **1.1. Employability Dimensions in Workplace Learning and Career Studies**

Workplace learning and career studies have provided a taxonomy of individual factors contributing to employability. Human capital—also referred to as professional expertise (Peeters et al., 2019; van der Heijde & van der Heijden, 2006) or Know-how (Defilippi & Arthur, 1994)—is present in every description of employability. It represents the knowledge and technical, generic/transferable and meta-cognitive skills to adequately match a specific profession's performance expectations (Becker, 1975). Moreover, it also taps education and training experience to develop human capital (Lo Presti & Pluviano, 2016; van der Heide & Van der Heijde, 2006).

Social capital—also found as Know-whom (Defilippi & Arthur, 1994) or communicative competencies (Akkermans et al., 2013) —represents the individual's professional and interpersonal relationships (Seibert et al., 2001). Personal networks can be a source of social support, influence and relevant information for career development inside (e.g., advancement opportunities) or outside (e.g., job search) organisations.

Employability also pertains to reflection on self and the organisation, or career identity (Fugate et al., 2004), know-why (Defilippi & Arthur, 1994), reflective competence (Akkermans et al., 2013), self-awareness (Forrier et al., 2015), corporate sense (van der Heijde & van der Heijden, 2006). This dimension pertains to the individual's self-awareness as a professional regarding interests, values, goals, or as part of an organisation, functioning as a compass to plan one's professional development (Lo Presti & Pluviano, 2016).

Of great importance is personal adaptability, also referred to as flexibility and anticipation (van der Heijde & van der Heijden, 2006), psychological capital (Williams et al., 2016) or career behavioural competencies (Akkermans et al., 2013). It pertains to the ability and the propensity to adapt to work and career changes and the willingness to engage in adaptive efforts to remain attractive and competitive (Forrier et al., 2015).

Career self-management factors are also critical. They contribute to the process of adjustment to different career events and stages, identifying and realising development and job opportunities, and reaching valued career goals (Blokker et al., 2019; Kossek et al., 1998; Williams et al., 2016). Some career self-management indicators have been already mentioned as distinguished factors (i.e. career identity, adaptability). Others can be discerned, like the ability to self-present (e.g., during recruitment and selection processes) and behavioural competencies such as self- and external exploration, career planning and networking (Akkermans et al., 2013; Lo Presti & Pluviano, 2016; Williams et al., 2016).

Empirical evidence has confirmed the models that see employability as just described (e.g., Blokker et al., 2019; Eby et al., 2003; Gowan, 2012; Jacobs et al., 2019; McArdle et al., 2007; van der Heijden et al., 2018; for a review, see van Harten et al., 2021). Moreover, these models have shown predictive validity, demonstrating that these factors protect the individuals' value against the dynamicity of the internal and external labour markets. Employability can result in favourable outcomes, like innovative work behaviours (e.g., Fleisher et al., 2014; Stoffers et al., 2018) or

employment quality and job satisfaction (e.g., Gonzalez-Romà et al., 2016; van der Heijden et al., 2018). Moreover, it supports individuals navigating the external labour market through more intensive job search (e.g., Koen et al., 2013; McArdle et al., 2007), promoting employment quality and well-being after a period of unemployment (e.g., Gowan, 2012; Koen et al., 2013). However, possessing employability in the form of individual capitals not always assures positive career results (Nilsson & Ekberg, 2013; Wilton, 2011). As the following section asserts, this outlines the need to study employability with a more comprehensive approach.

## **1.2. Broader Understandings of Employability**

The shift of responsibility of career management to individuals and the flourishing of person-centred models explaining employability has not been addressed without criticism. Indeed, many have pointed out that personal agency and qualities as the key factor for career success have been overly emphasised (De Vos et al., 2021). Seeing employability as possessed by a free agent who acts independently from the context is an incomplete representation, prone to a victim-blaming explanation of an unsuccessful career in a neo-liberalist society (Kovalenko & Mortelmans, 2016; Tholen, 2015). Some theoretical models have acknowledged that employability is constrained by many contextual factors of varying nature, which are placed at different levels in society and organisations (Delva et al., 2021; Thijssen et al., 2008; Vanhercke et al., 2014). These may pertain to societal and organisation systems of relationships or strategies to help individuals thrive, facilitating the broadening of individual capitals (Thijssen et al., 2008; Wittekind et al., 2010). Also, economic conditions or cultural norms should be accounted for, as they define the value of the individuals in the labour market, determining actual or perceived opportunities (Delva et al., 2021; Forrier et al., 2015; Kalfa & Taksa, 2015).

MacQuaid and Lindsay (2005) described employability as "the dynamic interaction of individual attributes, personal circumstances, labour market conditions and other 'context' factors" (p.206). They conceived it as stemming from individual factors (e.g., individual capitals and

demographic characteristics), personal circumstances (e.g., household duties, work culture, access to resources) and external factors (e.g., labour market demands, quality of education).

These positions are echoed by Thijssen et al. (2008) in their Employability-Link model. They argued that the contextual factors (located at the higher level of society or an organisational level) might influence individual employability, facilitating the acquisition and development of individual skills and supporting employment opportunities. More recently, Guilbert et al. (2016) referred to employability as the "possibility of accessing a suitable job or remaining employed in a social, economic, cultural, and technological context resulting from interactions between the individual, organisational strategies, and governmental educational policies" (p. 79), acknowledging its nature as a compound phenomenon. The interpretation of employability provided by Rothwell et al. (2008; 2009) and Vanchercke et al. (2014) integrates the individual and contextual influences. They have interpreted employability as a perception of employment capacity shaped jointly by personal and contextual factors. This conceptualisation is the focal variable in this dissertation, and it will be introduced in depth in the following sections.

Many have remarked on a lack of empirical research encompassing contextual factors speaking of "blind spots" in employability research (e.g., Delva et al., 2021; Forrier et al., 2018). The criticism is that research has not recognised that employability is "in context" and "in relation with others" (Forrier et al., 2018). Economic conditions, cultural norms, symbolic capitals, and organisation-level employability-oriented actions seem to be overlooked (Forrier et al., 2018; Delva et al., 2021). Only in recent years, scholars have started to address the role of context. They have mainly explored the impact of perceived barriers and conditions in the labour market (Okay-Somerville & Scholarios, 2014; Santos, 2020; Tholen, 2015) and, to a lesser extent, organisational factors such as human resource management strategies (Nauta et al., 2009). Still, the idea of employability as an exclusive responsibility of the individual is far from being eradicated. It also affects the theorising and research of employability in Higher Education studies, as presented below.

### **1.3. Employability in Higher Education**

Previously in this work, employability has been called to be a critical ability for sustainable employment and career outcomes, sustaining people throughout their careers, and essential also for those about to start their careers, namely university students and graduates. Indeed the emergence of more unpredictable careers, which have sided with the traditional ones (Chudzikowsky, 2012) and put the onus of career upon individuals, has made employability a key goal for Higher Education. The focus is on preparing students for their post-graduation life and the challenges of the contemporary labour market. As Tomlinson (2012) said, it is "no longer enough just to be a graduate, but instead an employable graduate." (p. 415).

Resonating with the concluding remarks of the Bologna Process (European Ministers of Education, 1999), the Higher Education institutions have been turning into leading actors in the graduate employability field (Lopez-Minguens et al., 2021; Sin & Neave, 2016). As such, a focal task of Higher Education has become producing employable and work-ready graduates to supply the global capital with a flexible and skilled workforce without any need for further training (Tomlinson, 2012). This is meant to fulfil social development obligations toward society, employers and students (Lopez-Minguens et al., 2021). Under this lens, the role attributed to Universities draws upon the Human Capital theory (Becker, 1975). Namely, they are supposed to build graduate employability in the form of skills, knowledge and attributes (also called "employability skills"; Tomlinson, 2012; 2017a). These skills and credentials, certified outputs of a degree programme, are specific to a certain profession or transferable across many situations (Bridgstock, 2009).

This supply-side interpretation is quite attractive from a neo-liberalist perspective. Indeed, It supports the idea that students who get a degree and academic credentials build their employability, automatically guaranteeing employment (Tomlinson, 2017a). It has become a paradigm for universities to provide employability for students and graduates, based on which recommended skills packages are embedded into curricula (Kalfa & Taksa, 2015). For instance, Italian Higher Education

has many information systems reporting lists of the necessary skills, knowledge, and attributes required by profession to match employers' desires (e.g., Atlante delle Professioni dell'Università di Torino, 2021; INAPP, 2021; Progetto Excelsior, 2021). Moreover, many skills initiatives have been adopted to teach employability skills (e.g. soft skills) with stand-alone courses (e.g., University of Bologna, 2021). The assumption that a causal link exists between providing employability skills and getting employment has led to using graduate employment objective statistics as indicators of Higher Education practices' effectiveness and as a marker of University success to attract future students (Tomlinson, 2017a). Italian Higher Education largely relies on such indicators (e.g. AlmaLaurea, 2021) to inform universities' performance evaluations (ANVUR, 2021).

Many scholars in the employability debate have criticised this view as too simplistic and flawed. It conflates skills provision and employability and mistakenly suggests that academic credentials automatically link with higher employment strength (Tomlinson, 2017a). Seemingly, it ignores the mismatch between education and employers' requirements (Damoah et al., 2021; Lim et al., 2016) and the inflation of the degree value in a congested graduate labour market (Okay-Somerville & Scholarios, 2014). Neither the supply-side interpretation is supported in the Italian graduate labour market, where formal qualifications are not a robust signal of graduate workers' skills (Adda et al., 2017; OECD, 2017). Also, linking graduate employability with objective short-term employment criteria (e.g. shares of full-time employment) does not account for the other factors beyond credentials that influence their employment potential (Holmes, 2013). Proxying employability with objective employment indicators has been criticised as obsolete, given the decline of stability for new entrants in the modern graduate labour market (Jackson & Bridgstock, 2018). The supply side, human capital-based, approach neglects that subjectivity is required to explore employability and its outcomes. People may interpret their employability according to their idea of work centrality and success, which may not necessarily be full-time employment (Jackson & Bridgstock, 2018; Tomlinson, 2012; Tomlinson, 2017a). Thus, their desired outcomes may not

correspond to objective ones, and employability could not be accurately measured without subjective criteria.

That is to say, academic education and skills do not correspond to graduate employability, and neither employment is a logical consequence of being employable. Instead, employability relies on the broader concept of capitals, namely educational, social and psychological resources accumulated through valued experience (Tomlinson, 2017b). Even if they are not a guarantee of employment, these individual factors mark the capability of interacting with employers, negotiating contextual barriers and self-managing to reach goals valued by the individuals (Holmes, 2013; Tomlinson & Nghia, 2020). Moreover, the contextual influence should receive more attention and be better articulated (Kinash et al., 2016). For instance, the supply-side view relegates Higher Education institutions to mere providers of skills, without discerning how they can nurture students' capitals and enhance their perceived employment capacity. Furthermore, it should be considered that employability is constructed at a subjective level. This requires accounting for how students and graduates perceive their employability as a means to fulfil their aspirations, needs and goals. Coherently, it becomes necessary to acknowledge that employability should be gauged with subjective outcomes beyond objective ones (Donald et al., 2019; Rothwell & Rothwell, 2017).

Coherently with the idea that employability is a complex concept, across the years, a remarkable number of theoretical models have attempted to move beyond the human capital-based approach. They have tried to describe graduate employability as a multi-dimensional concept, underpinned by a breadth of career-oriented capitals, behaviours, and contextual factors. Hillage & Pollard (1998) defined employability as "the capability to move self-sufficiently within the labour market to realise potential through sustainable employment" (p. 1). This capability relies on four dimensions. First come assets, consisting of basic, occupational-specific and soft skills. Though necessary, assets are not sufficient to navigate the labour market without deployment, namely career management abilities (e.g., self-awareness, job opportunities awareness, and planning abilities) and

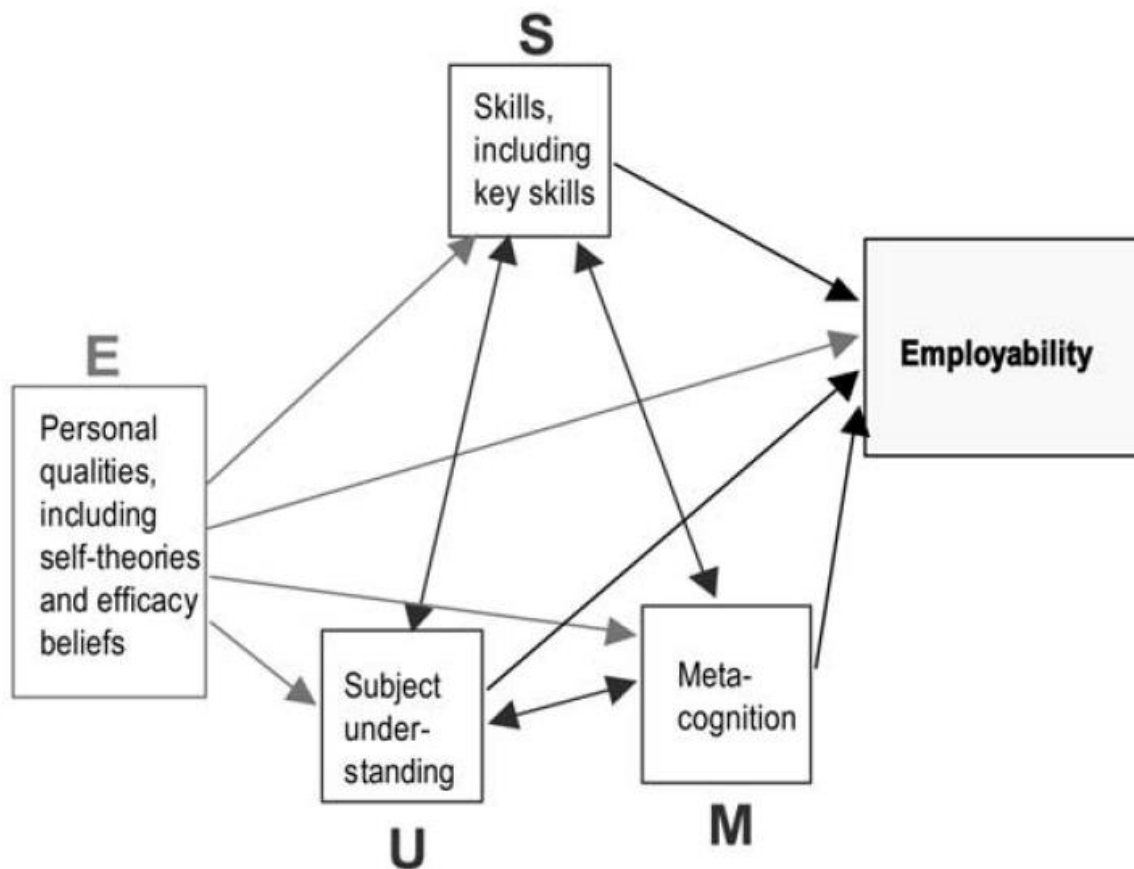
the capability to run job search and self-present to employers. This model also accounts for the contextual influence, namely personal circumstances (e.g., age, household and caring responsibilities) and external influences (e.g., labour market demands, circumstances and regulation, employers' recruitment behaviour).

Knight and Yorke (2003) 's USEM model (Figure 1) defined employability as a " synergic blend of personal qualities, skills of various kinds (of which 'key skills' are a subset) and disciplinary understanding" (p. 264). This interpretation extended graduate employability beyond subject-related understanding, describing four interconnected dimensions: Understanding, Skills, Efficacy Beliefs and Metacognition. Understanding is how one has internalised the subject of study in-depth and can transfer it to other contexts. Skills reflect the procedural knowledge of the student and the ability to use it in different contexts of practice. Efficacy beliefs—people's confidence in their ability— and other personal qualities and incremental self-theories reflect the willingness to learn, persistence and internal locus of control. Metacognition concerns the students' reflective ability to understand their knowledge, learning processes, and strategies. The USEM model postulated that Efficacy beliefs and personal qualities directly affect each of the other components. Moreover, understanding, skills and metacognitions are interdependent and mutually supportive. Despite being criticised as unclear (Dacre Pool & Sewell, 2007; Romgens et al., 2020), this model's merit is to acknowledge that supportive teaching is a propeller for enhancing employability (Yorke & Knight, 2007). This is a useful assumption indicating practical ways in which Higher Education institutions may fulfil their responsibility of nurturing their students' employability (Ehiyazaryan & Barraclough, 2009; Yorke & Knight, 2007).



**Figure 1.**

*The USEM Model (Knight & Yorke, 2003)*



Attempting to address the USEM model's weaknesses, Dacre Pool and Sewell (2007) developed the CareerEDGE model (Figure 2). It defined employability "as a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful" (p. 280). Four basic dimensions of employability were identified: subject-specific factors (i.e. understanding, skills and knowledge) and generic skills; work and life experiences; emotional intelligence (the ability to perceive, understand and regulate emotions in oneself and others); career-building and development skills. To develop employability, students need the right time to reflect on these basic assets, heightening their understanding of where and how they can apply them. Reflection leads to self-efficacy, self-

confidence, and self-esteem, which, in turn, determine employability. This model has received scant attention in the empirical literature (e.g., Dacre Pool & Qualter, 2013; Dacre Pool et al., 2014; Di Fabio & Kenny, 2015).

**Figure 2.**

*The CareerEDGE Model (Dacre Pool & Sewell, 2007)*

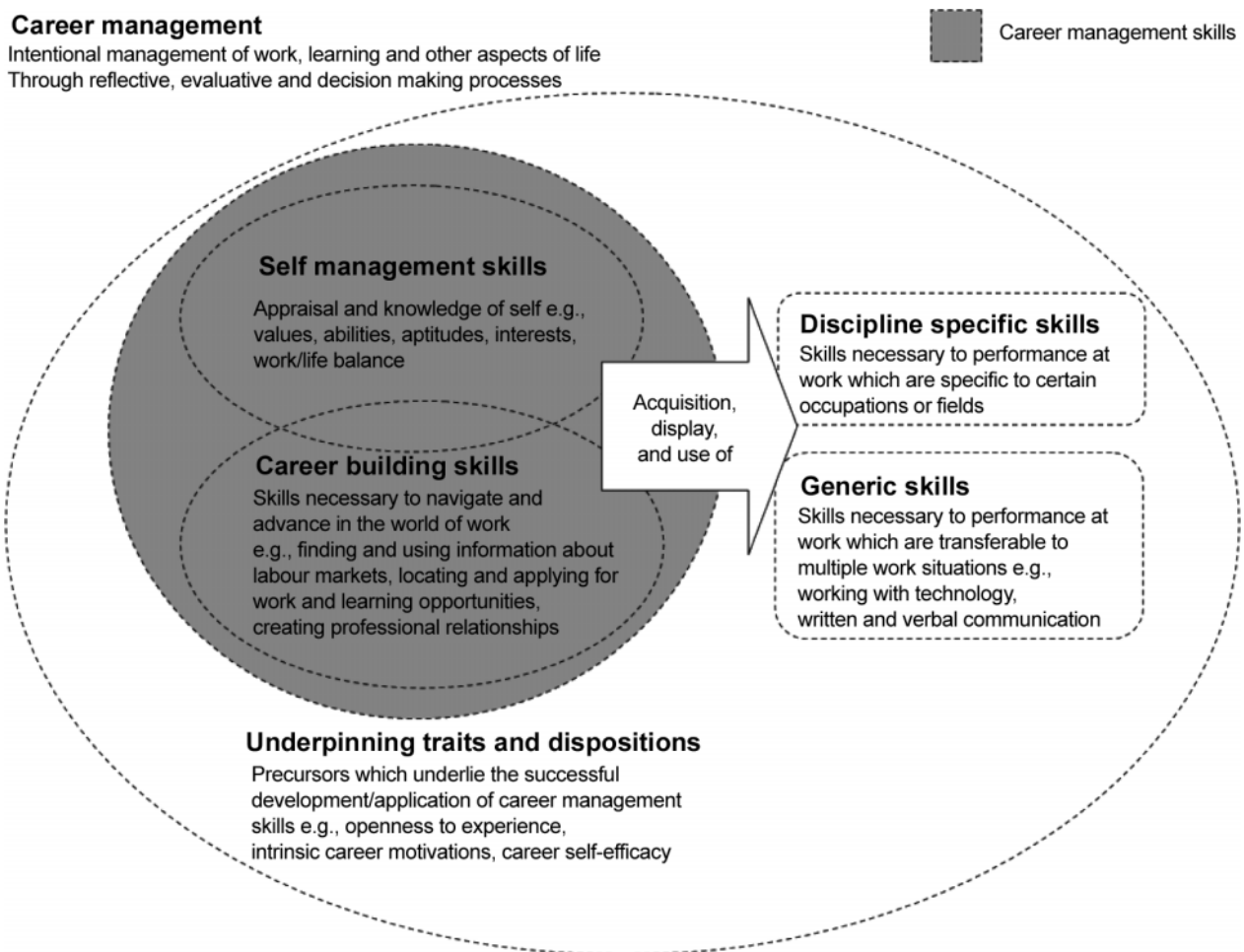


Bridgstock (2009) also attempted to frame graduate employability beyond the narrow supply-side view. In her Career management for maximum employability model (Figure 3), she introduced career management as an ongoing process of pursuing career goals. This process is underpinned by personal traits and dispositions (e.g., openness to experience, efficacy beliefs, intrinsic career motivations) and embodied by the deployment of employability skills. Employability skills encompass not only discipline-specific and generic skills. Indeed, career management skills are also

essential to employability. Career management skills are divided into self-management skills— "individual's perception and appraisal of themselves in terms of values, abilities, interests and goals" (p. 37)— and career-building skills, which are necessary "to navigate and advance in the world of work" (p. 36). This last category includes, for instance, the capability to self-present attractively to prospective employers and create social ties.

**Figure 3.**

*The Career Management for Maximum Employability Model (Bridgstock, 2009)*



More recently, there have been attempts to list the possible resources underpinning employability-related capitals, like the models of Caballero et al. (2020), Römgens et al. (2020), and Tomlinson (2017b). All three models see human capital as the specialistic or generic understanding,

namely the capability to apply knowledge and skills accumulated through formal education or other development experiences. Tomlinson (2017b) asserted that human capital also consists of career self-management described by Bridgstock (2009). Römgens et al. (2020) included the analogous career development skills as a separate dimension. All three models asserted the importance of social capital because it resembles the resources accessible through individual social connections. Caballero et al. (2020) and Tomlinson (2017b), but not Römgens et al. (2020), included cultural capital, the "formation of culturally-valued knowledge, dispositions and behaviours that are aligned to the workplaces that graduates seek to enter." (Tomlinson, 2017b; p. 7). Cultural-relevant aspects embodied by some graduates may symbolise fit with prospective employers, enhancing employment opportunities (Kalfa & Taksa, 2015).

Tomlinson (2017b) and Römgens et al. (2020), but not Caballero et al. (2020), comprised identity capital, referring to how students see, define and evaluate themselves as future workers, influencing their approach to the labour market. The three models accepted Psychological capital as a component of graduate employability. It refers to resources that enable individuals' adaptability and resilience against challenges and setbacks during their transition. Efficacy beliefs are crucial in this regard, as they pertain to the capability to manage unfamiliar tasks for new entrants in the labour market, such as job search activities (Caballero et al., 2020; Tomlinson, 2017b; Tomlinson & Nghia, 2020). The employability capital models have received empirical validation at a confirmatory level (Caballero et al., 2021; Tomlinson et al., 2021). Moreover, these capitals have been empirically connected with students' and graduates' employability (Caballero et al., 2020; Donald et al., 2019; Tomlinson et al., 2021).

This brief overview points out that these models assert that graduate employability is a more complex phenomenon than the simplistic human capital-based approach popular among policymakers wants it to be. Nevertheless, they still present some limitations hampering a thorough understanding of employability in Higher Education. Indeed, the role of contextual factors is only

marginally treated and theorised (Santos, 2020). Only Hillage and Pollard (1998) recognised the role of context in terms of personal circumstances and external factors. Tomlinson (2017b) acknowledged the contextual influence of universities in sustaining students in building and using capitals in the interaction with the labour market. More research is required to describe how Universities can promote employability beyond the formal provision of skills (Clarke, 2018; Fakunle & Higson, 2021). Furthermore, contemporary views have stressed the inclusion of career self-management skills in the discourse of employability (e.g., Bridgstock, 2009; Tomlinson, 2017b). This suggests that the behavioural side of career self-management should also receive more attention in the contemporary notion of graduate employability because it enhances the positional advantage even in a labour market that presents taxing conditions like the contemporary one (Jackson & Tomlinson, 2020; Santos, 2020; Tomlinson & Nghia, 2020). Moreover, the need to bring the discourse of graduate employability to a subjective level calls a psychological dimension into play, which is not well addressed in the models described. This involves how individuals perceive their strengths, internalise contextual influence, define their position in the labour market, construct the perception of their employability, and evaluate it compared with their inner motivations (Nicholas, 2018; Rätty et al., 2019; Tomlinson & Nghia, 2020).

### ***1.3.1. Towards a Comprehensive View of Graduate Employability***

Two perspectives on graduate employability have attempted to address these issues. First, the processual approach to graduate employability developed by Holmes (2013; 2015) is of help in its contemporary understanding. He interpreted graduate employability according to three competing explanations: possessional, positional and processual. The possessional approach refers to the dominant understanding based on the possession of a set of employability skills, yet largely criticised for not explaining graduate employment performance. The positional approach, connected with the notion of cultural capital, sees employability as tied to the social background that can influence employment opportunities in the context of limited graduate-level jobs. The third explanation, or

processual approach, is expected to address the limits of the first two explanations. It puts more optimism upon the ability of the single, who is not a passive recipient of their circumstances and victim of the system, but capable of building their future through their actions and decisions. This approach sees graduate employability as a process in which graduate identity (or graduateness; Clarke, 2018) is formed. It is a process of self-construction through which an individual becomes a graduate capable of performing in graduate jobs (Burke et al., 2017; Nicholas, 2018). This should lead them to be recognised as a person worthy of a job, which is especially important on occasions where they interact with employment gatekeepers (e.g., selection process), and present themselves making "identity claims" (Holmes, 2013). A crucial part of the "becoming graduate" process draws upon performing proactive career self-management behaviours, which serve the construction of resources to deal with constant changes and compete with other equally well-educated graduates (Clements et al., 2018; Hirschi, 2012; Hirschi & Koen, 2021; Okay-Somerville & Scholarios, 2017). Moreover, this model also gave aid in understanding the contextual influence on graduate employability and better articulating the role of Higher Education in developing it. Indeed, graduate employability concerns several stakeholders placed at different levels of a career ecosystem. While the macro-level consists of national governments and institutions and the micro-level comprises students, their families and their respective interests, at a meso level several actors exist mediating between the other two levels. These actors are responsible for preparing university students and recent graduates for the university-to-work transition, fostering their employability (Donald et al., 2021). They can be found inside (e.g., career services, teaching staff, academic support) and outside (e.g., alumni, graduate recruiters) universities (Donald et al., 2018; Donald et al., 2021; Jackson, 2016a; Lopez-Minguens et al., 2021). These actors allow students to acquaint the labour market, empower the employability capitals with tailored pedagogy and meaningful work-integrated learning experiences and support initial interaction with employment gatekeepers (Donald et al., 2018; Ebner et al., 2021; Martini & Cavenago, 2017).

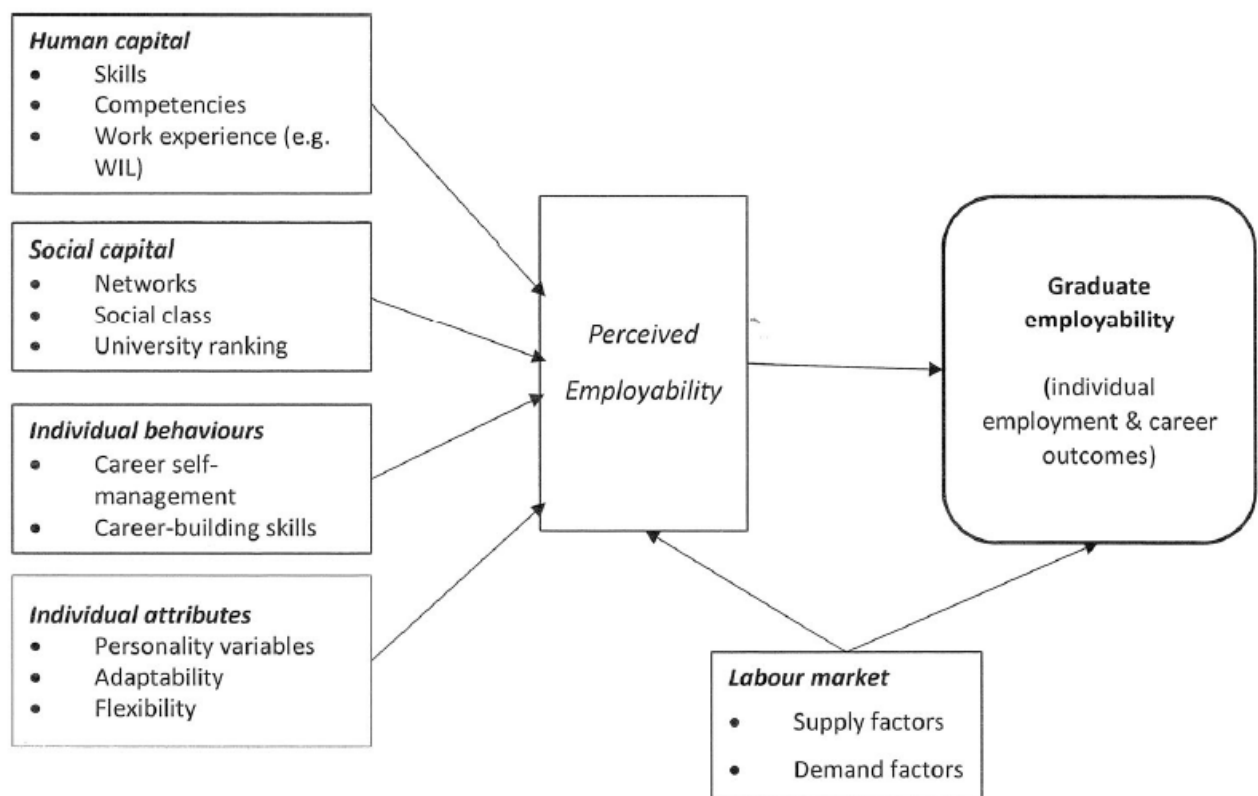
Second, Clarke (2018) developed an integrated model of graduate employability (Figure 4), bringing together the different theoretical strands and research streams. In defining the employability of students and graduates, she acknowledged the limits of the supply-side view blaming the fact that it is still largely used in research and practice. She referred to it as "human capital, social capital, and individual behaviours and attributes that underpin an individual's perceived employability, in a labour market context, and that, in combination, influence employment outcomes" (p. 1932). This definition is highly comprehensive, as it still depicts the factors included in the models presented previously (e.g., human, social and cultural capitals, career-management related skills, personal attributes and dispositions) as building blocks of graduate employability. Moreover, it also accounts for human agency, positing career self-management as necessary to make one's gradueness and negotiate entry with external gatekeepers. Contextual factors in this model are framed as the influence of the labour market conditions in defining employment possibilities. In this regard, this model did not explicitly mention the meso level factors described in the model of Holmes (2013) and subsequent literature (e.g., Donald et al., 2021). However, it remarked on the need to understand and better articulate the role of higher education in fostering new entrants' career-related resources (e.g., capitals, career self-management) and, then, employability. Moreover, this model was inspired by the theoretical explanations which see contextual influence also embodied by organisation-level support factors that promote preparation and competitiveness for the labour market (e.g., Vanhercke et al., 2014).

According to this model, all these factors (individual capitals, career-self management aspects, contextual factors) concur to determine the subjective construction of employability. Indeed, the interplay between individual and contextual variables influences PE, which reflects how individuals assess their capacity to compete in the labour market and their success possibilities. Lastly, this model understood PE as mediating factor between its antecedents and potential outcomes. Indeed, this model saw PE as a coping and motivational resource influencing transition-

and career-related outcomes. Perceiving themselves as capable of securing a job on the basis of personal strengths and contextual influence may lead individuals to have better expectations and reactions towards their transition to work, promoting positive feelings, thoughts and behaviours and supporting transition-related outcomes, including subjective ones such as psychological health and success. In virtue of this, PE is seen as a necessary resource that those facing career transitions, including the transition from Higher Education to work, should possess to move effectively into the labour market.

**Figure 4.**

*The Integrated Model of Graduate Employability (Clarke, 2018)*



Therefore, this dissertation adopts this interpretation of employability described by these two last models to deepen its understanding and extend empirical knowledge about its antecedents and outcomes in university students and graduates. Indeed, this interpretation, using PE, allows



accounting for the existence of a broad host of factors underpinning it, related to the individual and the context. In addition, this understanding sees PE as a crucial mediator in explaining the link between these factors and the outcomes related to the transition to work. The following section presents PE in detail, remarking on its nature as a personal resource within the COR theory framework. Then the relevant literature about PE collected across the years with students and graduates is presented as a basis to remark research gaps and introduce the goals and the research questions of the studies included in this dissertation.

#### **1.4. PE**

The relevant theoretical literature in career studies has referred to PE as the self-perceived ability and possibility to maintain or get a new job that one desires (Rothwell et al., 2008; 2009; Vanhercke et al., 2014). Said differently, it is the extent to which someone evaluates their likelihood and easiness of being employed in the internal and external labour market (Berntson & Marklund, 2007; Vanhercke et al., 2014). Considering PE provides some advantages in studying individual employability. First, PE emphasises individual perceptions, which are relevant to understanding employability outcomes. People tend to behave, think, and react based on their perceptions, whether these mirror objective reality or not (Katz & Kahn, 1978; Lazarus & Folkman, 1984). People may come up with objective indicators of employability (e.g., formal education, certified skills or environmental factors) that are supposed to make them employable. Still, if they do not appraise themselves as employable, their feelings, thoughts, and actions will be congruent with this interpretation (Räty et al., 2019; Silla et al., 2009). Conversely, those who perceive themselves as employable, with better chances to compete in the labour market, will be more predisposed to find opportunities (Yizhong et al., 2017). Moreover, being faithful in their employment potential leads people to experience a higher sense of confidence, security and well-being even in turbulent times (Berntson & Marklund, 2007; De Vos et al., 2011). Second, PE also allows broadening the radius of factors connected with employability, differently from the capital- or competency-based approaches.

Indeed, the estimation of employment possibilities derives also from contextual factors (Rothwell et al., 2007; 2009; Vanhercke et al., 2014; Wittekind et al., 2010). These are referred not only to the general condition of the labour market. Moreover, the context influence is situated at an organisational level (Guilbert et al., 2016), such as human resource management strategies in organisations (Wittekind et al., 2010) or meso level actors in Higher Education (Holmes, 2013; Lopez-Minguens et al., 2021). That is to say, accounting for PE provides a multi-dimensional interpretation of employability, responding to the demand for understanding how the context also can influence it (Forrier et al., 2018). Third, an advantage of studying PE is that it can be applied to different life stages and transitions. Namely, it can also be a crucial resource sustaining those transitioning from education to work (Vanhercke et al., 2014). This has been witnessed by the model developed by Clarke (2018) presented previously.

The subjective approach to PE differs from the other individual approaches in their interpretation of what constitutes the chance or ability to get employment, distinguished into two strands, namely input- and output-based approaches (Vanhercke et al., 2014). The input-based approach – which includes most capital- or competence-based conceptualisations presented previously (e.g. Fugate et al., 2004; Tomlinson, 2017b) – emphasises the personal and contextual factors that increase the employment potential of an individual. On the other hand, an output-based approach directly focuses on this potential. This corresponds to the self-estimation of employment possibilities at a psychological level, namely PE (Rothwell & Arnold, 2007; Vanhercke et al., 2014). Despite the differences, these two perspectives are connected logically and complementary (Forrier et al., 2018; Vanhercke et al., 2014). Using self-assessment measures of employability alone (output-based approach) may provide partial insights into the breadth of factors determining employment possibilities. Thus it is important to study antecedents of PE (Forrier et al., 2018; Froelich et al., 2018; Qenani et al., 2014). On the other hand, input-based approaches tend to mix up employability with its antecedents and overlook the fact that these antecedents are processed at a subjective level,

and their consequences on employment performance depend on individual perceptions (Räty et al., 2019; Rothwell & Arnold, 2007; Rothwell et al., 2009). In their conceptual paper, Vanhercke et al. (2014) posited that the input factors predict PE as an output. Moreover, a remarkable body of research conducted with adult workers has provided empirical evidence supporting this interpretation of employability. Both personal (e.g., capitals and competencies) and contextual (e.g., related to the labour market or organisations) factors have been shown to predict PE (e.g., Chun et al., 2021; Forrier et al., 2015; Peeters et al., 2020; van Emmerik et al., 2012; Wittekind et al., 2010).

Considering the most relevant definitions of PE provided inside and outside the context of Higher Education (Vanhercke et al., 2014; Rothwell et al., 2008; 2009), this dissertation defines PE as the individuals' self-perceived ability and possibilities to attain sustainable employment appropriate to one's qualification level.

#### ***1.4.1. PE as a Personal Resource in the COR Theory***

Following the suggestion of the relevant theory about PE (Forrier et al., 2018; Vanhercke et al., 2014), this dissertation sees PE as a personal resource within the COR theory (Hobfoll et al., 2018). COR theory is applied in explaining stress and motivation processes. Its basic assumption is that individuals, to preserve themselves from harm and enhance the quality of their lives, strive to obtain and retain resources related to different domains. Resources are objects (e.g., home), personal characteristics (e.g., self-efficacy, optimism), conditions (e.g., sustainable employment) and energy (e.g. income, money, time) that people value as important for themselves. According to COR theory, resources may be invested to conserve their existing resources, attain further resources and reach expected goals (Halbsleben et al., 2014; Hobfoll et al., 2018). Human behaviour can be interpreted as a continuous attempt to gain, manage, and invest resources.

The dynamics of resources are central to understanding stress and motivation processes. Indeed, in line with the stress theory (Lazarus & Folkman, 1984), COR theory states that stress experience can occur when adverse events lead to the loss of valued resources. Moreover, stress

occurs also when the resources are jeopardised, when people anticipate a threatening event and the cost of resources it may have, producing worrisome thoughts (Hobfoll et al., 2018). Conversely, resource gain can lead to valued goals attainment and successful outcomes (Hobfoll et al., 2003; 2018). As such, COR theory asserts that people must invest resources to protect against resource loss, recover from losses, gain resources and prevent stressful conditions and negative outcomes (Hobfoll et al., 2018). This means that those who lack resources may incur the so-called loss spirals, which are iterations of resource losses that deteriorate the possibility of resource offset and predispose them to the experience of stress. In contrast, those in the position of investing resources are less vulnerable to stress because they may activate the so-called gain spirals, where baseline resources beget the acquisition of other resources that motivate them towards goals' achievement. Moreover, the same resource may follow descending and ascending trends over time due to resource losses or gains (Halbesleben et al., 2014; Kirves et al., 2014). COR theory also asserts that resource gain movement creates resource pools or caravans. This means that resources do not exist singly, but they are part of patterns of highly correlated resources that nurture and develop together, influence each other over time and lead to the acquisition of further resources (Hobfoll et al., 2018).

Within the COR theory, personal resources are tied to the individual's capacity to bounce back from adverse events and reflect the individual's feeling they can successfully control and impact their environment (Hobfoll et al., 2003). Those better equipped with personal resources ought to cope effectively with taxing circumstances, solve problems and achieve their goals successfully (Hobfoll, 2002). Earlier research has shown that PE develops and acts as a personal resource within the COR theory. Indeed, it can incur changes over time due to resource gain or loss spirals (Berntson et al., 2008; Kirves et al., 2014). Moreover, PE produces a higher sense of confidence and control over the employment environment and a flexible and adaptable mindset (Fugate et al., 2004; Rodrigues et al., 2019; Rothwell et al., 2008). Feeling better possibilities to compete in the labour market helps people deal with stressors and unexpected events (e.g., job insecurity or job loss) and

refrain from fearing or experiencing resource loss (Chiesa et al., 2018). This leads to lower strain and psychological health symptoms (De Cuyper et al., 2010; Kirves et al., 2014; Silla et al., 2009). PE may also facilitate engaging in positive resource gain cycles. Indeed, PE is a resource to be invested in effective career exploration and job-seeking processes (Harrison et al., 2021; Yizhong et al., 2017). It leads to higher-quality jobs (Gonzalez-Romà et al., 2015; Ngo et al., 2017), higher career satisfaction (Dacre Pool & Qualter, 2013), and mental health (Berntson & Marklund, 2007). Said differently, PE allows better functioning even under adverse employment circumstances and the reaching of favourable outcomes. In virtue of this, it has to be considered a crucial personal resource within the COR theory, functional to a psychologically sustainable transition to work (Chiesa et al., 2018; Magnano et al., 2019).

#### ***1.4.2. Empirical Evidence about PE in Students and Graduates***

Suppose PE is a critical resource facilitating the approach to the labour market. In that case, studying this resource's potential antecedents and outcomes becomes necessary to understand if it benefits the transition to work and find ways to improve it (Qenani et al., 2014; Vanhercke et al., 2014). However, empirical evidence concerning PE among samples of university students and graduates (henceforth, for the sake of brevity, new entrants<sup>1</sup>) is still in its infancy (Di Fabio, 2017b; Ergün & Şeşen, 2021; Ma & Bennet, 2021; Jackson & Wilton, 2017). Indeed, only in recent years, scholars have started to respond to the call for a deeper investigation of the possible PE determinants and outcomes in this group of people (e.g., Álvarez-González et al., 2017; Caballero et al., 2020; Donald et al., 2019; Jackson & Wilton, 2016; 2017). In line with the theoretical explanations of new entrants' PE, the existent scholar findings have remarked that individual and contextual factors are important in shaping self-estimations of employability. These findings are presented below.

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<sup>1</sup> This dissertation's studies involve students and graduates by up to one year after graduation. The comprehensive term "new entrants" seems suitable for indicating this group of people in this dissertation. Moreover, it permits to refer to those who are still in education or still facing the transition, differently from other studies (e.g., Dacre Pool & Qualter, 2013) that have used the term "graduates" for indicating participants who were working university alumni who got their degree even up to seven years before data collection. The term "new entrants" was retrieved from Kanfer et al. (2001).

### **1.4.2.1. Antecedents of PE.**

In line with the input-output based approach to employability, scholarly research has found that new entrants' PE grows due to person- and context-related factors that enhance the self-evaluation of work capacity, self-worth, resiliency, and control. While some studies have explored factors related to PE singly, others have drawn on the existing theoretical perspectives to test more comprehensive models of PE and its antecedents (e.g., Álvarez-Gonzalez et al., 2017; Caballero et al., 2020; 2021; Ma & Bennet, 2021). Concerning individual-level antecedents, most empirical research has shown human capital to be positively associated with PE. This variable has been conceived in the form of GPA, perceptions of university grades, subject-specific knowledge and skills, generic/transferable abilities, work and work-based learning experience (e.g. Álvarez-Gonzalez et al., 2017; Ayala-Calvo & Manzano García 2021; Donald et al., 2019; Caballero et al., 2020; 2021; Ma & Bennet, 2021; Monteiro et al., 2018; Nilsson, 2010; Qenani et al., 2014; Rätty et al., 2019).

Social capital is also associated with new entrants' PE (e.g. Batistic & Tymon, 2017; Caballero et al., 2020; 2021; Ma & Bennet, 2021). Also of importance for PE are psychological resources like adaptability (e.g. Ma et al., 2021; Udayar et al., 2018), core self-evaluations (Rodrigues et al., 2019), psychological capital (e.g. Ayala-Calvo & Manzano García, 2021), efficacy beliefs (e.g. Atitsogbe et al., 2019; Ngo et al., 2017), protean attitude towards career (e.g. Cortellazzo et al., 2020) and internal locus of control (e.g., Dražić et al., 2018). Dispositional traits such as emotional intelligence (e.g., Di Fabio, 2017b; Udayar et al., 2018), hardiness (e.g. Huang et al., 2014), proactive personality (e.g. Creed et al., 2017; Gunawan et al., 2021; Ma, 2021; Ma & Bennett, 2021), and gratitude (e.g. Harrison et al., 2021) shape PE. Cultural capital (e.g., personal background, work culture, and extra-curricular activities) has been recently shown to predict PE (e.g. Donald et al., 2019; Caballero et al., 2020; 2021).

Even though career self-management is important for PE, research has stressed its role to a lesser extent. Some evidence exists that the PE of new entrants is strictly connected to career self-management skills and behaviours, yet with mixed results. Following the categorisation by Bridgstock (2009), Jackson and Wilton (2017) found only partial support for the relationship between self-management (i.e., career identity, opportunity awareness), career-building skills (i.e., decision making and job search), and PE. Conversely, Caballero et al. (2020; 2021) corroborated that PE is shaped by efficacy beliefs about job search skills. Recent studies have also explored the impact of career self-management behaviours on PE. Chiesa et al. (2020), Gunawan et al. (2021), Ma and Bennet (2021), and Qenani et al. (2014) found that career behaviours like career planning, networking, skills development, and career exploration enhance PE in new entrants. However, Clements et al. (2018), Creed and Hughes (2013), and Okay-Somerville and Scholarios (2017) found partial support for this hypothesis, demanding additional research to explore it more in-depth.

A more limited body of evidence has corroborated that PE estimation has a contextual and relational nature in the new entrants' population, instead of the narration that sees it as an individual responsibility (Forrier et al., 2018). Findings put to the fore the perceptions of the labour market conditions and personal circumstances factors that enhance or downplay the self-perceived employment potential, such as the employers' demand for graduates, the competition for graduate level-jobs, the risk of underemployment (e.g. Álvarez-González et al., 2017; Caballero et al., 2021; Jackson & Tomlinson, 2020; Okay-Somerville et al., 2020; Rothwell et al. 2009; Santos et al., 2020). Factors like the type of course of study and the university's reputation estimated by new entrants have also been shown to predict PE (e.g. Caballero et al., 2021; Pitan & Muller, 2019; Rothwell et al., 2009).

Recently, the importance of the context for new entrants' PE has also been translated in empirical research about the meso level actors of employability, which are support agencies that provide targeted help for approaching the transition from education to the labour market (Donald et

al., 2018; Holmes, 2013). Jiang et al. (2015) and Gunawan et al. (2021) found that relational support – from parents, peers, and the extended network—and encouragement positively affect PE. Also, some scholars have deepened the study of meso level actors that operate at the institutional level (e.g., universities' career services, academics, alumni, graduate recruiters). This stream follows the criticism of the supply-side vision of employability and considers the Universities' role more articulated (Kinash et al., 2016). The focus is on how Universities and their external partners can enhance the different employability capitals and prepare students for their post-graduation life (Bridgstock & Jackson, 2019; Kinash et al., 2016). For instance, Donald et al. (2018; 2019) showed a positive effect on PE of career advice implemented by universities and graduate employers since it enhances opportunities awareness (e.g., with job fairs) or sustains the transition process (e.g., job application support to link with employers hiring criteria). Other studies have shown the impact on PE of work-integrated learning, like internships, combining academic education with the application of knowledge through reflective practice in an authentic work scenario (e.g. Jackson, 2015; 2016a). Such experience enhances skills understanding, social capital, identity formation, and career self-management towards the transition (Gamboa et al., 2013; Helyer et al., 2017; Jackson, 2015). Herewith, it influences PE, as research has demonstrated (e.g., Ebner et al., 2021; Harris-Reeves & Mahoney, 2017; Qenani et al., 2014).

#### **1.4.2.2. Outcomes of PE.**

Compared to the promising findings evidencing the breadth of PE antecedents in new entrants, research has been more frugal with exploring outcomes of PE in samples of new entrants (Di Fabio, 2017b; Ma & Bennet, 2021; Vanhercke et al., 2016). This is surprising given that accounting for PE is meant to reduce the methodological problems related to the criteria used to gauge employability outcomes. Indeed, as outlined previously, proxying employability with employment rates is essentially flawed, as the process leading to employment is mediated by many factors outside of the individual control (Tomlinson, 2017a). Also, the utilisation of objective



criteria, such as full-time employment rates, can be contradictory given how flexibility and adaptability have been emphasised in the last years as core characteristics of careers and workers (Bridgstock, 2009; Jackson & Bridgstock, 2018). The evolution of the nature of careers means that individuals can interpret employment differently, based on their inner anchors of needs, aspirations and goals (De Vos & van der Heijden, 2017; Spurk et al., 2019). As such, different meanings can be attributed to what a successful transition is, and it becomes necessary to rely on subjective indicators to assess the outcomes of new entrants and gauge employability (Jackson & Bridgstock, 2018).

As such, the exploration of new entrants' transition-related outcomes calls into play PE as a determinant. Indeed, based on the appraisal of their strengths and employment possibilities, it affects how individuals assess their chances of fulfilling their self-actualisation goals, determining their subjective reaction to the entrance into labour in terms of psychological success and well-being (Silla et al., 2009; Vanhercke et al., 2016). Other scholarly fields (e.g., organisational and workplace learning, adult career studies) have provided a remarkable corpus of evidence about the positive impact of PE on subjective outcomes of work experience. Reduced job insecurity and stress symptoms (e.g., burnout), higher motivation (e.g., work engagement), job and career satisfaction, and psychological well-being result from higher PE, as shown in samples of adult workers, unemployed people or working university alumni (e.g., Berntson & Marklund; 2007; Dacre Pool & Qualter, 2013; De Cuyper et al., 2011; Gilardi & Guglielmetti, 2015; Lo Presti et al., 2018). Conversely, few recent findings exist on the positive impact of PE on subjective transition-related outcomes of new entrants, such as decreased life stress (Ma & Bennet, 2021) and heightened career satisfaction (Baluku et al., 2021; Gunawan et al., 2021). Arguably, research has not fulfilled the need to confirm PE as a personal resource for psychological outcomes related to the transition to the work, remarked by many scholars (Di Fabio, 2017b; Jackson & Wilton, 2017; Qenani et al., 2014; Vanhercke et al., 2016).

## 1.5. Research Questions and Outline of the Studies

As it is possible to argue from the above, even though PE is theorised as a precious resource for transition to work, empirical research has not exhausted its exploration of PE in new entrants. Concerning PE antecedents, the role of individual capitals (e.g., human, social, and psychological) and characteristics (e.g., attributes and personality traits) has been well established. Conversely, research has provided mixed findings in testing the effect of career self-management skills (Jackson & Wilton, 2017) and behaviours (Clements et al., 2018; Okay-Somerville & Scholarios, 2017). Thus, more research is needed to ascertain whether and how those aspects are connected to PE. Research with new entrants has confirmed that PE is also dependent on the context. Some scholars have demanded a deeper exploration of the meso level factors to understand how universities fulfil their responsibility toward new entrants' employability (e.g., Clarke, 2018; Kinash et al., 2016; Lopez-Minguens et al., 2021). This should overcome the idea of Universities as a monolith that provides employability simply by leading students to get a degree. Interestingly, understanding the impact of Universities' meso level actors is particularly important in relation to the Italian graduate labour market, where qualification is not a robust signal of graduates potential (OECD, 2017). Many have remarked that such a problem is partially rooted in education not being fully adequate in promoting appropriate career resources against the needs of the labour market (e.g. Adda et al., 2017; OECD, 2017). Understanding meso level support factors and how they help new entrants' enhance their PE may indicate fruitful actions to address this problem.

Moreover, there is a need to extend knowledge about new entrants' PE operating as a personal resource within the COR theory framework, involved in gain cycles and antecedent to valued transition-related subjective outcomes (Clarke, 2018; Vanhercke et al., 2016). Investigating the psychological effects of PE is interesting given the challenges to the psychological health of the transition-to-work stage, especially after the impact of the pandemic on employment perspectives (Mahmud et al., 2021).

Also, only a little research (i.e. Gunawan et al., 2021; Ma & Bennet, 2021) has met the request for an empirical test of integrated models connecting PE antecedents and outcomes with PE acting as a mediator in line with the theoretical framework adopted here (Clarke, 2018). Testing such models is needed to further settle and advance the understanding of this concept, confirming it as a complex psychological process. Lastly, apart from a few recent exceptions (e.g., Ayala-Calvo & Manzano García, 2021; Donald et al., 2019), the vast majority of the studies cited are cross-sectional, although PE theory suggests using multi-wave designs to evaluate the relationships between PE and its determinants and outcomes (Vanhercke et al., 2014; 2016). Addressing these gaps in literature means extending knowledge about what shapes PE and whether new entrants can benefit from it, suggesting actions to enhance it. Therefore, three studies with specific goals and research questions are carried out to address these gaps and move the PE research field forward.

Study 1 aims at evaluating the joint action of contextual and career self-management predictors. Accordingly, the first research question of this study is whether and how PE is influenced by meso level contextual factors and career self-management behaviours. In this study, these factors are represented by Support from teaching staff (hereafter, STS) and career engagement (hereafter, CE). The principles of the COR theory allow getting a more precise understanding of the mechanisms linking context-related and career self-management factors to PE. Indeed, in Study 1, both STS and CE are posited to create a caravan of resources (namely, career identity [CI], self-efficacy [SE] and social capital [SC]). This caravan may act as a mediator and be a pre-condition for further acquiring other resources, such as PE (Clements et al., 2018; Forrier et al., 2018; Halbesleben et al., 2014). Moreover, Study 1 aims to investigate the beneficial impact of PE in promoting subjective transition-related outcomes. Consistently, this study's second research question is whether PE predicts positive subjective outcomes, namely Confidence in career future (hereafter, CCF) and Psychological well-being (hereafter, PWB). The third research question is whether PE mediates the

connection between STS and CE on the one hand and CCF and PWB on the other hand. A two-wave time-lagged study conducted with Italian university students responds to these research questions.

Study 2 (involving University students and graduates) further explores career self-management factors related to PE. Theoretical assumptions are that the capacity to interact with prospective employers and convincingly present one's graduateness is essential for employability (e.g., Bridgstock, 2009). In a congested labour market, made even more complex by the pandemic-related economic downturn, presenting effectively and influencing employment gatekeepers is necessary to make employment barriers more permeable and increase employment chances (Jackson & Tomlinson, 2020; Okay-Somerville & Scholarios, 2014). Therefore, the first research question is whether Job Interview Self-Efficacy (hereafter, ISE) influences PE and mediates the relationships between CI and PE. Moreover, as in Study 1, the second and third research questions are whether PE predicts subjective transition-related outcomes and mediates the relationship between its antecedents and outcomes. A three-wave time-lagged study ought to respond to these research questions.

Study 3 (involving University students and graduates) seeks to step forward from Studies 1 and 2 to understand this concept among new entrants better. The research question is whether PE and one of its hypothesised outcomes, namely PWB, are involved in a resource gain upward spiral where both influence each other over time. Study 3 tests hypotheses regarding normal, reversed and reciprocal effects between PE and PWB with a three-wave longitudinal design. A structural equation modelling (henceforth, SEM) approach tests the hypothesised relationships between the variables used in each study.

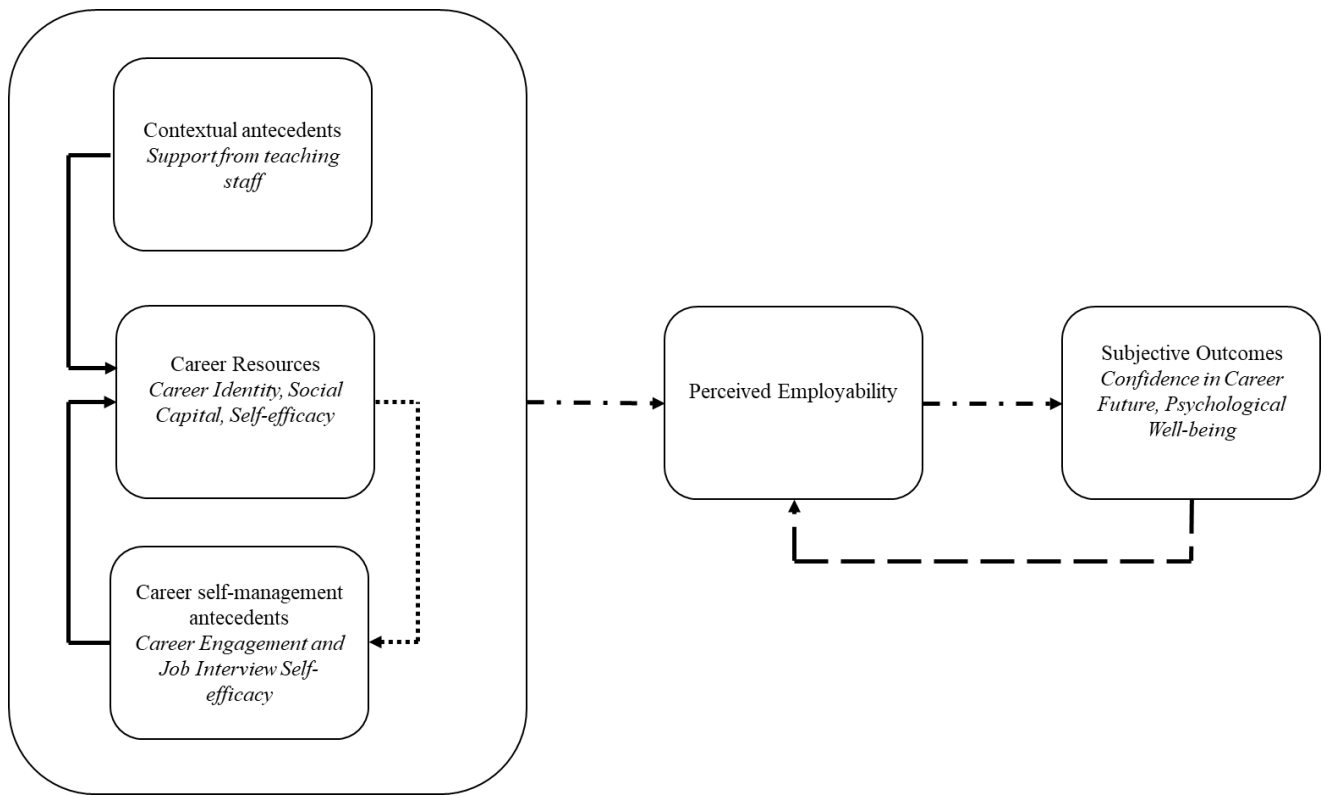
The results of these studies may represent a manifold contribution. The findings ought to help understand PE, adding to the debate about employability in Higher Education. The structural models connecting PE, its antecedents, and its outcomes should confirm that employability is a psychological phenomenon dependent on how people interpret their employment potential, acting as a motivational and coping resource leading to valued subjective outcomes (Clarke, 2018). Also, it

can be confirmed that career self-management factors can shape PE, contributing to debated literature (Clements et al., 2018; Jackson & Wilton, 2016). Exploring the contextual influence on PE may help to disentangle how the educational experience in Higher Education benefits the formation of resources like PE, contributing to a promising stream of research (Donald et al., 2018; Lopez-Minguens et al., 2021). Moreover, studying the impact of PE on subjective outcomes should enrich the scant empirical literature on its psychological effects among new entrants (e.g., Ma & Bennet, 2021). It should confirm PE to be a resource that fosters their mental health and sense of success even in challenging situations, in line with the assumptions of the psychology of sustainability (Di Fabio, 2017a). Furthermore, the reciprocal associations between PE and PWB explored by Study 3 may further unravel the relationship between PE and other variables, leading to a more thorough understanding of this concept as a personal resource. In addition, all three studies are conducted with time-lagged and longitudinal designs, which contribute to overcoming the cross-sectional evidence that is dominant in new entrants' PE literature.

A practical value is discernible. Higher Education institutions are called to have a social obligation toward nurturing the employability of new entrants to ease their transition (Donald et al., 2021; Tomlinson, 2012; Sin & Neave, 2016). Such obligation is tied to international goals of sustainable development (United Nations, 2015) and national strategies to raise social and economic conditions after the pandemic, which, in Italy, are endorsed by the National Recovery and Resilience Plan (hereafter, NRRP; Italian Government, 2021). As such, this dissertation's findings may inform practical implications to translate these goals into action, provide suggestions for Higher Education to raise new entrants' PE and ease their transition to work. Figure 5 summarises the general framework of the studies conducted. Chapter 2 introduces the variables hypothesised as antecedents and outcomes of PE in new entrants.

**Figure 5.**

*The General Framework of the Dissertation*



*Note.* —————▶ Study 1; .....▶ Study 2; - . - . ▶ Studies 1 and 2; — — —▶ Study 3.

## Chapter 2. Hypothesised PE's Antecedents and Outcomes

### 2.1. Personal Antecedents of PE

#### 2.1.1. CE

Hirschi et al. (2014) introduced the concept of CE to study how individuals perform proactive career self-management behaviours on a general level. It is conceived as “the degree to which somebody is proactively developing his or her career as expressed by diverse career behaviors.” (Hirschi et al., 2014; p. 3). CE pertains to the actual exhibition of a range of career management behaviours: (a) career planning; (b) self- and environment exploration; (c) networking; (d) human capital development; (e) positioning behaviours. However, it reflects a higher-order variable, without distinguishing between these career behaviours, and pertains to the general extent to which people are actively concerned about developing their careers and devote efforts to it.

CE is well suited to represent the role of human agency on PE assumed by theoretical research (Clarke, 2018). Indeed, it implies the proactive process of self-construction that is relevant to managing the transition-to-work stage (Hirschi, 2012; Hirschi et al., 2014; Lent & Brown, 2013), echoing the processual view of employability developed by Holmes (2013; 2015). Adopting career behaviours in view of the upcoming transition provides insights into one's aspirations, strengths and the world of work, allows establishing goals and reasoned plans, and sustains the accumulation of resources like skills, social support, guidance (e.g., Blokker et al., 2019; De Vos et al., 2009; Lo Presti et al., 2021). Namely, it assists one's gradueness definition and the construction of a vantage position in the labour market, useful for interacting effectively with the employment gatekeepers, negotiating employment barriers, finding support and being flexible in a new life stage even in taxing circumstances (Lent & Brown, 2013; Lo Presti et al., 2021; Okay-Somerville & Scholarios, 2014; 2017). Differently said, proactively acting to prepare for the transition is apt to make more permeable the boundaries held by employment gatekeepers that constrain employment possibilities (Okay-

Somerville & Scholarios, 2014), thus facilitating the achievement of favourable transition outcomes (De Vos et al., 2009).

Moreover, CE permits a more parsimonious understanding of many behaviours' impact on PE. Indeed, while new entrants may be simultaneously engaged in many different behaviours (Hartung, 2013; Hirschi et al., 2014), previous studies have investigated the role of these behaviours separately following specific theories (e.g., Chiesa et al., 2020; Gunawan et al., 2021). Instead, CE combines the overt execution of various proactive behaviours with a unique general variable. This allows studying the impact of a composite host of behaviours with a deliberately general theoretical framework, which seems to fit this work's goal of understanding the role of career self-management behaviours on PE. CE has been shown to predict career outcomes related to the transition to work, above and beyond the variance explained by the single career behaviours. Indeed, there is a small but promising body of research on new entrants CE. Some studies involving people confronted with the university-to-work transition have shown that CE promotes job and career satisfaction (Hirschi et al., 2013; 2014; Hirschi & Jaesh, 2015).

In sum, Study 1 will include CE as a predictor of PE because it represents the proactivity necessary in the current labour market to govern the uncertainty and enhance employment and development prospects.

### **2.1.2. ISE**

ISE pertains to one's judgments about their interviewing capabilities, reflecting their beliefs in executing a given performance at a job interview (Petruzzello et al., 2022; Tay et al., 2006). Theoretical perspectives of career self-management (e.g., Lent & Brown, 2013) consider SE the main motivational factor to engage and succeed in career transition tasks, thanks to its self-regulative and motivational power (Bandura, 1997). Consistently, theoretical and empirical research about ISE has asserted that it enhances, for instance, confidence in using self-promotion strategies to deliver suitability for the position (Huffcutt et al., 2011). As such, it is critical for outstanding job



interviewing performance (Huffcutt et al., 2011; Shantz & Latham, 2012; Tross & Maurer, 2008) and success (i.e., job offers; Tay et al., 2006).

The inclusion of ISE as PE's antecedents reflects the importance that many theoretical models have assigned to job search skills in influencing employability in new entrants, with special attention to self-presentation skills (e.g., Bridgstock, 2009; Dacre Pool & Sewell, 2007; Hillage & Pollard, 1998). Self-presentation is critical in the processual perspective of graduate employability introduced by Holmes (2013; 2015), which claimed that the capability to interact with prospective employers is essential to raise employment chances during the transition to work. He asserted that the way new entrants make claims of their identity as graduate workers—namely, their capability to present their skills, experience and achievements convincingly—enhances the signals of fit with employers needs and their worth for a job compared to other equally educated graduates. Drawing on this, the theoretical model by Clarke (2018) also incorporated career-building skills (which encapsulate self-presentation) as an antecedent of new entrants' PE. This is consistent with the line of research showing that new entrants are aware of not having a job warranted by simply having a degree and attribute to self-presentation during the interaction with prospective employers crucial importance (Jackson & Tomlinson, 2020). Indeed, self-presentation and impression management strategies (i.e., self-promotion) are deemed by new entrants necessary to influence employment gatekeepers and prevail in the competition for a job (Kövesi and Kálmán, 2019; Okay-Somerville & Scholarions, 2014). Coherently, research has already shown that self-presentation skills increase new entrants' PE estimation (i.e., Donald et al., 2019; Kövesi & Kálmán, 2019).

The inclusion of job interview-related efficacy beliefs is because research has shown that job interview is the most popular selection technique among graduate recruiters (Branine & Avramenko, 2015). New entrants see it as a first opportunity to exploit self-presentation (Dhingra & Kundu, 2019). Moreover, research has shown that new entrants see job interviews favourably as an opportunity to differentiate from other candidates and be evaluated fairly (Mariani et al., 2017;

Nikolaou & Georgiou, 2018). Subsequently, they consider the interview performance decisive to land a job (Alonso & Moscoso, 2018; Branine & Avramenko, 2015; Dhingra & Kundu, 2019, McKeown & Lindorff, 2011). In addition, the employment interview is mainly about a social exchange with the employment gatekeepers (McCarthy & Cheng, 2018; Paulhus et al., 2013). As such, it is a unique opportunity to make effective identity claims—through self-focused presentation and impression management strategies, such as self-promotion— to assert being worthy of a job (Holmes, 2015; Paulhus et al., 2013). Herewith, it is possible to argue that PE estimations of new entrants condense around their perceived capability of performing proficiently at a job interview. The studies of Caballero et al. (2020; 2021) reinforced this idea. They have shown that SE about job search activities (among which job interview lies) is a dimension of graduate employability and is a predictor of PE. Therefore, ISE should be included in new entrants' PE discourse.

In sum, Study 2 includes ISE as an antecedent of PE because it reflects the capability to influence employment gatekeepers and prevail in the competition for a graduate job.

### ***2.1.3. Career Resources***

Studies 1 and 2 also exploit the principles of the COR framework to shed light on how the relationships between PE antecedents function as mechanisms that lead to higher PE. Accordingly, these studies investigate whether career self-management (i.e. CE and ISE) and contextual (i.e. STS) antecedents of PE form resource caravans together with other individual career resources and whether such caravans affect new entrants' PE. Three career resources are included in this work, typically seen as prominent in the explanation of career outcomes (Hirschi, 2012): CI (included in Studies 1 and 2), SC (Study 1), and SE (Study 1). Many theoretical models have asserted that having these resources is considered a passageway to heightened employability in young people and new entrants (e.g., Caballero et al., 2020; Fugate et al., 2004; Gonzalez-Romà et al., 2016). From an input-output perspective, these resources have been shown as antecedents of PE (e.g. Donald et al., 2019; Forrier et al., 2015; Peeters et al., 2020).

CI reflects how individuals see and understand themselves as workers in a particular professional field (Fugate et al., 2004; Trede et al., 2012). It marks an individual's commitment toward a desired occupation and results from the assimilation of past work and learning experiences that represent the investment made towards a future career. It functions as a cognitive structure that directs one's career trajectories, generating beliefs, values, aspirations and planful goals (Praskova et al., 2015; Stringer et al., 2011), consistent with the expectations related to being a member of a specific profession (Praskova et al., 2015; Skorikov & Vondracek, 2007). CI is a core motivational mechanism during the transition to work (Fugate et al., 2004; Skorikov & Vondracek, 2007). It provides a sense of purposefulness that drives new entrants in career decision-making and planful action to fulfil their priorities (Hirschi, 2012; Ng & Feldmann, 2007; Skorikov & Vondracek, 2007). Indeed, it yields higher clarity and commitment to career interests and goals among university students (e.g., Creed et al., 2018; 2020; Nauta & Kahn, 2007). As such, it is connected to a more focused and structured job search (McArdle et al., 2007) and effective selection behaviours (Fugate et al., 2004), leading to favourable objective and subjective transition outcomes (e.g., Gonzalez-Romà et al., 2016; Praskova et al., 2015).

SC is connected to the network of relations people build through investing in formal and informal interpersonal relationships (Seibert et al., 2001). The size and strength of one's social connections are apt to provide access to valued resources that can be mobilised for instrumental purposes, benefiting individuals in their career endeavours (Lin, 2008). Social networks may provide individuals with social support and can be activated to gain information about job and development opportunities or career guidance and advice (Seibert et al., 2001). Subsequently, SC has been shown to be connected with progress in career development (e.g., Demir, 2021) and increased decidedness (e.g., Feaon et al., 2018). SC creates value for people as it supports people job-seeking endeavours (e.g., Kanfer et al., 2001; Jackson, 2014), leading to more favourable subjective and objective

employment outcomes (e.g., Jackson, 2014; Koen et al., 2013; Gonzalez-Romà et al., 2016; Pham, 2021).

SE reflects personal adaptability on which employability strongly relies (Fugate et al., 2004). Indeed, it is conceived as the individuals' judgment about their ability to perform across different situations and overcome unexpected and adverse changes (Bandura, 1997; Judge et al., 2005). Having faith in their abilities influences individuals' psychological processes, sustaining their self-regulation, motivation and persistence in the face of uncertainty, generating positive outcome expectations and higher performances (Bandura, 1997). As previously mentioned, the major career self-management theoretical approaches have understood SE as a prominent factor for career development (e.g. Hirschi, 2012; Lent & Brown, 2013). It promotes confidence, motivation, and proficiency in many career development circumstances. SE sustains individuals in decision making, job search and selection endeavours (e.g., Kim et al., 2019) and, as such, higher SE echoes with more positive outcomes in the context of the transition to work (e.g., Gonzalez-Romà et al., 2016; Petruzzello et al., 2020).

## **2.2. A Contextual Antecedent of PE: STS**

As outlined previously, the contextual influence on PE can also be exerted by meso level actors operating at an institutional level inside and outside universities (Donald et al., 2018). These meso level support agencies increase the career readiness of new entrants by promoting the mastering of skills and knowledge to impact real workplaces, providing career guidance, and offering support and information for fulfilling the transition demands (Donald et al., 2018; 2019; Holmes, 2013; Tomlinson, 2017b).

This resonates with seeing PE resulting from organisational employability-enhancing conditions, which COR theory calls resource caravan passageways (Forrier et al., 2018; Hobfoll et al., 2018). Resource caravan passageways are higher-order conditions (e.g., organisational support factors) that facilitate the creation or retention of resources (Hobfoll et al., 2018). A similar idea has

been explored in corporate settings. Employees' PE has been shown to rise with support at the organisational level (e.g., training, supervisor mentoring), enhancing employees' potential to compete in the internal and external labour market (e.g., Matsuo, 2021; Wittekind et al., 2010). Accordingly, Universities may fulfil their social obligations by stimulating students' PE with employability-oriented aspects of didactical practices that foster the perception of professional readiness (Dacre Pool and Sewell, 2007; Froelich et al., 2018; Knight and Yorke, 2003).

While some of these aspects have been investigated as predictors of PE (e.g., work-integrated learning like an internship; Ebner et al., 2021), research about these meso level contextual antecedents of PE is still underexplored (Forrier et al., 2018). Álvarez-González et al. (2017) and Lopez-Mingues et al. (2021) recently indicated teaching staff—defined as the student's perception of supervisor's [sic] performance in imparting knowledge to students and generally helping them— as one of the meso level factors representing the universities' responsibility in developing students' employability. They argued that employability is sensitive to teaching approaches that encourage active and collaborative learning, the connection between academic knowledge and practice, positive engagement, and participation. Beyond the classical lecture-based approach, with teachers acting merely as knowledge dispensers, a student-centred target may raise students' employability by facilitating the mastering and transfer of learning and the development of students' self-awareness as future workers, and providing advice to face post-graduation life (Abbass et al., 2020; Bridgstock & Jackson, 2019; Lopez-Mingues et al., 2021). This idea is taken up in models such as the USEM model (Knight and Yorke, 2003) and the CareerEDGE Model (Dacre Pool and Sewell, 2007), which see graduate employability embedded in students' learning experience. Moreover, it aligns with the research—conducted mainly with high school students (see Zhang et al., 2018 for a review )—that points out the impact of teachers' support on students' career development factors (e.g., career decision-making SE, career optimism).

Coherently, the theoretical and empirical research that has addressed teaching staff's role in developing employability in Higher Education (e.g., Álvarez-González et al., 2017; Dacre Pool & Sewell, 2017; Yorke & Knight, 2007) has suggested that teaching staff can provide social support that facilitates the development of PE. This form of social support pertains to an interpersonal relationship between teachers and students characterised by the four supportive functions that define social support: instrumental (i.e., the provision of active help to address a demand), self-appraisal (i.e., provision of opportunities to self-evaluate), informational (i.e., provision of information and advice), and emotional (i.e., provision of listening and care) (Jolly et al., 2021; Lawrence et al., 2007; Zhang et al., 2018). Indeed, it concerns the assistance in developing subject understanding to function effectively in work environments through work-based and reflective practices (instrumental and self-appraisal support; Abbass et al., 2020; Jackson, 2015; 2016a; Lopez-Minguens et al., 2021). Moreover, university teachers may form students' realistic previews of the labour market by providing information about opportunities and employers' expectations (informational support; Donald et al., 2018). Lastly, teachers may display emotional closeness with students through listening, care, and trust (emotional support; Álvarez-Gonzalez et al., 2017; Di Fabio & Kenny, 2015; Ergün, & Şeşen, 2021). Therefore, building on the definition of teaching staff provided by Álvarez-González et al. (2017) and Lopez-Minguens et al. (2021), it is possible to label this variable as STS and define it as the amount of teachers' social support that students perceive concerning their employability development.

In sum, Study 1 includes STS as an antecedent of PE because it may enhance students' preparation for the world of work and increase the perceptions of employment capacity.

### **2.3. Subjective outcomes of PE**

As stated previously, framing PE as a personal resource within the COR theory framework makes it essential to overcome career challenges and reach subjective career outcomes (Clarke, 2018; Vanhercke et al., 2014). The goal of sustainability asserts the need to promote individuals'

resources for well-being and a sense of psychological success (De Vos & van der Heijden, 2017; Di Fabio, 2017a), suggesting that PE can be one of these resources (Chiesa et al., 2018; Magnano et al., 2019). Yet, empirical evidence of PE psychological outcomes in the new entrants' population is still scarce (Ma & Bennet, 2021; Vanhercke et al., 2016). Therefore, this work posits that PE promotes positive psychological outcomes related to the transition in the labour market, namely transition-to-work success (herein, CCF) and PWB.

Regarding transition-to-work success, research has widely used the notion of subjective success connected to one's career, intended as the result of the unfolding of experience and achievements obtained (Ng et al., 2007; Rothwell & Arnold, 2007). According to this view, transition-to-work success corresponds to cognitive and affective reactions towards employment status and integration into the world of work (Ng et al., 2007). The few studies (e.g., Baluku et al., 2021; Gunawan et al., 2021) that have addressed the relationship between PE and transition-to-work success among new entrants have adopted this interpretation and employed the affective indicator of subjective success, namely career satisfaction. This seems rather contradictory, as participants were students and, therefore, they might not have a solid basis to assess their satisfaction. As such, this work adopts the idea that the concept of subjective career success should be broader, to be sensitive to specific career stages and groups (De Oliveira et al., 2016). According to De Olivera et al. (2016) and Heslin (2005), subjective transition-to-work success also integrates aspects like the individuals' anticipations and expectations about achieving desired career goals. This assumption fits this work's aim of studying PE with new entrants, who are students or still in the transition phase. Therefore, this work uses, as a subjective transition-to-work success indicator and outcome of new entrants PE, CCF, namely the "feelings of confidence and perseverance required to achieve career goals after graduation" (De Oliveira et al., 2016, p. 93).

As stated previously, PWB is of serious concern regarding the transition to work. Indeed, the transition is already known to be challenging as it requires a new balance in the individuals' life

domains (Fouad & Bynner, 2008). Moreover, it is a meaningful developmental stage, which condenses high societal expectations and pressures, meaning that failing at it may be even more stressful (Ebner et al., 2021). Uncertain career perspectives may expose individuals to the concern of not achieving an appropriate transition that would repay them for the investment made in education, with the feeling of being threatened with deprivation of resources necessary to conduct a pleasant life (Ebner et al., 2021; Jahoda, 1982; Merino et al., 2019). Such a worry may trigger a loss spiral associated with further loss of resources and benefits, which yields stress and poorer mental health (Hobfoll et al., 2018). Research has shown that uncertain job prospects undermine life satisfaction and predict negative affect, stress, and lower mental health (e.g., Klug et al., 2019; McKee-Ryan et al., 2005; Wanberg, 2012). Moreover, empirical evidence has outlined that the pandemic might have exacerbated such uncertainty, negatively impacting the psychological health of new entrants (e.g., Generali et al., 2020; Mahmud et al., 2021; Parola, 2020). Thus, this work seeks to understand whether PE prevents new entrants from experiencing the psychological threats of a complex transition and promotes new entrants' PWB. The existent research about PE outcomes conducted with adult workers has used both context-free (e.g., negative or positive psychological health) or domain-specific (e.g., burnout or work engagement) PWB indicators (e.g., De Cuyper et al., 2012; Kirves et al., 2014; Lo Presti et al., 2018). This work adopts a context-free concept of PWB since it involves those still in education or in the transition and aligns with the study of Ma and Bennett (2021), in which PE negatively predicted a general health indicator, namely life stress. However, differently from Ma and Bennett (2021), this work follows the school of thought that sees one's psychological health consisting not only of the mere absence of distress symptoms but also a complete state of well-being (Sonnetag, 2015; World Health Organization, 1948).

Studies 1 and 2 include PWB and CCF as psychological outcomes of PE. Moreover, Study 3 explores the reciprocal relationships between PE and PWB.



## **Chapter 3. Study 1 - Contextual and Career Self-management Antecedents and Psychological**

### **Outcomes of PE: an Integrated Model with University Students**

#### **3.1. Introduction**

As remarked previously, this study has several aims and research questions about deepening the understanding of new entrants' PE. First, this study exploits the idea that PE estimation is of a compound nature and investigates whether two underexplored factors influence it: contextual and career self-management behavioural factors, namely STS and CE. Indeed, this study intends to delve into the theorised contextual nature of PE, to better articulate how universities exert influence upon new entrants' PE through their meso level actors. In line with the resource caravan passageways of the COR theory, STS is introduced in this study and posited to be a contextual meso level factor influencing PE, as it pertains to the social support provided by teaching staff in guiding and preparing students for the labour market (Ergün & Şeşen, 2021). Moreover, of concern for this study is the role of career self-management behaviours for PE, which so far explored with mixed findings or focusing on a limited number of behaviours (Clements et al., 2018; Okay-Somerville & Scholarios, 2017). Supported by COR theory, this study considers CE a general unique variable reflecting several career self-management behaviours in which new entrants can engage to enhance their career prospects, thus predicting PE. Intending to understand the mechanism that links STS and CE to PE, in line with the COR theory principles, this study tests the mediation of career resources, namely CI, SC and SE.

Second, a driving motive of this study is the importance of accounting for subjectivity and the psychological effects of new entrants' PE. As such, this study sees PE as a personal resource essential to a psychologically sustainable transition to work because it determines new entrants' subjective reaction to the entrance into the labour market (Clarke, 2018; Silla et al., 2009). Yet, research in the field of Higher Education and early careers has only marginally examined the psychological benefits of PE, mainly using not fully proper measures to gauge PE psychological

outcomes (e.g. Baluku et al., 2020). Therefore, this study posits a positive effect of PE on subjective transition-related outcomes for new entrants, namely CCF and PWB. Third, this study also wants to extend the scarce empirical work upon integrated models connecting PE antecedents and outcomes with PE to confirm the most recent theorising that sees employability as a complex phenomenon processed at a psychological level (Clarke, 2018). Therefore, this study tests the mediating role of PE between its antecedents and outcomes. A two-wave time-lagged study conducted with Italian university students tests these relationships.

This study is a valuable addition to PE literature as it responds to the call to progress PE empirical understanding among new entrants adopting a multi-wave design (Di Fabio, 2017b; Jackson & Wilton, 2017; Vanhercke et al., 2016). Results can extend the understanding of PE antecedents, indicating a novel contextual meso level predictor of PE (i.e. STS) and delving into the role of career self-management behaviours (i.e. CE) upon PE. The mediating role of career resources is of help in probing the mechanism that explains the development of PE estimations. Moreover, the focus on the psychological outcomes of PE progresses the empirical evidence of its beneficial role in driving sustainability in transition endeavours. In addition, by testing the mediating role of PE, this study offers valuable empirical evidence of employability being a psychological phenomenon, which would corroborate the theoretical framework adopted here (Clarke, 2018). The results also carry a practical value. They could suggest to Higher Education institutions how to activate their internal meso level agencies (i.e. teaching staff and career services) to activate resourceful conditions and proper activities and initiate resource gain spirals leading to increased PE. What follows is an introduction of the rationale behind the hypotheses of this study, followed by the methodology used. Next, the results are presented, along with the theoretical and practical implications of the study.

## 3.2. Study Hypotheses

### 3.2.1. STS and PE

A lack of literature affects the understanding of whether teaching staff supports students' PE (Ergün & Şeşen, 2021). This is surprising, given that university teachers have the maximum interaction with students, and teaching staff is considered an essential meso level actor in determining high-quality education provision and nurturing students' employability (Abbass et al., 2021; Brown et al., 2021; Cavanagh et al., 2015; Lopez-Minguens et al., 2021; Zhang et al., 2018). Moreover, research has provided inadequate explanations of why and how teaching staff performance should be driving students to feel more employable (Ergün & Şeşen, 2021). Indeed, the definition and corresponding scale developed by Álvarez-Gonzalez et al. (2017) and Lopez-Minguens et al. (2021) described teaching staff performance for employability only in a generic way, as much as the few studies exploring its effect on PE (i.e. Álvarez-Gonzalez et al., 2017; Cheung et al., 2018) have done. These studies seemingly have not accounted for the multi-faceted nature of the employability-oriented support that teaching staff can provide. Instead, it can be interpreted as a form of social support (i.e. STS) that acts as a resource caravan passageway and nurtures students' PE by exercising instrumental, self-appraisal, informational, and emotional supportive functions. Such a nuanced interpretation of STS allows a more in-depth explanation of how it can affect the PE of university students.

Regarding instrumental and self-appraisal supportive functions, scholarly work has suggested that STS fuels PE sustaining students' mastering and understanding of subject matter, an initial step to achieve readiness towards the many possible career opportunities and to operate competently with problems and tasks of real work environments (Bridgstock & Jackson, 2019; Okolie et al., 2020; Römgens et al., 2020). Social-constructivist principles and methods embody this kind of support (Knight & Yorke, 2003; Lopez-Minguens et al., 2021). This means involving students in constructing their knowledge through interactive and work-based forms of learning practices (e.g.,

Sarkar et al., 2020; Tynjälä et al., 1997; Yorke & Knight, 2007). These practices are functional to reflect and make sense of learning and understand how to use it to function effectively in work environments (Dacre Pool & Sewell, 2007; Yorke & Knight, 2007). In virtue of this, this study posits that instrumental and self-appraisal support are both represented in two facets of STS: support for collaborative learning (henceforth, SCL) and support for connecting theory and practice with work-based education (henceforth, STP).

Regarding SCL, previous scholarly work has conceived teaching encouraging collaborative learning as a driver of PE. Teachers who create conditions for students to interact and confront each other may exert an instrumental support function fostering PE. Indeed, such conditions allow students to work together on curricular content, share problems, brainstorm possible solutions, undertake group-real-work tasks, and discuss professional life issues (e.g., Knight and Yorke, 2003; Jackson, 2016a; Lopez-Minguens et al., 2021). This may help them deal with real work environments, enhancing confidence and problem solving (Jackson, 2016a). Moreover, empirical research (e.g., De Schepper & Sotiriadou, 2017; Dickerson et al., 2016; Ehiyazaryan & Barraclough, 2009; Jackson, 2016a; Okolie et al., 2018; Rutt et al., 2013) has shown that teachers encouraging collaborative learning also have a self-appraisal support function. Indeed, collaborative learning activates students' reflective processes because they are challenged to externalise their knowledge and interpret it through interacting with other students. This is essential to foster PE as it leads students to self-evaluate their learning against the labour market standards, develop employability skills and understand the functional value of those skills in terms of employment potential and possibilities (Dacre Pool & Sewell, 2007; Dickerson et al., 2016). SCL herewith is a facet of STS expected to enhance their PE estimation.

Regarding STP, previous theoretical work has also implied that PE is stimulated by learning that facilitates the translation of theoretical knowledge into procedural knowledge. Some empirical evidence has outlined that teachers who provide their students with material on real situations and

problems in the workplace (e.g., exercises and examples; group projects and presentations) exert instrumental support to raise PE. Indeed, they can facilitate building students' knowledge and skills and the formation of problem-solving capabilities to deal effectively with the demands of real work environments (e.g., Cranmer, 2006; Elvira et al., 2016; Gu et al., 2018; Monteiro et al., 2021; Tynjälä et al., 1997). Other studies (e.g., Ehiyazaryan & Barraclough, 2009; Grosemans et al., 2017; Jackson, 2016a; Kuijpers & Meijers, 2012) have reinforced the idea that teachers who create similarities between learning and application contexts exercise self-appraisal support function and enhance PE. Indeed, they allow students to reflect, interpret and evaluate their knowledge and nurture analytical and problem-solving capabilities. This may enable them to adjust their responses in mastering skills in different work scenarios, thus empowering the transfer of learning. Qualitative and quantitative studies (e.g., Liu et al., 2020; Okolie et al., 2020) have already hinted at a relationship between STP and PE. They have shown that integrating theoretical knowledge with professional practice in the classroom promotes the self-appraisal of the skills required to impact different work environments and compete for employment, suggesting a positive impact on PE. Moreover, some studies (e.g., Ehiyazaryan & Barraclough, 2009; Tymon et al., 2020) have shown that having opportunities for practical application of theoretical knowledge can also benefit PE because it helps new entrants to articulate their skills during the interaction with prospective employers. This could raise students' confidence to connect their preparation with work requirements, influence employment gatekeepers and raise their perceived employment possibilities.

The informational support function is embodied by the support in discussing one's career future and providing students with information about job opportunities (henceforth, SDC). Earlier research has suggested that teachers may stimulate students' PE if they devote time and space to discuss with students the direction of their future career (e.g., Gunawan et al., 2021; Kuijpers and Meijers, 2012), providing information about learning and job opportunities (e.g., Donald et al., 2018). Additional evidence has hinted that PE of students can grow thanks to teachers who help them

disclose their career wishes and motives and connect them with available opportunities. This stimulates career planning and decision-making (e.g., Bridgstock and Jackson, 2019; Donald et al., 2018; Zhang et al., 2018) and alleviates their worries and concerns about the future (e.g., De Schepper et al., 2021).

Moreover, evidence exists that teachers influence students' PE by showing concern for them and helping in addressing their problems with care and trust, namely emotional supportive function (henceforth, ES) (Abbass, 2020; Álvarez-González et al., 2017; Di Fabio & Kenny, 2015).

A few studies have already confirmed the relationship between STS and university students' PE (e.g., Álvarez-González et al., 2017; Cheung et al., 2018) yet using a cross-sectional design. Moreover, these studies conceived STS as emotional support only. For instance, Álvarez-González et al. (2017) used items assessing the teaching staff's emotional concern for students while ignoring other functions of social support (i.e., instrumental, self-appraisal, and informational). This study asserts that considering these three aspects described above—together with the ES function—is needed to represent why and how STS influences PE comprehensively.

Altogether, it is possible to argue that social support functions connected with STS serve the mechanisms behind the shaping of PE (Silla et al., 2009; Vanhercke et al., 2014). Indeed, STS may help students shift from just having the credentials that make them employable (i.e., possessing skills certified by formal learning outputs) to the feeling and perception that what they learn allows them to match the employers' demands and compete in the labour market. Therefore, this study hypothesises the following:

**Hypothesis 1.** STS predicts the PE positively.

### **3.2.2. CE and PE**

Herein, the focus is also on CE as a predictor of students' PE. As stated previously, the inclusion of CE resonates with the theoretical approach that has emphasised the role of human agency in sustaining career self-management as a driver for employability (Holmes, 2013; Okay-

Somerville & Scholarios, 2017). Such an assumption has then been adopted by Clarke (2018) in its comprehensive model to assert that career self-management behaviours determine PE. Moreover, the COR theory framework also suggests the predicting role of CE on PE (Hirschi, 2012; Hirschi & Koen, 2021). The main COR theory tenet is that people must invest efforts to protect, preserve, and acquire resources (Hobfoll et al., 2018). Supposing it, it should be true that the investment in proactive career self-management behaviours for constructing their future should increase personal resources, such as PE.

A remarkable body of research has shown that the investment in career behaviours raises one's resources, strengths, and preparation to successfully manage the transition to work (e.g., Lo Presti et al., 2021; Marciniak et al., 2020). For instance, engaging in career exploration facilitates knowledge of the self and the labour market, enhances goal clarity and career decidedness and leads to acquiring career-related knowledge and psychological resources (e.g., Jiang et al., 2019). Moreover, planning promotes career progression with a strategic direction and logical action by defining organised plans around clear and reasonable goals. It sustains motivation and persistence (e.g., Hirschi et al., 2014; Zikic & Klehe, 2006). Networking behaviours allow access to resources through the building, maintaining, and using interpersonal relationships (e.g., Forret & Dougherty, 2004; Wolff & Moser, 2009; Wolff & Spurk, 2019). Investing in networking promotes return in terms of social support in career development and job-seeking, such as exclusive information about job opportunities (e.g., Fugate et al., 2004; Lin, 2008) or the possibility to enhance one's position and credentials in the labour market (e.g., Tomlinson et al., 2021; Wolff et al., 2019). Those involving themselves in positioning and human capital development may increase their social connection and position value by accumulating highly valued skills and knowledge, attending to relevant projects, and accepting rewarding transitions (e.g., King, 2004; Jackson, 2014; Jackson & Wilton, 2016a).

In virtue of this, arguably, these behaviours could help individuals feel more employable. Research has shown that these behaviours may empower people to take responsibility for their career

against uncertainty, enhance a sense of control, and reduce the stress related to a career choice and negative career thoughts (e.g., Jiang et al., 2019; Creed & Hughes, 2013). People involved in career behaviours may assess their employment potential more positively (e.g., Koen & Parker, 2020; Jackson & Tomlinson, 2020; Jiang et al., 2019) and attribute themselves higher employment value (e.g., Eby et al., 2003; Wolff & Spurk, 2019), herewith suggesting a positive effect on PE. As reported previously, research in the scholarly field has gained mixed findings on the impact of career self-management on PE of new entrants, mainly using specific behaviours and with a cross-sectional design (e.g., Chiesa et al. 2020; Clements et al., 2018; Gunawan et al., 2021; Okay-Somerville and Scholarios, 2017; Qenani et al., 2014).

Research has devoted less attention to assessing whether the overt execution of many career self-management behaviours measured at a general level affects PE, even though the transition to work's outcomes strongly depend on multiple behaviours (Hirschi et al., 2014). Recent works by Baluku et al. (2020) and Ma and Bennet (2021) have detected a significant positive relationship in a sample of new entrants with cross-sectional data, using CE (in the former case) or a general measure of involvement in career self-management behaviours (in the latter case) as a predictor. These empirical findings indicate that there is still room for testing whether and how an agentic approach promotes PE. This study intends to test a time-lagged effect of CE on PE with new entrants.

Therefore the following is hypothesised:

**Hypothesis 2.** CE predicts PE positively.

### ***3.2.3. The Mediating Role of Career Resources***

As stated previously, the COR theory principle of resource caravan asserts that resources do not exist singly but are part of patterns of highly correlated resources that nurture and develop together, influence each other over time and lead to the acquisition of further resources (Hobfoll et al., 2018). Halbesleben et al. (2014, p. 1344) added further clarification to the dynamics of resource caravans, explaining that some new resources develop to fit into the caravan only if they come after



other resources are acquired. Drawing upon this principle, this study intends to assess the mechanism underlying STS and CE's effect on PE, positing a mediating role of valuable career-related resources. Accordingly, personal investment in career behaviours (namely, CE) and resources caravan passageways (STS) may create a resource pool that represents a precondition for increasing students' PE. The mediating career resources have been already introduced in the previous chapter: CI, SC, and SE. These resources being a prerequisite for the formation of students' PE fit with theoretical scholarly work (e.g., Fugate et al., 2004) and empirical research based on the input-output approach of PE (e.g., Forrier et al., 2015; Onyishi et al., 2015).

#### ***3.2.4. STS and Career Resources***

Scholarly research has acknowledged the role of higher education activities in developing students' CI (Skorikov & Vondracek, 2007; Trede, 2012). Jackson (2016b) posited that the students' CI development occurs in communities of practices provided by the university, in which students can collectively deepen their understanding and expertise. Supportive teachers who encourage collaborative, problem- and work-based authentic learning and career discussions define a community of practice in which students can experiment and socialise with the requirements, expectations and values of a professional role and apply the knowledge acquired accordingly (Tomlinson, 2017b; Trede et al., 2012). Such learning practices challenge them to reflect, start to think like a professional and question the pre-existing idea of their professional field to internalise skills, knowledge, norms and values required to perform within it (Kujipers et al., 2011). Many studies (e.g., Cornelissen & van Wyik, 2007; Jackson, 2016b; Santisi et al., 2018; Schepens et al., 2009; Tan et al., 2016) have outlined that this learning practice lets students confront themselves with, and assimilate, the requirements of the professional role. These requirements, in turn, may be integrated into students' self-concept and system of values, leading them to commit to a clearer and meaningful idea of who they are and who they want to be as professionals. Herewith, this should suggest an impact of STS on CI.

Second, STS is expected to contribute positively to students' SC. University students are in a position where they can access career-related resources and information to nurture their professional social network (Batistič & Tymon, 2017). Accordingly, Villar et al. (2010) reported that SC might flourish from day-to-day practice in learning activities. Teachers may define the structure through which students empower their network of contacts and relationships. Indeed, Kujipers et al. (2011) found that teachers offering opportunities to experience real-life work problems and career-related discussions engage students to be concerned about their career future, fostering their networking capability. The qualitative findings obtained by Donald et al. (2018) remarked on the role of university teachers in career advising because their knowledge of the labour market makes available to students information about useful contacts within workplaces and graduate job opportunities. Therefore, it is arguable that teachers represent a propeller of the students' SC.

Third, SE is sensitive to learning practice where individuals can get involved in direct and indirect performance experiences to nurture self-regulation strategies and behave effectively under different conditions (Bandura, 1997). Literature has asserted that teachers can stimulate students' SE by regularly encouraging them to work on problems and materials from real work or explain ways to master workplace demands with practical examples (e.g., Crippen & Earl, 2007; Huang, 2016; Liu et al., 2020; Tan et al., 2016). Moreover, research has shown that promoting collaboration and confrontation may expose students to many different ideas to get constructive feedback from peers on their solutions to real problems (e.g., Ehiyazaryan & Barraclough, 2009; Tan et al., 2016). This kind of learning can foster students' confidence in their capabilities and knowledge because they get to understand how they can harness these in the face of their future role demands and reach high-performance levels, which, in turn, raise their efficacy beliefs (Tan et al., 2016; Schepens et al., 2009; van Dinther et al., 2011). Also, research has shown that teachers interacting with students about their career future can be influential role models impacting students' sense of efficacy about

relevant transition aspects (e.g., decision-making; Zhang et al., 2018). Altogether, drawing upon these pieces of evidence, it is possible to formulate the following:

**Hypothesis 3.** STS predicts CI (H3a), SC (H3b) and SE (H3c) positively.

### **3.2.5. CE and Career Resources**

Research has recognised typical career self-management behaviours connected with CI and SC. Exploration consists of seeking information about themselves and the world of work from multiple sources (e.g., family, peers, education, career learning; Porfeli & Lee, 2012). Collecting information assists individuals in concerning themselves about they want to be as workers and what job is most suitable with their characteristics (Skorikov & Vondracek, 2007; Xu et al., 2014), and committing with a new side of the self, namely CI (Hirschi, 2012; Praskova et al., 2015).

Networking—building, maintaining and using informal relationships (Forret & Dougherty, 2004)—is typically connected with promoting SC (Wolff & Moser, 2009; Wolff & Spurk, 2019). Research has confirmed that devoting efforts to social interactions may bring a rich network of connections enabling access to valued resources in terms of information, support and job opportunities (Batistic & Tymon, 2017; Lin, 2008; Seibert et al., 2001).

Nevertheless, other behaviours encompassed by the CE concept may concur in forming specific career resources. Indeed, this study posits these behaviours to be studied together, as their combined execution is crucial for the transition to work (Hartung, 2013; Hirschi et al., 2014). This assumption aligns with the COR theory's claim that people can multiply their investment (namely, perform several career behaviours) to enrich resource caravans for salient developmental stages (Hobfoll et al., 2018). Said differently, it can also be argued that behaviours typically involved with forming specific resources (i.e., networking for SC, exploration for CI) facilitate access to other resources and that all behaviours included in CE may form CI, SC and SE.

Past research has shown that investing in networking, planning, positioning and skills development is positive for having more precise self- and work-related information. Such

information supports self-knowledge, interests development, and understanding of the world of work, resulting in a clearer identity (e.g., Meijers et al., 2013; Yuan & Ngai, 2018). Also, exploration, planning, skills development, and positioning behaviours may lead to a serendipitous creation of social ties yielding better SC (e.g., Drenzo et al., 2015; Inceoglu et al., 2019; Jackson, 2016a; Noda & Kim, 2014; Porter & Woo, 2015). Even though SE is seen as a major motivational initiator of many career-related behaviours (e.g., Lent & Brown, 2013; Hirschi, 2012), evidence exists for positing a reverse relationship. Proactive career behaviours are associated with increases in SE. Research findings exist that exploration and planning for career goals (e.g., Cordeiro et al., 2015; Hirschi, 2010; Saks et al., 2015), networking (e.g., Nadermann & Eissenstat, 2017), skill development and positioning (e.g., Inceoglu et al., 2019; Jackson, 2016a) are crucial for SE. These are valued direct and indirect learning experiences nurturing skills, resources and the necessary confidence to use them successfully in many career development tasks. In turn, this is expected to raise people's faith in their adaptive capacity to deal with external challenges, namely SE. Still, the unique effect of a system of overt behaviours on career resources has received little attention, with Hirschi et al. (2014) being an exception finding a positive relationship between university students' CE with CI and SE. Thus, the following is hypothesised:

**Hypothesis 4.** CE predicts CI (H4a), SC (H4b) and SE (H4c) positively.

### ***3.2.7. Career Resources and PE***

As mentioned previously, theoretical and empirical scholarly work has indicated a relationship between career resources and PE. Those with a formed identity deal with their career responsibilities based on better choices, directedness, and motivation (e.g., Haibo et al., 2017; Skorikov & Vondracek, 2007). Research has highlighted that a firmer CI facilitates coherent and logical coping strategies even under stressful career circumstances (e.g., transitions, Forrier et al., 2015) and, in turn, protects individuals' estimated occupational perspectives, which corresponds to higher PE (e.g., Cortellazzo et al., 2020; Praskova et al., 2015).

Research also has outlined that those who possess SC can obtain, through their contacts, access to more valuable career-related resources (e.g., social support) and information (e.g., job opportunities) (Caballero et al., 2020; Fugate et al., 2004). In turn, it may inhibit the sense of powerlessness and uncertainty and increase perceived control (e.g., Seibert et al., 2001; Batistic & Tymon, 2017). Moreover, SC is functional to facilitate the job search process's intensity and outcomes (e.g. Caballero et al., 2020; Ruschoff et al., 2018). Therefore, it could nurture positive thoughts about career achievement and success (Zhang et al., 2010) and higher PE (Donald et al., 2019).

As mentioned previously, SE is an essential psychological factor for the employability of new entrants (Dacre Pool & Sewell, 2007; Donald et al., 2019). Those who have faith in their capabilities may approach multiple situations with motivation, confidence and persistence (Bandura, 1997; Lent & Brown, 2013). Accordingly, research has shown that SE enables people to deal with tasks related to career development and transition, such as decision-making and job search (e.g., Kanfer et al., 2001; Kim et al., 2019) and reach positive outcomes (e.g., Gonzalez-Romà et al., 2016; Petruzzello et al., 2020). In turn, this sense of capability makes people feel they can compete in the labour market and see positive transition outcomes within reach, which directly affects PE. Empirical research has provided solid evidence of the causal relationship linking SE and PE (e.g., Caballero et al., 2020; 2021; Berntson et al., 2008; Ngo et al., 2017; Onyishi et al., 2015). Based on the above, the following hypothesis is formulated:

**Hypothesis 5.** CI (H5a), SC (H5b), and SE (H5c) predict PE positively.

The principles of resource gain and resource caravans within the COR theory allow formulating the following:

**Hypothesis 6.** CI (H6a), SC (H6b), and SE (H6c) mediate the positive effect of STS on PE.

**Hypothesis 7.** CI (H7a), SC (H7b), and SE (H7c) mediate the positive effect of CE on PE.

### **3.2.8. PE and Subjective Outcomes**

PE can play a positive role in helping new entrants face and adapt to the transition's developmental task (Clarke, 2018). Framing PE as a personal resource means that it can be interpreted, at a subjective level, as something that increases the likelihood of achieving career goals (Halbesleben et al., 2014; Kirves, 2014; Vanhercke et al., 2014). Feeling employable means assessing favourable employment potential, enhanced independence and security (Vanhercke et al., 2014; 2016), control over occupational perspectives (Bozionelos et al., 2015) and coping capabilities against the burdens of career entrance (Fugate et al., 2004). Therefore, PE influences occupational perspective and supports positive self-representations, feelings and thoughts about future career events (Gunawan et al., 2018; 2021). As such, it seems reasonable to argue that PE also fosters positive anticipations about the transition to work and later achievements (Gunawan et al., 2018; 2021; Rothwell et al., 2008). Indeed, those who feel employable may feel confident about gaining a graduate job after university, which could bring them positive expectations about reaching broader career goals and good adjustment in their later career. Namely, PE may increase new entrants' CCF. This idea is also corroborated by Ng and Feldmann (2007; 2014), who argued that success in the transition phase could impact the expected success in the latter stages of a career.

As reported previously, the empirical research on the impact of prospective new entrants' PE on their subjective transition-related success is still in its infancy. The studies of Baluku et al. (2020) and Gunawan et al. (2021) represent an exception yet used a measure of career satisfaction that could not be adequate for those still in full-time education (De Oliveira et al., 2016). To further extend knowledge about the benefits of PE, this study posits the following:

**Hypothesis 8.** PE predicts CCF positively.

As a personal resource within the COR theory framework, PE is expected to be functional to promote PWB (Vanhercke et al., 2016). People with higher levels of resources may face life stressors with better coping strategies and, then, be more adaptive to overcome difficulties and achieve their

goals more successfully than people with fewer resources, thus reporting lower levels of strain (Hobfoll, 2002). Consistently, new entrants may draw on a personal resource such as PE to cope with the threats they might meet and activate a gain spiral to accumulate further resources, like PWB (Vanhercke et al., 2016). Transition to work in a context characterised by uncertain employment perspectives may be worrisome about not having an adequate return of resources on the investment made in education to satisfy one's career and life goals, needs and aspirations (Ebner et al., 2021; Merino et al., 2019; Vanhercke et al., 2016). This, according to COR theory, may activate loss spirals and produce negative consequences on mental health, as research has demonstrated (e.g., Cassidy & Wright, 2008; Klug et al., 2019).

On the opposite, those who feel employable might expect a safer transition and refrain from fearing the cost associated with a poor transition experience. Having positive beliefs in employment potential favours a higher sense of control over one's career path, confidence and security (Vanhercke et al., 2016). Since personal resources have the power to influence stress evaluation processes (Lazarus & Folkman, 1984), PE may be promoting a more positive appraisal of the employment perspectives (Bertson & Marklund, 2007). In turn, it yields positive expectations about the future (Gunawan et al., 2021) and predisposes individuals to perform adaptive coping strategies, such as career planning and job search behaviours (e.g., De Battisti et al., 2016; Harrison et al., 2021). Coherently, PE may prevent the worries and subsequent strain and mental health impairment. In other words, PE is a resource individuals have at their disposal to promote their mental health and gain of PWB.

Previous empirical research about new entrants' PE outcomes has outlined preliminary findings to sustain that PE is a driver of PWB. Only a recent work by Ma and Bennet (2021) found that PE is negatively associated with life stress among Chinese university students. This study confirmed the COR theory tenet that people may invest resources to avoid the consequences of a threatened loss of resources (i.e. psychological strain; Hobfoll et al., 2018). The present study seeks

to expand the impact of PE on individuals' psychological health, assuming that, beyond a protective role, it can also activate gain spirals and beget the acquisition of more resources, like PWB. Then, to further extend the understanding of the beneficial psychological effect of PE, the following is hypothesised:

**Hypothesis 9.** PE predicts PWB positively.

### ***3.2.9. The Mediating Role of PE***

The theoretical approach used in this study (Clarke, 2018) contends that PE acts as a mediator between its antecedents and outcomes. As stated previously, PE is necessary to explain career-related outcomes because it reflects how much they feel competitive in the labour market based on the appraisal of personal and contextual factors that influence their employment capacity (Silla et al., 2009). This allows responding to the demands for an empirical test of integrated models connecting PE antecedents and outcomes among new entrants that have not been met yet (i.e. Di Fabio, 2017b; Gunawan et al., 2021; Vanhercke et al., 2016). Only a few recent studies are an exception in this regard, with cross-sectional data (e.g., Gunawan et al., 2021; Ma & Bennet, 2021). Herein, a serial mediation model is posited, where PE mediates the relationship between STS, CE and career resources on the one hand and CCF and PWB on the other hand. Therefore:

**Hypothesis 10.** Career Resources and PE serially mediate the relationship between STS and CCF (H10a, H10b, H10c).

**Hypothesis 11.** Career Resources and PE serially mediate the relationship between STS and PWB (H11a, H11b, H11c).

**Hypothesis 12.** Career Resources and PE serially mediate the relationship between CE and CCF (H12a, H12b, H12c).

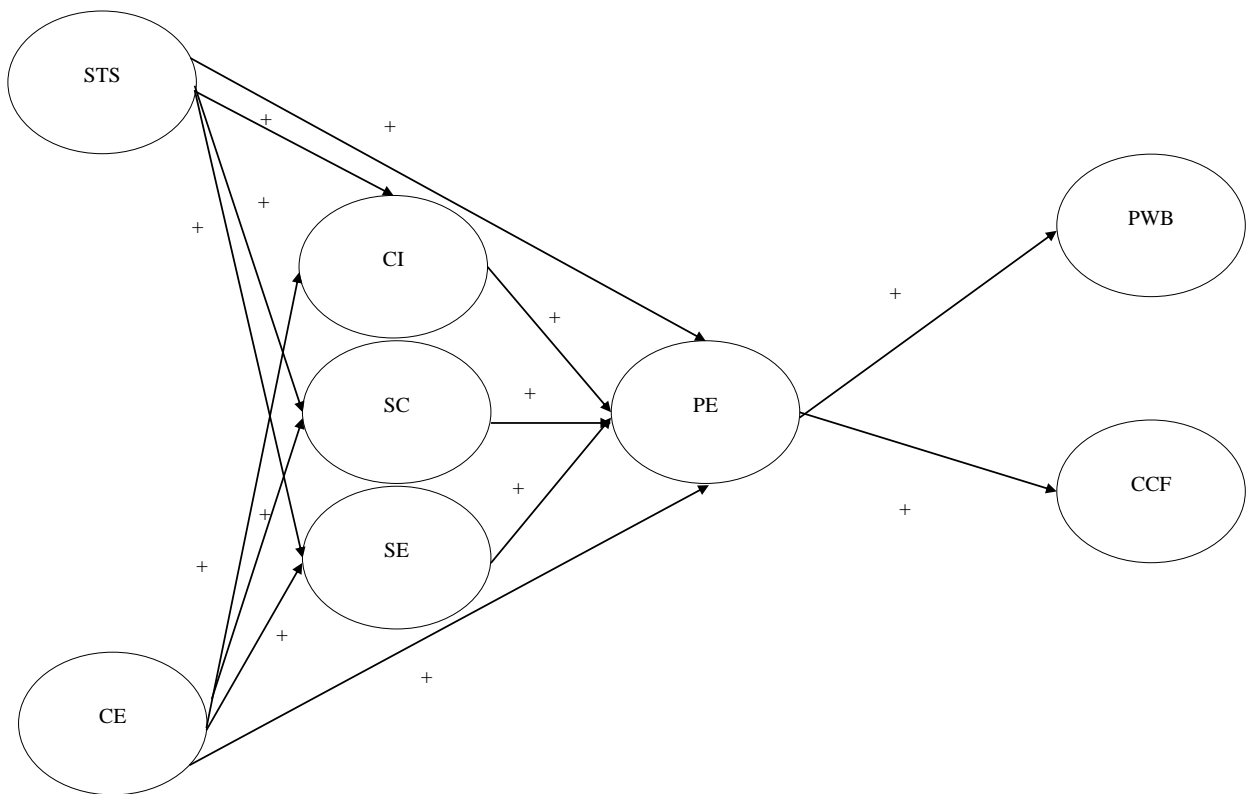
**Hypothesis 13.** Career Resources and PE serially mediate the relationship between CE and PWB (H13a, H13b, H13c).

Figure 6 displays the hypothesised relationships.



**Figure 6.**

*The Hypothesised Model of Study 1.*



*Note.* STS = Support from teaching staff; CE = Career Engagement; CI = Career identity; SC = social capital; SE = Self-efficacy; PE = Perceived employability; CCF = Confidence in career future; PWB = Psychological well-being.

### **3.3. Method**

#### **3.3.1. Procedure for Data Collection**

The ethical standards of this study were reviewed and approved by the bioethical committee of the University of Bologna. Data were collected with a two-wave research design with bachelor's and master's degrees students—registered in the final year of their course at Wave 1— from 32 Italian universities (Public = 26; Private = 6). Participants were reached through their courses' teachers, who were previously contacted and appropriately informed about the study, or recruited

with an invitation for participation channelled via posts on social media (i.e., Facebook, Linked In). Overall, the data collection involved two cohorts of students and lasted from March 2020 to May 2021. The questionnaire was distributed for voluntary completion on the online platform Qualtrics ©. It contained an introduction that explained the research purpose and assured confidentiality. Participants could participate voluntarily, give their informed consent at both waves, and had the right to withdraw at any time, in compliance with the EU Regulation no. 679/2016. They could also provide their e-mail address separately so that the researcher could contact them for the Wave 2 measurement while maintaining participants' anonymity. An alphanumeric code was used to anonymously associate the questionnaire at Wave 1 with the same participants' questionnaire completed in the following data collection. After three months from the first wave, those who provided their e-mail address were contacted to complete the questionnaire for Wave 2. After the invitation at each measurement, a reminder for the questionnaire completion was sent.

Participants were given no material incentives. However, to keep them engaged in the study (Pulkkinen & Kokko, 2012), each participant received written output on Qualtrics © with practical suggestions on the transition to work (e.g., self- and environmental exploration strategies, setting and monitoring career goals). The time lag in this study has taken into account suggestions from theory and empirical research about PE. Vanhercke et al. (2014) suggested that measurement waves should cover multi-year time lag, which Kirves et al. (2014) considered debatable, with shorter lags also being plausible. The empirical literature has displayed much divergence on the time lag applied in multi-wave studies of PE. Indeed, the time interval between measurements spans from one- or two-year lag (e.g., Berntson et al., 2008; Donald et al., 2019; Forrier et al., 2015; Wittekind et al., 2010) to a one-month lag (e.g., Ayala-Calvo & Manzano García, 2021; Yizhong et al., 2017). Differently, some studies (e.g., Gilardi & Guglielmetti, 2015) adopted a three-month time lag. Accordingly, as this three-month interval has already been used in literature, it was employed given its suitability for logistical and time constraints (e.g. allowing multiple measurements during an academic year).

### **3.3.2. Participants**

At the end of Wave 1, the initial sample consisted of 722 people who interacted with the questionnaire. After removing cases with missing values, the final sample of Wave 1 consisted of 523 cases (72.44% of the baseline sample), mostly women (86.8%) and with a mean age of 25.44 years ( $SD = 4.27$ ). Of these, 229 people filled out the questionnaire during Wave 2 (response rate of 43.79%). The final sample's mean age was 25.55 years ( $SD = 4.45$ ). Moreover, most participants were women (84.3%). Section 3.3.1. reports the analyses conducted to refine the sample (outliers detection) and assess whether the dropouts and the participants at Wave 2 were different by the demographic variables.

### **3.3.3. Measures**

#### **3.3.3.1. Wave 1.**

STS was measured using adapted scales and items created appositely for this study, for a total of 20 items. These items were intended to assess students' perceived availability or receipt of the different types of support that teachers can perform and that underpin STS. STS functions of SCL and STP were based on three subscales (13 items) of Elvira et al. (2016). Items examples are: "We are encouraged to discuss with fellow students how we study the subject matters"; "When solving a work problem, we are encouraged to draw on our existing knowledge". Three items for measuring SDC (e.g., "If I needed it, I could ask my teachers to discuss my professional future") were created and used. Four items developed by Tsui et al. (1997) served to measure the ES function of STS (e.g., "We can rely on the teachers in this programme"). Participants had to rate their agreement with the items on a Likert response scale ranging from 1 = *completely disagree* to 5 = *completely agree*. The original subscales of Elvira et al. (2016) and Tsui et al. (1997), from which were extracted SCL, STP, and ES items to use, showed acceptable to good internal consistency values (ranging from .68 to .90).

CE was measured with the Italian version of the Career Engagement scale (Hirschi et al., 2014), adapted in Italian by Petruzzello, Chiesa, and Mariani (2021). The scale consisted of nine items (e.g., “To what extent have you in the past two months...” “...actively sought to design your professional future?”) assessed with a Likert response scale ranging from 1 = *almost never* to 5 = *very often*. The original scale validation confirmed the monodimensional structure of the scale and its good internal consistency (Cronbach’s alpha=.88). The initial validation of the Italian version confirmed the structure at a confirmatory level and good internal consistency in terms of Cronbach’s alpha (.88), Omega value (.88) and composite reliability (.88).

The measure developed by González-Romá et al. (2016) was used to measure students’ CI (four items), SE (three items) and SC (two items). The scale employed a Likert response scale ranging from 1 = *completely disagree* to 5 = *completely agree* to assess the items (e.g. “I strongly identify with my chosen line of work/career field”). The original scales showed an acceptable internal consistency (Cronbach’s alpha value of .80 for CI, .88 for SE, and .72 for SC).

### **3.3.3.2. Wave 2.**

The scale developed by Berntson and Marklund (2007) and adapted in Italian by Caricati et al. (2016) was used to measure PE. The scale consisted of five items (e.g. “My personal qualities would make it easy for me to get a job”), assessed with a 5-point Likert scale ranging from 1 = *completely disagree* to 5 = *completely agree*. Berntson and Marklund (2007) evaluated the internal validity of the original scale in terms of internal consistency ( $\alpha = .88$ ) and monodimensional factorial structure. Similarly, the Italian adaptation confirmed the structure, and reported good composite reliability (.71) and configural and metric invariance across gender (Caricati et al., 2016).

CCF was measured with a subscale of the transition-to-work success scale developed by De Oliveira et al. (2016). The subscale assessed the anticipations of success related to the transition to work and consisted of five items (e.g. “I am confident that I will be able to achieve my career goals”), assessed with a 5-point Likert scale ranging from 1 = *completely disagree* to 5 = *completely*

*agree*. Even though they did not report the exact internal consistency value for the subscale, the authors stated that it was good.

The World Health Organization's WHO-10 well-being index, validated by Bech et al. (1996), was used to assess PWB. Berntson and Marklund (2007) already used this scale in the field of PE to examine the relationship between PE and mental health in working adults. It is suited to assess PWB as a complete state of wellness (as described by the World Health Organization, 1948). It includes negative and positive aspects of well-being on a single monodimensional scale. The scale consisted of 10 items (e.g., "During the last week..." "...I have felt well adjusted to my life situation") with a 5-point Likert scale on which respondents had to indicate how often they felt like described by the items, ranging from 1 = *never* to 5 = *always*. The original scale showed a good internal consistency value (Cronbach's alpha value=.91).

### **3.3.3.3. Control Variables.**

Age, Gender, study field, type of course (bachelor's or master's degree) and previous work experience are related to PE (e.g., Berntson & Marklund, 2007; Byrne, 2020; Jackson & Wilton, 2016; Rothwell et al., 2008; 2009; Wittekind et al., 2010). Therefore they were conceived as control variables. Dummy variables for the categorical control variables (for instance, work experience was recoded to 0 = no, 1 = yes) were created. As the data collection started nearly before and continued amid the pandemic, the control variables also comprised students' perceptions of the graduate labour market. The pervasive role of the external conditions on the perception of employment possibilities and, then, PE (e.g., Jackson & Tomlinson, 2020; Rothwell et al., 2009) made it necessary to control the impact of students' perceptions of their labour market conditions related to the pandemic crisis. A scale developed by Jackson & Tomlinson (2020) was used, related to the participants' perceived labour market's demands and barriers to employment (six items; e.g., "I feel that it is difficult for graduates to enter the jobs of their choice"). These aspects were assessed with a 5-point Likert scale

ranging from 1 = *completely disagree* to 5 = *completely agree*. The original study reported a monodimensional structure and a good internal consistency (Cronbach's alpha = .75).

#### **3.3.4. Strategy for Data Analysis**

A set of preliminary analyses was performed. The Mahalanobis distance ( $D^2$ ) scores were computed to detect the presence of outliers. The  $D^2$  scores indicate the distance in standard deviation units between a set of scores for one case and the sample means for all variables (Kline, 2016). A low  $p$ -value for this statistic (namely,  $p < .001$ ) leads to rejecting the null hypothesis that the case belongs to the same population and removing the case from the dataset as an outlier (Kline, 2016). An attrition analysis tested whether the participants' dropout was related to the demographic variables. Chi-square and independent t-test tests compared the respondents at Wave 2 and the non-respondents at Wave 2 concerning the demographic variables (age, gender, study field, type of course, previous work experience).

In addition, a preliminary procedure evaluated the psychometric characteristics of the measures used. Concerning the STS scale, the internal validity was assessed because the scale was a composite of existent items and items created appositely for the study. Content validity, exploratory factor analysis (hereafter, EFA), and confirmatory factor analysis (CFA) using the SEM approach with the software SPSS Amos (Arbuckle, 2012) assessed internal validity. Cronbach's alpha value evaluated the internal consistency of the STS sub-scales in this phase.

For the measurement and structural models, given the sample size of this study, the parcelling technique was used to create composites out of the items used and reduce the number of parameters to estimate. The parcelling strategy produces a more accurate representation of the linkage between the indicators and the latent variables, lower risks of nonnormality, better model efficiency and fit, and more accurate parameter estimates (Little et al., 2002; Matsunaga, 2008). CI, PE and CCF had two parcels; CE and PWB had three parcels. For STS, the factors resulting from the EFA and CFA (as described in section 3.3.2.1) were used as observed composites contributing to the latent variable,

as already successfully done in research (Williams & O' Boyle, 2008). Two parcels were created to measure the perceptions of the labour market. Given the number of items, no parcels were formed for SC (2 items) and SE (3 items).

A CFA tested a measurement model including all the study scales (Perceptions of the Labour Market, STS, CE, CI, SC, SE, CCF, and PWB), with the parcels and items used as indicators of their latent variables. Cronbach's alpha, Composite Reliability (CR) and Average Variance Extracted (AVE) evaluated the internal consistency and convergent validity of the scales used in the study (Hair et al., 2019). The Fornell-Larcker criterion (Fornell & Larcker, 1981) was used to evaluate discriminant validity among all the study variables, which exists if the square root of the AVE of each variable is greater than the correlation coefficients between that variable and other variables.

Moreover, point-biserial correlations between dummy and continuous variables and bivariate correlations between continuous study variables were calculated. Comparison tests examined whether PE was different as a function of the categorical control variables. Using a maximum likelihood (ML) estimation, a CFA in the AMOS software estimated the structural model and tested the hypothesised relationships between the study variables. Moreover, specific estimands were created to test the indirect effects. Fit indices for evaluating the goodness of fit of the CFA for the STS scale, the measurement and structural models tested were used. Since the chi-square test ( $\chi^2$ ) may be too sensitive to sample size, alternative indices were used (Cheung & Rensvold, 2002; Hair et al., 2019; Kline, 2016). Namely, the Root Mean Square Error of Approximation (RMSEA) and the Standardised Root Mean Square Residual (SRMR) were used to test the absolute fit. The Comparative Fit Index (CFI) and the Non-Normed Fit Index (NNFI) were used for testing the incremental fit. The ratio of the model chi-square and the degrees of freedom ( $\chi^2/df$ ) was used to analyse the parsimonious fit. Values for CFI and NNFI at least  $\geq 0.90$ , RMSEA and SRMR at least  $\leq 0.08$ , and  $\chi^2/df < 5$  suggest acceptable fit (Byrne, 2013; Hair et al., 2019; Hu & Bentler, 1999).

### 3.4. Results

#### 3.4.1. *Outliers Detection and Attrition Analysis*

The computation of the  $D^2$  scores led to removing six cases with a  $p$ -value  $<.001$ , reducing the number of cases to 223 (response rate 42.64%; mean age = 25.58;  $SD = 4.47$ ), mostly women (84.8%). Table 1 reports the details of the sample characteristics. The results of the attrition analysis did not report differences between those who left the study ( $N = 294$ ) and those who remained ( $N = 223$ ) concerning gender ( $\chi^2 = 2.54, p = .28$ ), previous work experience ( $\chi^2 = .00, p = .95$ ), study field ( $\chi^2 = 2.11, p = .35$ ), and the type of course ( $\chi^2 = 1.19, p = .28$ ). No differences emerged between the two groups concerning age,  $t(515) = -0.72, p = .94$ .



**Table 1.***Profile of the Respondents.*

Demographic Variables		
	<i>M</i>	<i>SD</i>
Age	25.58	4.47
	n	%
Gender		
Man	34	15.2
Woman	189	84.8
University		
Alma Mater Studiorum – University of Bologna	130	58.3
Bocconi University	1	0.4
Ca' Foscari University of Venice	2	0.9
Campus Bio-Medico University of Rome	1	0.4
D'Annunzio University of Chieti–Pescara	1	0.4
IULM University	3	1.3
LUISS University	1	0.4
Marconi University	1	0.4
Pegaso University	1	0.4
Polytechnic University of Bari	1	0.4
Roma Tre University	4	1.8
Sapienza University of Rome	8	3.6
University of Campania Luigi Vanvitelli	2	0.9
University of Calabria	4	1.8
University of Genoa	2	0.9
University of Florence	3	1.3
University of Milan	10	4.5
University of Milano-Bicocca	4	1.8
University of Modena and Reggio Emilia	1	0.4
University of Naples – L'Orientale	4	1.8
University of Naples Federico II	7	3.1
University of Padua	9	4.0
University of Pavia	1	0.4
University of Pisa	7	3.1
University of Salerno	2	0.9
University of Sassari	1	0.4
University of Siena	1	0.4
University of Trieste	1	0.4
University of Turin	7	3.1
University of Udine	1	0.4
University of Urbino “Carlo Bo”	1	0.4
University of Verona	1	0.4
Type of institution		
Public	215	97.6
Private	8	2.4
Field of Study <sup>a</sup>		
Humanistic-social	196	87.9

Demographic Variables		
	n	%
Sanitary	1	0.4
Scientific-technologic	26	11.7
Work Experience		
Yes	177	79.4
No	46	20.6

Note.  $N = 223$ .

<sup>a</sup>The field of study has been clustered based on the categorisation of the degree courses made by the Italian Minister of Education and Research (retrieved from:

<https://www.gazzettaufficiale.it/eli/gu/2021/02/22/44/sg/pdf>)

### 3.4.2. Measures' Psychometric Assessment

#### 3.4.2.1. Content Validity and Structure of the STS Scale.

A first evaluation of the STS's scale validity was performed. The content validity of the STS scale was evaluated by a panel composed of PhD students and researchers with expertise in the higher education field ( $N = 4$ ; Women = 3; Men = 1) and university students (representative of the target audience for the instrument;  $N = 5$ ; Women = 4; Men = 1). They were asked to evaluate each item's relevance, clarity, simplicity, and ambiguity (as suggested by Polit et al., 2007). This procedure led to removing one item due to its low applicability and slightly rewording some items.

The two samples for EFA and CFA were formed by those who completed the questionnaire only at Wave 1 and those who completed the same items for STS several months before the research project, thus not included in this study. For EFA, the sample was composed of 299 bachelor's and master's degree students (Mean age = 24.93 years,  $SD = 4.56$ ; Women = 87.6%). Principal Axis Factoring with Promax rotation was used, retaining items with a minimum factor loading of .32 and a cross-loading with more than a .15 difference on two factors (Worthington & Whittaker, 2006). Four factors (accounting for 68.32% of the total variance) were retained (Table 2). One factor reflected SCL (5 items). Two factors were needed to cover STP: (a) teachers' presentation of work-based materials (4 items); (b) teachers' support for developing students' problem-solving strategies (4

items). Tsui et al.'s (1997) items for ES loaded onto the same factor as the items for SDC (6 items). This can be in line with Lawrence et al. (2007), who stated that, although separated, some functions of social support may overlap. A teacher displaying availability to listen to and discuss students' inquiries about their future career—a meaningful developmental stage surrounded by pressures and expectations (Ng & Feldmann, 2007)—may also be perceived as a sign of emotional support (i.e., provision of empathy and caring). For CFA, the sample was composed of 303 bachelor's and master's degree students (Mean age = 24.91 years,  $SD = 4.69$ ; Women = 81.2%). The CFA tested a second-order hierarchical model of STS. The four factors that emerged from EFA were represented as first-order factors of STS loading onto a second-order general factor of STS. This was functional to establish whether STS could be modelled as a higher-order superordinate factor underlying first-order constructs, making a parallel to the representation of social support present in literature (i.e. Lawrence et al., 2007). The results indicated an acceptable fit ( $\chi^2(145) = 288.027, p = .000; \chi^2/df = 1.99; CFI = .96; NNFI = .95; RMSEA = .06; SRMR = .07$ ). All the factor loadings were significant. The sub-scales showed excellent internal consistency values of the first-order STS factors (Cronbach's alpha values ranging from .85 to .90).

**Table 2.***Means, Standard Deviations, and Factor Loadings for the STS Items in the Pattern Matrix.*

Items			Item Loadings			
	<i>M</i>	<i>SD</i>	Factor			
			1	2	3	4
ES1	3.64	.99	<b>.799</b>	-.315	.020	.087
ES2	3.17	.99	<b>.795</b>	.101	-.054	.000
ES3	3.19	1.01	<b>.790</b>	.015	.063	-.072
ES4	3.53	.91	<b>.702</b>	-.001	.015	-.036
SDC1	3.03	1.13	<b>.490</b>	.302	-.013	.016
SDC2	2.62	1.09	<b>.477</b>	.242	-.013	.025
SCL1	3.11	1.15	.038	<b>.793</b>	-.110	-.017
SCL2	2.49	1.10	-.212	<b>.736</b>	.017	.077
SCL3	2.78	1.14	.008	<b>.671</b>	.174	-.061
SCL4	3.13	1.19	.140	<b>.648</b>	-.058	.046
SCL5	3.18	1.16	-.009	<b>.577</b>	.177	.018
SP1	3.10	1.19	-.005	.018	<b>.887</b>	-.045
SP2	3.05	1.18	-.013	-.001	<b>.881</b>	.047
SP3	3.03	1.23	.022	.059	<b>.854</b>	-.045
SP4	2.85	1.17	.052	-.020	<b>.631</b>	.228
SM1	3.41	1.11	.029	.096	-.161	<b>.898</b>
SM2	3.20	1.21	-.066	-.057	.140	<b>.819</b>
SM3	3.07	1.09	-.047	.082	.012	<b>.711</b>
SM4	3.54	1.14	.105	-.067	.103	<b>.689</b>
Eigenvalue			7.94	2.29	1.61	1.14
Cumulative Variance %			41.78	53.88	62.35	68.32

*Note.*  $N = 299$ . The Extraction method was the Principal Axis Factoring with Promax and Kaiser

Normalisation rotation. Values in bold indicate the factor on which the item loads. ES = Emotional Support; SD = support in discussing one's career future and providing information about job opportunities; SCL = Support for collaborative learning; SP = support for developing students' problem-solving strategies; SM = Teachers' presentation of work-based materials.

### 3.4.2.2. Measurement Model

Next, the measurement model was tested. Despite removing the outliers from the final sample, the data distribution was slightly nonnormal, as the multivariate kurtosis critical ratio stood at 7.07, exceeding the cut-off value of 5 (Byrne, 2013). Therefore, a bootstrap procedure using 1000 samples with the SPSS syntax program developed by Walker & Smith (2016) was used to compute the adjusted CFI, NNFI and RMSEA indices (note that this program does not calculate SRMR). These indices draw upon the Bollen and Stine (1992) bootstrap  $\chi^2$  test statistic. Yet, they represent a more robust assessment of the model fit in the presence of nonnormality, as the Bollen-Stine  $\chi^2$  statistic may be too sensitive to sample size (Walker & Smith, 2016). The adjusted indices showed a good fit for the measurement model ( $\chi^2 (194) = 260.607, p = .001; \chi^2/df = 1.34; \text{Adjusted CFI} = .98; \text{Adjusted NNFI} = .97, \text{ and Adjusted RMSEA} = .04$ ), and all the factor loadings were significant. Moreover, all the scales reported Cronbach's alpha and CR (see Table 3) values above the acceptable threshold of .70 (Nunnally, 1978), except for SC. The evidence of poor internal consistency of the SC measure might be due to the low number of items. Therefore, the inter-item correlation was calculated for SC items. The inter-item correlation value was .47, within the acceptable range of .15-.50 (Clark & Watson, 2016). The AVE values were above the threshold of .50, except for SC and STS, which showed AVE values close to the threshold (see Table 3). Fornell and Larcker (1981) asserted that if CR is at the recommended level, even in the presence of an  $\text{AVE} < .50$ , the convergent validity is still supported. Thus, convergent validity was still supported for STS, differently from convergent validity of SC. Lastly, the analyses met the requirements of the Fornell-Larcker criterion (Fornell & Larcker, 1981), providing evidence for the adequate discriminant validity of the scales (Table 4). In sum, despite the concern for convergent validity of the two items for SC, given the good fit of the measurement model, the satisfying internal consistency of the scales and their discriminant validity, it was decided to proceed with the test of the structural model. The

concerns about SC construct validity will be further addressed in this study's Limitations and Future Research Recommendations section.

**Table 3.***Item Loadings, Internal Consistency, and Convergent Validity Coefficients*

Construct	Indicator	$\lambda$	$\alpha$	CR	AVE
PLM	<i>Indicator 1</i>	0.818	.85	.86	.75
	<i>Indicator 2</i>	0.913			
STS	<i>Indicator 1</i>	0.904	.77	.78	.48
	<i>Indicator 2</i>	0.492			
	<i>Indicator 3</i>	0.477			
	<i>Indicator 4</i>	0.800			
CE	<i>Indicator 1</i>	0.869	.89	.89	.74
	<i>Indicator 2</i>	0.865			
	<i>Indicator 3</i>	0.849			
CI	<i>Indicator 1</i>	0.900	.85	.86	.75
	<i>Indicator 2</i>	0.831			
SE	<i>Indicator 1</i>	0.876	.85	.86	.67
	<i>Indicator 2</i>	0.736			
	<i>Indicator 3</i>	0.833			
SC	<i>Indicator 1</i>	0.795	.64	.65	.49
	<i>Indicator 2</i>	0.590			
PE	<i>Indicator 1</i>	0.770	.74	.74	.59
	<i>Indicator 2</i>	0.760			
CCF	<i>Indicator 1</i>	0.942	.86	.89	.81
	<i>Indicator 2</i>	0.856			
PWB	<i>Indicator 1</i>	0.835	.87	.89	.72
	<i>Indicator 2</i>	0.928			
	<i>Indicator 3</i>	0.791			

*Note.*  $N = 223$ .  $\lambda$  = factor loadings;  $\alpha$  = Cronbach's Alpha; CR = Composite Reliability; AVE =

Average Variance Extracted. PLM = Perceptions of the Labour Market; STS = Support from

Teaching Staff; CE = Career Engagement; CI = Career Identity; SC = Social Capital; SE = Self-

efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological

Well-being.

**Table 4.***Discriminant Validity (Fornell and Larcker Criterion)*

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. PLM	<b>.87</b>								
2. STS	-.33**	<b>.69</b>							
3. CE	-.06	.24**	<b>.86</b>						
4. CI	-.24**	.31**	.49**	<b>.87</b>					
5. SE	-.20**	.22**	.30**	.39**	<b>.82</b>				
6. SC	-.38**	.42**	.28**	.26**	.23**	<b>.70</b>			
7. PE	-.41**	.36**	.31**	.37**	.33**	.49**	<b>.77</b>		
8. CCF	-.48**	.36**	.37**	.51**	.42**	.33**	.61**	<b>.90</b>	
9. PWB	-.27**	.25**	.19**	.24**	.37**	.22**	.36**	.55**	<b>.85</b>

*Note.*  $N = 223$ . The figure in bold is the square root of the AVE of the variable, while the other values are the correlations with other variables. PLM = Perceptions of the Labour Market; STS = Support from Teaching Staff; CE = Career Engagement; CI = Career Identity; SC = Social Capital; SE = Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being.

\*\* $p < .01$ .

### 3.4.3. Testing the Structural Model

Table 5 reports mean values, standard deviations, and correlations among the study variables. PE was positively related to all its hypothesised antecedents and outcomes. The correlation between age and PE was negligible, while a negative correlation between perceptions of the graduate labour market and PE was remarkable. The comparison test did not outline any significant differences in PE depending on gender, previous work experience, type of course, and field of study. Therefore, perceptions of the graduate labour market were included in the structural model test as a control variable.

The structural model was tested with the bootstrap procedure using 1000 samples and computed the adjusted CFI, NNFI and RMSEA indices using the SPSS syntax program developed by



Walker & Smith (2016). The adjusted indices showed good fit for the structural model ( $\chi^2$  (216) = 285.964,  $p = .001$ ;  $\chi^2 / df = 1.32$ ; Adjusted CFI = .98; Adjusted NNFI = .97 and Adjusted RMSEA = .04). The bootstrap procedure allowed the estimation of the model's parameters with a 95% bias-corrected confidence interval.

**Table 5.***Means, Standard Deviations, and Correlations Among the Variables of Study 1*

Variables	<i>M (SD)</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Age	25.31 (4.48)																
2. Gender <sup>a</sup>	-	-.17**															
3. Study Field Dummy 1 <sup>b</sup>	-	-.03	-.01														
4. Study Field Dummy 2 <sup>c</sup>	-	.02	.00	-.98**													
5. Study Field Dummy 3 <sup>d</sup>	-	.04	.03	-.18**	-.02												
6. Work Experience <sup>e</sup>	-	.10	.05	.18**	-.19**	.04											
7. Type of Course <sup>f</sup>	-	.13	.04	-.14*	.14*	.03	-.08										
8. PLM	3.94 (.69)	-.08	.27**	-.07	.08	-.06	-.05	.23**									
9. STS (Wave 1)	3.29 (.63)	.09	-.11	.05	-.05	.03	.10	-.27**	-.33**								
10. CE (Wave 1)	3.29 (.85)	.13	.00	.09	-.10	.01	.19**	-.15*	-.06	.24**							
11. CI (Wave 1)	3.71 (.83)	.05	-.06	.12	-.12	.00	.17*	-.18**	-.24**	.31**	.49**						
12. SC (Wave 1)	2.51 (.84)	.01	-.06	.14*	-.11	-.12	.18**	-.23**	-.38**	.42**	.28**	.26**					
13. SE (Wave 1)	3.83 (.59)	.12	-.15*	.19**	-.20**	.02	.11	-.02	-.20**	.22**	.30**	.39**	.23**				
14. PE (Wave 2)	3.09 (.71)	.18**	-.07	.12	-.13	.05	.21**	-.28**	-.41**	.36**	.31**	.37**	.49**	.33**			
15. PWB (Wave 2)	2.79 (.69)	.08	-.19**	.09	-.09	.05	.03	-.07	-.27**	.25**	.19**	.24**	.22**	.37**	.36**		
16. CCF (Wave 2)	3.19 (.79)	.10	-.11	.11	-.13*	.12	.18**	-.24**	-.48**	.36**	.37**	.51**	.33**	.42**	.61**	.55**	

*Note.* *N* = 223. <sup>a</sup>1 = Woman, 0 = Man; <sup>b</sup>1 = Humanistic-social, 0 = Other; <sup>c</sup>1 = Scientific-technologic, 0 = Other; <sup>d</sup>1 = Medical-sanitary, 0 = Other; <sup>e</sup>1 = yes; 0 = no; <sup>f</sup>1 = Bachelor's degree; 0 = Master's degree. PLM = Perceptions of the Labour Market; STS = Support from Teaching Staff; CE = Career

Engagement; CI = Career Identity; SC = Social Capital; SE = Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being.

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

#### ***3.4.4. Testing the Hypotheses***

Tables 6 and 7 display the bootstrapped standardised coefficients, standard errors, confidence intervals, and *p*-values for the hypothesised relationships. Concerning antecedents of PE, the results did not support a direct positive effect of STS and CE on PE (H1 and H2 not confirmed). The analyses confirmed a positive effect of STS on students' CI and SC but not on students' SE, providing partial support to H3. Conversely, CE positively predicted all three career resources, thus supporting H4. Career resources predicted, in turn, students' PE (H5 confirmed). Career resources mediated the STS-PE and the CE-PE relationships (H6 and H7 confirmed). Results also supported hypotheses 8 and 9, as PE predicted CCF and PWB. Moreover, hypotheses from H10 to H13 were supported. Indeed, career resources and PE serially mediated the relationship between STS on the one hand and CCF and PWB on the other hand. Also, career resources and PE serially mediated the relationship between CE on the one hand and CCF and PWB on the other hand.

**Table 6.***Path Coefficients and Direct Effect Hypotheses Test*

Hypothesis	Coefficient $\beta$	Standard Error	<i>p</i> -value	CI (95%)		Decision
				LL	UL	
PLM→PE	-.46	.09	.002	-.64	-.29	
H1. STS→PE	.03	.09	.670	-.14	.21	Rejected
H2. CE→PE	.13	.09	.185	-.07	.32	Rejected
H3a. STS→CI	.29	.08	.002	.12	.46	Accepted
H3b. STS→SC	.47	.09	.002	.28	.65	Accepted
H3c. STS→SE	.16	.09	.059	-.01	.33	Rejected
H4a. CE→CI	.52	.07	.002	.37	.64	Accepted
H4b. CE→SC	.29	.08	.003	.13	.45	Accepted
H4c. CE→SE	.33	.08	.002	.17	.49	Accepted
H5a. CI→PE	.25	.11	.024	.04	.47	Accepted
H5b. SC→PE	.27	.12	.016	.06	.52	Accepted
H5c. SE→PE	.25	.07	.002	.09	.39	Accepted
H8. PE→CCF	.84	.05	.002	.75	.93	Accepted
H9. PE→PWB	.53	.06	.006	.39	.63	Accepted
	<i>R</i> <sup>2</sup>					
PE	.59					
CCF	.71					
PWB	.29					

*Note.* N = 223. PLM = Perceptions of the Labour Market; STS = Support from Teaching Staff; CE = Career Engagement; CI = Career Identity; SC = Social Capital; SE = Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being.. CI (95%) = 95% confidence interval using the bootstrap bias corrected method using 1,000 samples; LL = Lower Limit; UL = Upper Limit.

**Table 7.***Path Coefficients and Indirect Effect Hypotheses Test*

Hypothesis	Coefficient $\beta$	Standard Error	CI (95%)		<i>p</i> -value	Decision
			LL	UL		
H6a. STS→CI→PE	.11	.06	.03	.29	.01	Accepted
H6b. STS→SC→PE	.20	.12	.04	.52	.02	Accepted
H6c. STS→SE→PE	.06	.04	.01	.18	.04	Accepted
H7a. CE→CI→PE	.08	.04	.02	.18	.02	Accepted
H7b. CE→SC→PE	.05	.03	.01	.14	.01	Accepted
H7c. CE→SE→PE	.05	.02	.02	.12	.001	Accepted
H10a. STS→CI→PE→CCF	.15	.09	.03	.39	.02	Accepted
H10b. STS→SC→PE→CCF	.27	.15	.06	.69	.01	Accepted
H10.c STS→SE→PE→CCF	.08	.06	.01	.23	.04	Accepted
H11a. STS→CI→PE→PWB	.08	.05	.02	.22	.02	Accepted
H11b. STS→SC→PE→PWB	.14	.08	.03	.38	.01	Accepted
H11c. STS→SE→PE→PWB	.04	.03	.002	.13	.04	Accepted
H12a. CE→CI→PE→CCF	.11	.06	.02	.24	.02	Accepted
H12b. CE→SC→PE→CCF	.07	.04	.02	.18	.01	Accepted
H12c. CE→SE→PE→CCF	.07	.02	.03	.16	.001	Accepted
H13a. CE→CI→PE→PWB	.06	.03	.01	.13	.02	Accepted
H13b. CE→SC→PE→PWB	.04	.02	.01	.10	.01	Accepted
H13c. CE→SE→PE→PWB	.04	.02	.01	.08	.001	Accepted

*Note.* N = 223. PLM = Perceptions of the Labour Market; STS = Support from Teaching Staff; CE = Career Engagement; CI = Career Identity; SC = Social Capital; SE = Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being. CI (95%) = 95% confidence interval using the bootstrap bias corrected method using 1,000 samples; LL = Lower Limit; UL = Upper Limit.

### **3.5. Discussion**

This study aims at responding to the call for expanding and deepening the understanding of new entrants' PE (Di Fabio, 2017b; Jackson & Wilton, 2017; Vanhercke et al., 2016), conducting a two-wave study with Italian university students. Such a necessity drives this study to delve into the nature of the PE estimation, with a focus on some aspects that need to be addressed more in-depth by scholarly work in the Higher Education and early career fields. This study adopts the COR theory (Hobfoll et al., 2018) framework to posit PE as a resource developed with resource gain processes and prone to produce valuable psychological outcomes. A central contribution of this study lies in examining the role of contextual and career self-management factors recognised as antecedents of new entrants' PE, yet quite overlooked by research or explored with mixed results (Caballero et al., 2021; Clarke, 2018; Ergün & Şeşen, 2021). STS and CE are considered antecedents of PE and initiators of resource caravans that can shape PE directly (H1 and H2) and indirectly through the mediation of relevant career resources like CI, SC, and SE (H3-H7). Moreover, another added value of this study is advancing research about the outcomes of PE currently underexplored in terms of subjective outcomes. A positive relationship between PE and CCF (H8) and PWB (H9) is posited. Moreover, this study intends to establish whether PE is a critical mediating nexus that explains how integrating contextual and personal career-related drivers may lead to positive subjective outcomes (H10-H13).

#### ***3.5.1. Antecedents of PE***

This study posits that STS acts as a meso level factor within universities that enhance students' PE. STS refers to the teaching social support behaviours that students perceive to assist them in facing post-graduation life challenges (Lopez-Minguens et al., 2021). Also, herein is adopted the perspective that PE is dependent on career self-management behaviours to manage the transition effectively (Holmes, 2013). Moreover, in line with the COR theory's resource caravan principle, this

study seeks to deepen these relationships, positing that STS and CE increase PE by producing prerequisites to PE, namely, career resources like CI, SC, and SE.

Results contribute to the existent research in many ways. Findings outline that STS and CE affect PE only indirectly through career resources (H1 and H2 not confirmed, H3 partially confirmed, H4, H5, H6 and H7 confirmed). This result aligns with the little evidence about the relationship between STS and PE (i.e. Alvarez-Gonzalez et al., 2017; Cheung et al., 2018) and the idea that teaching staff is crucial for building students' employability at university (Abbass et al., 2021; Cavanagh et al., 2015; Lopez-Minguens et al., 2021). Moreover, the findings confirm the part played by career self-management behaviours and contribute to research that has achieved mixed findings on this antecedent of PE (Clements et al., 2018; Okay-Somerville & Scholarios, 2017). A valuable contribution outlined by the result is the full mediation played by career resources (namely, CI, SC, and SE) which unravel and explain the mechanisms through which STS and CE affect PE estimations. Moreover, in the case of the CE-PE relationship, the mediation of career resources is in line with what Clements et al. (2018) argued, that career self-management behaviour may impact PE indirectly if they provide valued motivational resources for career development.

The non-significant direct effect of STS on SE, which leads only to a partial confirmation of H3, contrasts with previous findings (e.g., Liu et al., 2020). A possible explanation comes from the tenets of SE theory. The construction of SE requires prolonged and sustained learning to directly perform, observe the performance of tasks with growing difficulty levels, and be exposed to continuous constructive feedback (Bandura, 1997). Even though teachers can involve students in work and problem-based practices, classroom experience could not be sufficient to alter the sense of efficacy. This is also consistent with studies about skills development in academic settings, which acknowledges that classroom experience is the initial part of the skills- and confidence-building process, to be complemented with work-based learning experience (e.g., internships; Jackson, 2015;



Wilton, 2012). Such an explanation can be even more plausible given the blended learning arrangements implemented by Italian universities after the pandemic.

### ***3.5.2. Outcomes of PE***

The results contribute to the scarce literature about PE driving positive subjective reactions to the upcoming transition and subjective outcomes. The impact of PE on CCF (H8) supports the idea that those who have higher PE may also feel they could perform positively during their transition to work and, as such, expect a better adjustment to working life and goal achievements (Gunawan et al., 2021). This finding contributes to the expansion of existent research upon the role of PE on early career success (Baluku et al., 2020; Gunawan et al., 2021). Furthermore, its effect on PWB (H9) confirms PE as a personal resource useful for coping with the psychological threats and challenges of the transition to work, encouraging resource gain spirals.

Lastly, the empirical support to the serial mediation where PE explains the relationship between the antecedents and outcomes (H10-H13) responds successfully to the demands for an empirical test of integrated models connecting PE antecedents and outcomes (Di Fabio, 2017b; Gunawan et al., 2021; Vanhercke et al., 2016)

### ***3.5.3. Theoretical and Research Implications***

This study confirms the theoretical framework adopted (Clarke, 2018), contributing to the knowledge of PE and bringing many theoretical implications, yet to be enriched with further research to substantiate this study's findings and address its limitations, presented in the next section. First, this study demonstrates the theoretical assumption that PE is bounded by contextual factors (Forrier et al., 2018; Vanhercke et al., 2014), in line with the Resources Caravan Passageways principle of the COR theory (Hobfoll et al., 2018). STS is confirmed to explain how universities increase students' PE, aligning with previous research (e.g., Alvarez-Gonzalez et al., 2017). Yet, this study understands better how STS works. The full mediation of career resources in the STS-PE relationships means that teachers who encourage collaboration, authentic learning, and actively listen

to career concerns may nurture students' career-related resources. Such capital of resources—a clearer idea of what they want to become as workers (CI), a structure of work-related social connections (SC), and confidence in their preparation (SE)—may shape students' self-perceptions and help them feel more competitive in the upcoming transition.

The inclusion of STS also enriches the host of meso level actors that operate at an institutional level to increase students' preparation for post-graduation life. Besides support factors like university career services and curricular work-integrated learning experience, already acknowledged as drivers of PE (Donald et al., 2019; Ebner et al., 2021), STS should be included among the meso level factors as well. Coherently, this study agrees to overcome the assumption that new entrants' employability is the automatic result of getting a degree (Tomlinson, 2017a). Instead, it aligns with the idea that its construction is a more complex process, where also teaching style and behaviours play a crucial part (Dacre Pool & Sewell, 2007; Knight & Yorke, 2003; Yorke & Knight, 2007). In addition, this study promotes a more precise conceptualisation of the teaching staff variable, as required by Lopez-Minguens et al. (2021), by modelling it as a multi-faceted form of social support, perceived by students and reflecting instrumental, self-appraisal, informational, and emotional functions. This study has the merit of having an initial validation of the measure assessing STS used herein. This aspect of this study is further discussed in the limitations and future research section.

Second, the indirect effect of CE aids empirical research, which has provided mixed findings of career self-management behaviours being crucial for nurturing new entrants' PE. This study confirms the theoretical assumptions that career self-management fuels PE (Bridgstock, 2009; Clarke, 2018; Holmes, 2013). Indeed, the results corroborate the idea that personal agency in view of the upcoming transition is fundamental for new entrants to build a vantage position from which managing their transition in a growing volatile graduate labour market with less certainty about structured career paths, as it facilitates the formation of motivational (i.e. CI and SE) and social (i.e.

SC) resources that, in turn, will increase their perceived likelihood to get employment. Another contribution of this study regarding career self-management behaviours is that they have been examined with a general variable tapping a unique system of behaviours that can be all performed by individuals involved in career self-management. This differentiates this study from previous research, which has considered only specific behaviours studied separately (e.g., Chiesa et al., 2020; Clements et al., 2018; Okay-Somerville & Scholarios, 2017). As such, this study provides future research with a base to study the impact of proactive career behaviours in a parsimonious fashion through CE, as suggested by Hirschi et al. (2014).

Third, the mediating role of career resources (CI, SC, SE) confirms the gain spirals and resource caravans principles of COR theory (Halbesleben, 2014; Hobfoll et al., 2018). Translated herein, students' PE benefits from STS and CE only if resources for identifying and realising career opportunities can flourish. The initial investment in resources done through behaviours (e.g., CE) or facilitated by resource caravan passageways (e.g., STS) begets the acquisition of a caravan of resources (e.g., CI, SC, and SE) that, over time, leads to further resources gain (herein, PE). Such results also offer a new interpretation of the relationship linking the core determinants of PE. Indeed, unlike existing theory and research (e.g. Clarke, 2018; Ma & Bennett, 2021), the results prove that typical career resources like those explored herein (e.g., CI, SC, and SE) might also result from contextual and behavioural factors and mediate the connection between those and PE. Future research is needed to further integrate the theoretical approaches to PE and study how contextual and behavioural factors interact with other person-related factors in shaping PE. For instance, STS may represent an agent to instil in students the understanding and knowledge of a specific labour market area and its field rules. In other words, STS may enhance students' cultural capital, useful for orienteering towards opportunities and to show signals of fit with the employers (Bridgstock & Jackson, 2019; Tomlison, 2017b).

Fourth, the results provide further confirmation of the framework adopted (Clarke, 2018), confirming the mediating role of PE between antecedents and outcomes. This result expands the research in this regard which was scarce apart from a few recent exceptions (Ma & Bennet, 2021; Gunawan et al., 2021). PE is confirmed as an essential link connecting career-related resources and psychological consequences because it reflects the appraisal of the factors that determine employment capacity and defines the approach and the feelings related to career development (Silla et al., 2009; Vanchercke et al., 2016).

Fifth, this study adopts a time-lagged research design. This represents an attempt to go beyond the vast majority of PE explorations among new entrants, which is cross-sectional, despite a few recent exceptions (e.g., Ayala-Calvo & Manzano García, 2021; Donald et al., 2019). Yet, further research may be needed to apply a more robust multi-wave or longitudinal design and obtain more solid results, as discussed in this study's Limitations and Future Research Recommendations section. Further theoretical and research implications pertain to the influence of PE on subjective outcomes. As these aspects concern also Studies 2 and 3, they will be stressed in the general discussion section.

#### ***3.5.4. Limitations and Future Research Recommendations***

Some limitations affect the interpretations of this study's results, inviting future research addressing them. First, some limitations are due to the outbreak of the COVID-19 pandemic nearly after the beginning of data collection. This study explores STS, focusing on a physical environment with face-to-face interactions. However, the pandemic emergency has forced Italian Universities to adopt blended learning with digital platforms. Research is needed to assess how education in the online space classes (e.g., teachers' digital competencies; students' reactions toward digital learning; Limniou et al., 2021; Zaidi et al., 2021) interacts with STS to influence PE. Moreover, self-report answers may have been sensitive to the pandemic trends. Even though an initial attempt is made to examine the impact of the pandemic interpreted as the perceptions of the labour market, future

research may investigate how PE is affected by material, social and health-related worries (i.e. Kumari et al., 2020),

Second, even though this study adopts a two-wave data collection, STS, CE and career resources were collected simultaneously, as well as PE and its outcomes. This suggests caution in making conclusions about causal relationships because the emergence of common method biases is possible (Podsakoff et al., 2003). A more robust longitudinal design, with variables measured at every occasion and specific timings, is advisable and may yield more powerful results. This may identify the trajectories of STS and CE over time, indicating the existence of different resource gain or investment strategies depending on the specific phase of the transition, as also found by Grosemans and de Cuyper (2021). Moreover, it may tell whether PE follows different within- and between-person trajectories, with these fluctuations echoing the levels of outcomes (Kirves et al., 2014). Moreover, longer intervals would allow assessing distal PE outcomes (Jackson & Bridgstock, 2018). In this regard, even though long time lags are debatable and some scholars suggest shorter ones (Kirves et al., 2014), longer time lags may be recommended. In addition, a more robust design with all variables measured at any measurement occasion may aid in taking into account the attrition bias concerning the focal variables.

Third, most participants came from a single Italian university out of the 32 involved. Replicating the study with a more heterogeneous sample in terms of provenience may allow controlling for variables such as universities' reputation (Rothwell et al., 2008) or the cultural norms of teaching style (Álvarez-González et al., 2017). Moreover, although the attrition analysis shows no difference between the dropouts and the participants in the final sample in terms of study field and gender, future replications may consider using more balanced samples, given the preponderance in this study of Women and Humanistic-social students. This could aid the generalisability and the plausibility of the results obtained.

Fourth, some concerns pertain to some of the instruments used. It is important to refine the STS scale further to assess this variable more precisely. More thorough development of the scale may further progress the operationalisation of teaching staff, as introduced by Lopez-Minguens et al. (2021) and the notion of STS used in this specific study. A robust validation study could account for the results of the internal validity analyses to refine the scale. For instance, the EFA shows two differentiated dimensions covering the STP function and an overlap between the SDC and the ES functions. A future validation study could adjust the operationalisation of STS and translate it effectively into a sounder factorial structure. Moreover, new items could be added to measure more in-depth STS regarding teachers' support for students' career self-management competencies, as suggested by research (e.g., Kuijpers & Meijers, 2012). Additional items to add could measure the supportive functions of STS in a blended learning environment. Moreover, a more in-depth validation process may address all possible criteria for affirming a more robust construct validity evidence of the scale. Also, the two items for SC issue some concerns about their convergent validity, which may be a challenge for interpreting the results (Carlson & Herdman, 2010). However, this study and the work in which this measure was introduced (Gonzalez-Romà et al., 2016) support the discriminant validity of the scale and a satisfying inter-item correlation. In addition, both studies remark that relationships between SC and the other study variables are congruent with the theoretical and empirical literature, indicating nomological validity (Hair et al., 2019). Although these findings are promising in terms of construct validity (Hair et al., 2019) and justify using this measure, future research could further test its validity.

### ***3.5.5. Practical Implications***

The findings highlight Universities' role in fostering students PE as a stakeholder of employability at a practical level. Indeed, the results obtained may inform interventions to stimulate new entrants' PE while they are still in education. Universities should acknowledge teachers as meso level agents of students' employability, interconnected with other meso level actors inside and

outside universities, to activate a systematic shift in the teachers' role (Kember, 2009; Kuijper et al., 2011; Sarkar et al., 2019). Structured training may encourage this shift. Teachers could be helped to understand the value of other teaching strategies than lecture-based, confront colleagues about practices employed, and learn techniques to engage students in collaborative, work-based and reflective practice (e.g., Benbow et al., 2020; Kember, 2009; Ödalen et al., 2018). Universities ought to encourage a more profound collaboration between teachers and universities' career services. This can be functional to activate career-based learning and talks during classes (e.g., present possible career opportunities and the required skills; Donald et al., 2018) and create continuity between classroom practice and the learning experience of work-integrated learning (Jackson, 2015). Universities should also encourage their teachers to support students beyond the formal classroom practice boundaries with out-of-class activities (e.g., networking, career advice, and workshops) to be held in shared student-faculty physical or virtual spaces (Briody et al., 2019). Moreover, the COVID-19 pandemic issued many changes to teaching that are likely to become permanent in the long term, such as the shift to blended learning formats. Therefore, teachers should be training their Information and Communication Technology competencies (e.g., the use of digital tools for collaborative learning) to be able to implement their educational strategies efficiently and to maintain their supportive function for students' PE preserved, even in a virtual environment (Kulikowsky et al., 2021). In addition, actions could be taken to strengthen the university-industry relationship. Teachers could involve representatives from industry to integrate their knowledge and experience into the curricula development and make didactical activities rooted in the real world and responsive to the employers' needs (Pitan & Muller, 2019; Sarkar et al., 2019). Moreover, industry partners could be invited in class to share information about the real world of work and promote job and development opportunities (Donald et al., 2019; Sarkar et al., 2019). Involving alumni in curricula development and during classes is functional to make suited didactical activities and provide students with successful examples of managing the transition to work (Donald et al., 2018; Lopez-Mingues et

al., 2021). In line with the results of this study, these actions are seen of practical value to activate a positive spiral, develop a caravan of career resources and, in turn, enhance students' PE.

Moreover, the results could inform universities' assessment processes upon educational practice. These assessment procedures could use students' surveys to collect their opinion on how teaching methods prepare them for the world of work. Building on this information, universities may formulate good practices to make teaching responsive to students' needs regarding their insertion in the labour market (van der Lans et al., 2018). Furthermore, these actions focused on the teaching staff can be particularly useful in the Italian graduate labour market, where a degree is a weak signal of graduates' work potential, even due to teaching practices that do not adequately sustain students' career resources (Adda et al., 2017; OECD, 2017). Coherently, they can be implemented to reach the goals of the Italian NRRP, which aims to reform the Higher Education system and adapt it to the labour market through the evolution of University teachers' roles by employing up- and re-skilling (Italian Government, 2021).

Furthermore, the goal of fostering students' PE can be reached with universities promoting career self-management among university students, which is possible given that career behaviours are malleable (Spurk et al., 2015). The activation of career development programmes aligned with curricular courses may substantially and systematically contribute to students' proactivity, teaching prospective new entrants how to initiate networking, planning and exploration behaviours (e.g., Chukwuedo et al., 2018; Gibbons et al., 2020; Koivisto et al., 2011). Career services may also cooperate with external companies to offer students valuable early work experience, eliciting skills development and positioning behaviours (Donald et al., 2018; 2019). In line with the results of this study, these actions are seen of practical value to activate a positive spiral, through which new entrants can develop a caravan of career resources and, in turn, enhance their PE.

Such practical suggestion may grow important given that the pandemic has exacerbated the structural problems of the Italian graduate labour market and severely impacted new entrants' mental



health. In line with the assumptions of the psychology of sustainability (Di Fabio, 2017a; Di Fabio & Tsuda, 2018) and COR Theory (Hobfoll et al., 2018), the key to promoting a psychologically sustainable transition is acting with a primary prevention focus. This means fostering the pool of personal resources before a potentially harmful circumstance occurs. In this sense, Universities and other policy-makers may consider these suggestions to boost students' PE before they access the world of work to cope with the decline of employment prospects caused by the economic downturn related to the pandemic.

## **Chapter 4. Study 2 – ISE and CI as Antecedents of PE and PE Psychological Outcomes: an Integrated Model with Students and Graduates**

### **4.1. Introduction**

This study intends to further understand the antecedents and outcomes of new entrants' PE with specific goals and research questions, adopting the most relevant PE theory and the COR framework (Clarke, 2018; Hobfoll et al., 2018). First, it focuses additionally on the predicting role of career self-management factors on PE, as those aspects are critical to strengthening one's competitiveness and capacity to make their way into the labour market. In Study 1, the impact of career self-management antecedents was stressed by examining whether CE is associated with PE. Beyond behavioural components needed to prepare for the transition, skills to interact with the employment gatekeepers are necessary (Bridgstock, 2009; King, 2004). Especially for new entrants, who are aware of not having employment guaranteed by simply having a degree (Jackson & Tomlinson, 2020), it is important to have the ability to perform in the transition-related situations to enhance their employment prospects (Caballero et al., 2020). Scholarly research has started to stress the importance of transition-related skills testing the confidence in job search activities and self-presentation capabilities as predictors of PE (e.g., Caballero et al., 2021; Donald et al., 2019; Holmes, 2015). This study wants to follow this research stream by exploring whether ISE influences PE since new entrants see the job interview as a crucial step towards employment (Alonso & Moscoso, 2018; Dhingra & Kundu, 2019). Moreover, basing on the idea that effective interactions with employment gatekeepers depend upon compellingly graduate identity claims (Holmes, 2013), this study posits that CI predicts ISE and, in turn, PE.

Second, this study follows Study 1, exploring further the beneficial effects of PE as a personal resource to promote sustainability within the transition-to-work period. Accordingly, this study investigates whether PE predicts CCF and PWB. Third, the call for testing employability as a psychological phenomenon is here further met, and this study evaluates the mediating role of PE

between its antecedents and outcomes, in line with the theoretical model used herein (Clarke, 2018). A three-wave time-lagged study conducted with Italian university students and graduates ought to test the hypothesised relationships. Along with Study 1, this study significantly adds to the PE literature as it responds to the request to have PE antecedents and outcomes empirically tested among new entrants adopting a multi-wave design (Di Fabio, 2017b; Jackson & Wilton, 2017; Vanhercke et al., 2016). Results progress the role of career self-management. The focus on ISE is important for extending the scant existing evidence of its effect and providing a more detailed portrayal of how SE estimations related to career self-management impact PE, enriching the list of new entrants' PE predictors. Although largely accepted as a predictor of PE, the role of CI, if confirmed, can widen the understanding of this variable's function in the transition to work beyond being a facilitator for career decisions. As for Study 1, the results can confirm PE as a personal resource driving psychological sustainability and corroborate the integrated theoretical model of PE used herein (Clarke, 2018). The practical value of this study resides in suggesting practitioners in the field of early careers (e.g. career services within universities) tailoring interventions to raise ISE and form a firmer CI, as resources that activate gain spirals towards heightened PE. What follows is an introduction of the rationale behind the hypotheses of this study, followed by the methodology used. Then, the results are presented, along with the theoretical and practical implications of the study.

## **4.2. Study Hypotheses**

### **4.2.1. ISE and PE**

As mentioned previously, existing research has suggested that ISE may affect PE in new entrants. Efficacy beliefs have been widely considered a personal resource within the COR theory (Kirves et al., 2014) and an antecedent to PE (e.g., Berntson et al., 2008). Indeed, they reflect a system of beliefs about what one can do with their skills (Bandura, 1997). Such a system of beliefs generates a self-regulative influence that enhances control, motivation, positive anticipations and persistence towards achievements in different domains (Bandura, 1997), including career

development and transitions (Kim et al., 2019; Lent & Brown, 2013). Interestingly, Caballero et al. (2020; 2021) suggested that, in the context of the transition to work, employability is strongly tied to the perceived ability to implement actions (namely, SE about job search and selection activities) that will help new entrants to reach desired outcomes (namely, a successful transition). Moreover, they showed that SE beliefs associated with job search (which include interviewing) are positively related to PE in new entrants.

Arguably, it seems reasonable that also ISE is a plausible antecedent for PE because it concerns people's beliefs about how they can manage a crucial step to advance their chances of a rewarding transition, namely the job interview. Indeed, ISE has been shown to help interviewees to exploit their self-promotion skills and fulfil the task of presenting themselves credibly (e.g., Huffcutt et al., 2011; Shantz & Latham, 2012; Swider et al., 2011). What is more, research has also shown that those who hold firmer ISE beliefs have better outcome expectations about the job interview (Petruzzello, Chiesa, et al., 2021). Stated differently, those who believe themselves to be better performers in a job interview think their interviewing skills bode well for succeeding (e.g., convincing employers to offer a job) in future job interviews. Coherently, supposing that ISE generates positive anticipations of their performance when they need to convince the employment gatekeepers of being worthy of a job, it should be true that this shapes their estimation of their employment capacity and possibility, namely PE.

Research has been already concerned with such a relationship. Wittekind et al. (2010) tested the hypothesis that a person's perceived ability to present I and their skills increase PE in the domain of career development in a sample of established workers. Yet, they did not find statistical support for this hypothesis. On the other hand, Jackson and Wilton (2017) explored whether career learning—including self-presentation skills in the selection process—has a positive cross-sectional relationship with undergraduates' PE yet achieving mixed results. In a similar vein, Donald et al.

(2019) showed a positive association between receiving career advice—including ways to interact with employers and self-present—and undergraduates' PE.

Nevertheless, these studies included self-presentation skills related to a wide range of selection scenarios (e.g., Jackson & Wilton, 2017) without studying them in the specific context of the job interview. Moreover, the studies mentioned focused only on possessing these skills instead of stressing the SE beliefs, which, as said previously, allow exploiting skills' potential generating self-regulative and motivational power and positive expectations (Bandura, 1997). To fill these gaps in literature, this study seeks to confirm the relationship between the interview-related SE beliefs and PE and hypothesises the following:

**Hypothesis 1.** ISE predicts PE positively.

#### ***4.2.2. The Predicting Role of CI***

As mentioned previously, scholarly work conceives CI as a core dimension of employability (Fugate et al., 2004). From an input-output perspective, it is a determinant of PE (Forrier et al., 2015). Those who strongly identify themselves as workers in a specific field deal with their career responsibilities based on better choices, directedness, and motivation (Creed et al., 2020; Haibo et al., 2017; Skorikov & Vondracek, 2007). Research has highlighted that a firmer CI facilitates coherent and logical coping strategies even when facing occupational ambiguities and career transitions (e.g., Forrier et al., 2015; Skorakov & Vondracek, 2007). In turn, this could lead to an increase in estimated employment chances and better occupational perspectives, which corresponds to higher PE (e.g., Cortellazzo et al., 2020; Praskova et al., 2015; Jackson & Wilton, 2017). As such, this study attempts to corroborate past research by hypothesising the following:

**Hypothesis 2.** CI predicts PE positively.

This study attempts to explain how CI influences PE, positing ISE as a mediator between the two variables. Coherently with the tradition of social-cognitive theory (e.g., Lent et al., 1994) and research (Kim et al., 2019), identity has not been considered an antecedent to SE, which is seen

instead as a product of a person's direct and indirect experience (Lent & Brown, 2013; Sheu et al., 2018). Nevertheless, some studies (e.g., Choi et al., 2012; Nauta & Khan, 2007) have attempted to extend SE understanding and shown that identity may influence efficacy beliefs about career self-management tasks. For instance, Nauta and Khan (2007) showed that commitment to CI influences SE beliefs about making effective career decisions. CI seems to affect SE when individuals need cognitive structures that give sense to their past and direction to their future during career advancement activities.

A job interview may be conceived as a task where CI assumes high relevance during the transition to work. The processual approach proposed by Holmes (2013) sees the graduate CI's concept as a marker of personal investment in one's future desired career. Yet, it also extends CI to the extent to which new entrants can warrant their identity in the early stages of their labour market experience. Presenting oneself during the transition pertains to claiming one's emerging identity as a future employee worthy of a job (i.e. their graduateness). The key is conveying all one's relevant achievements, skills and experience in personal narratives that express alignment between their identity and their commitment to a desired career on the one hand and future work on the other hand. This has a high bearing on new entrants' employability and progress in early career endeavours (Tomlinson, 2017b; Tymon et al., 2020). Thus, in a job interview, new entrants may use self-presentation tactics (i.e., self-promotion) as narratives of their CI to demonstrate that their skills, achievements, and experience are signals of their investment in career and markers of value for the prospective employers (Bolino et al., 2016; Tomlinson, 2017b; Schlenker, 2012). This is expected to boost the likelihood of having their identity claims confirmed and employment chances increased (Anderson & Tomlinson, 2021; Holmes, 2015; Tomlinson, 2017b).

Supposing that a convincing identity narrative increases the chances of getting a job, it should also be true that the perceived ability to create such a narrative and claims (namely, ISE) relies on CI. This relationship has also been suggested by Huffcutt et al. (2011). They argued that personal career

goals, interests and values (which resemble CI) might influence ISE. In this regard, Fugate et al. (2004) and Tomlinson (2017b) asserted that CI provides a framework for individuals to make narratives of their work-related experiences and capabilities to communicate their value to prospective employers with higher credibility. This could mean that a new entrant with a strong identity towards a professional field may demonstrate a higher commitment to a specific work role and career, therefore having a more solid basis to create a compelling identity narrative. In this regard, scholarly work has remarked that career identity may help the perceived capability of retrieving, organising, and presenting the information about the self (e.g., Roberts, 2005; Schlenker, 2012) and the perceived competence to signal one's suitability with prospective employers (e.g., Gorbatov et al., 2019; Tymon et al., 2020). Therefore, it could be argued that the strength of new entrants' CI may influence their belief that they can perform better in interviews. Said differently, CI could raise ISE.

Having that said, this study posits that:

**Hypothesis 3.** CI predicts ISE positively.

The COR theory's principle of resource caravan (Hobfoll et al., 2018) allows seeing CI and ISE as part of the resource caravan from which PE stems. Therefore, new entrants' CI is considered the initiator of the process leading to higher PE through the influence exerted on ISE. Therefore:

**Hypothesis 4.** ISE mediates the relationship between CI and PE.

#### **4.2.3. PE and Subjective Outcomes**

As for Study 1, this study seeks confirmation of the role of PE as a personal resource that enhances control, confidence, and favourable appraisal and anticipations about the transition to work, creating the fertile conditions for the gain of further resources, such as psychological sense of success and well-being (Gunawan et al., 2018; Vanchercke et al., 2016). As such, building on the rationale described in Study 1, this study sees PE as a predictor of CCF and PWB. Therefore, the following are hypothesised:

**Hypothesis 5.** PE predicts CCF positively.

**Hypothesis 6.** PE predicts PWB positively.

#### **4.2.4. The Mediating Role of PE**

Following the same rationale as Study 1, this study further explores the mediating role of PE between career-related resources and outcomes for matching demands for an empirical test of integrated models connecting PE antecedents and outcomes with multi-wave studies (e.g., Di Fabio, 2017b; Gunawan et al., 2021; Vanhercke et al., 2016). Therefore, the following are hypothesised:

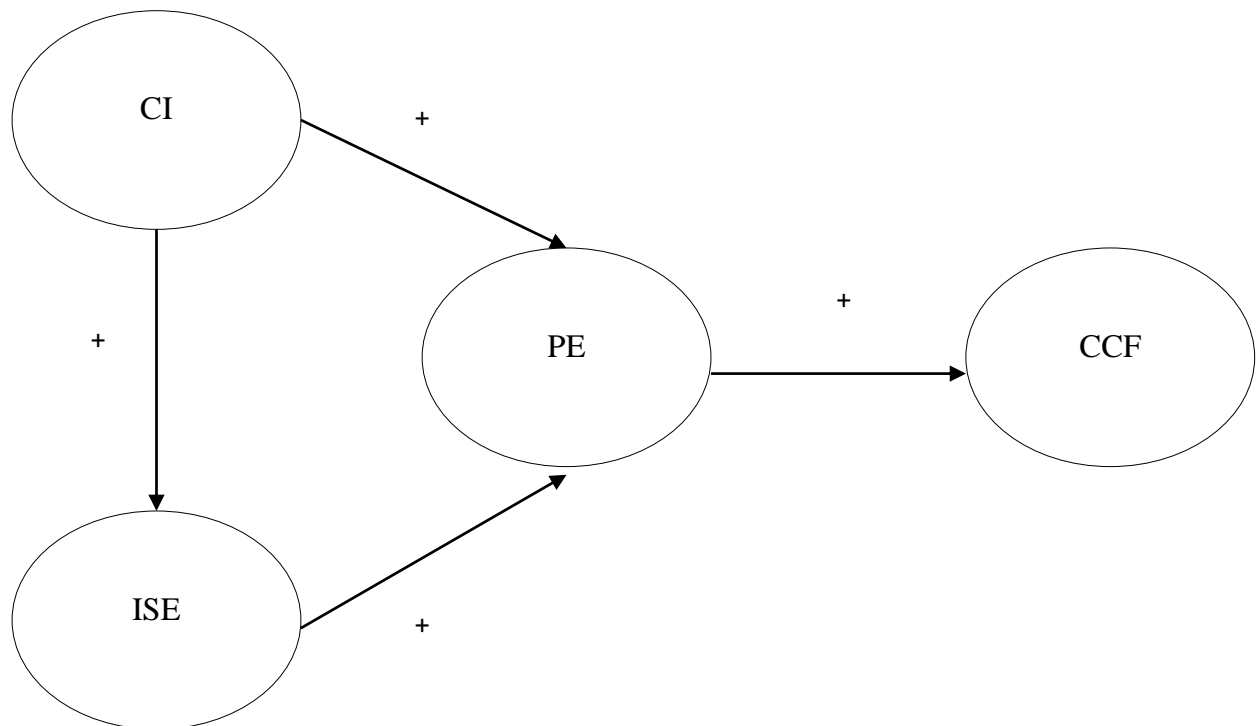
**Hypothesis 7a.** ISE and PE serially mediate the relationship between CI and CCF.

**Hypothesis 7b.** ISE and PE serially mediate the relationship between CI and PWB.

Figures 7 and 8 show the hypothesised models.

**Figure 7.**

*The Hypothesised Model 1- CCF of Study 2*

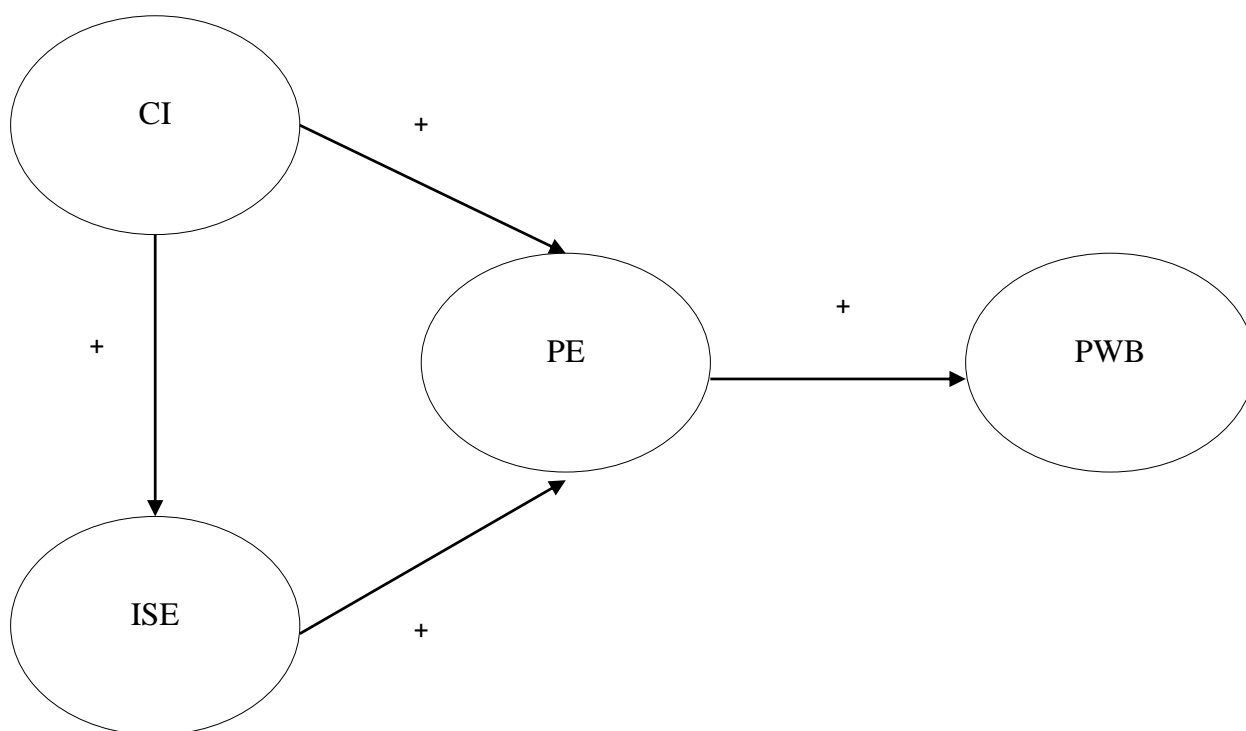


*Note.* CI = Career identity; ISE = Job Interview self-efficacy; PE = Perceived employability; CCF = Confidence in career future.



**Figure 8.**

*The Hypothesised Model 2- PWB of Study 2*



*Note.* CI = Career identity; ISE = Job Interview self-efficacy; PE = Perceived employability; PWB = Psychological well-being.

### **4.3. Method**

#### ***4.3.1. Procedure for Data Collection***

The ethical standards of this study were reviewed and approved by the bioethical committee of the University of Bologna. Data were collected with a three-wave research design. Two cohorts of participants were involved. Participants were university bachelor's and master's degree students and graduates – who got their degree up to one year before Wave 1— from 36 Italian universities (Public = 35; Private = 1). Participants were recruited with an invitation for participation channelled via

posts on social media (e.g., Facebook, Linked In). Overall, the data collection lasted from January 2020 to March 2021. The questionnaire was distributed for voluntary completion on the online platform Qualtrics ©. It contained an introduction that explained the research purpose and assured confidentiality. Participants could participate voluntarily and give their informed consent at each wave. They had the right to withdraw at any time, in compliance with the EU Regulation no. 679/2016. They could also provide their e-mail address separately so that the researcher could contact them for the Waves 2 and 3 measurements while maintaining participants' anonymity. An alphanumeric code was used to anonymously associate the questionnaire at Wave 1 with the same participants' questionnaire completed in the following data collections. After three and six months from the first completion, those who provided their e-mail address were contacted and invited to complete the questionnaire for Waves 2 and 3. After the invitation at each measurement, a reminder for the questionnaire completion was sent. The rationale behind the adoption of a three-month time lag is the same as in Study 1.

Participants were given no material incentives. However, to keep them engaged in the study (Pulkkinen & Kokko, 2012), each participant received a written output on Qualtrics © with practical suggestions on the transition to work (e.g., strategies for job search and self-presentation during the transition to work).

#### **4.3.2. Participants**

At the end of Wave 1, the initial sample consisted of 996 people who interacted with the questionnaire. After removing cases with missing values, the final sample of Wave 1 consisted of 679 cases (68.17% of the baseline sample), with a mean age of 26.09 years ( $SD = 3.65$ ), mostly women (87.9%) and graduated (53.5%). Of these, 290 people filled questionnaire during Wave 2 (response rate 42.71% ), and 158 completed the questionnaire during the third and final wave (response rate 23.27% compared to Wave 1, 54.48% compared to Wave 2). The final sample's mean age was 26.53 years ( $SD = 3.45$ ). Moreover, most participants were women (93.0%) and graduated

(58.2%). Section 4.3.1. reports the analyses conducted to refine the sample (outliers detection) and assess whether the dropouts and the participants at Wave 3 differed by the demographic variables.

### **4.3.3. Measures**

#### **4.3.3.1. Wave 1.**

This study used the multi-dimensional Job Interview Self-efficacy (MJISE) scale developed by Petruzzello et al. (2022) with Italian University students and graduates to measure ISE. The MJISE scale measures SE beliefs corresponding to (a) self-promotion, (b) anxiety management, and (c) interaction management during the interview. Moreover, the scale also assesses SE beliefs about performing the necessary interview-preparation behaviours, namely (d) rehearsing answers and collecting job-related information and caring for the logistical aspects of the interview. MJISE scale aligns with the approach that deems graduate employability also founded on the capacity of self-presenting and making identity claims to influence employment gatekeepers during the transition (Holmes, 2013). Indeed, MJISE measures SE about making effective identity claims (i.e. self-promotion) made during an interaction with significant others (i.e. interaction and anxiety management) that requires fluency and rehearsal in communication (i.e. interview preparation behaviours). The scale consisted of 20 items (4 items for each sub-dimension). The items (e.g. "how confident are you that you could..." "...Emphasise your work experiences and job-related skills?" or "...Get ready for the interview questions?") were assessed with a 5-point Likert scale ranging from 1 = *not at all* to 5 = *completely*. The original scale development and validation process outlined a bifactorial structure of the MJISE construct, formed by both a single general factor and five separate sub-dimensions (SE beliefs about self-promotion, anxiety and interaction management, preparatory behaviours) orthogonal to the general factor. In the original development of this scale, it reported good internal consistency values for the general factor' (Cronbach's alpha value = .91; Omega coefficient = .93) and for the specific factor' (Cronbach's alpha values = .83; .75; .87; .70; .78;

Omega coefficients = .86; .91; .95; .78; .79). Moreover, the scale reported good convergent, discriminant, and predictive validity.

CI was measured with the scale developed by Gonzalez-Romà et al. (2016). The scale consisted of four items (e.g., "I strongly identify with my chosen line of work/career field."), assessed with a 5-point Likert scale ranging from 1 = *completely disagree* to 5 = *completely agree*. The original scale showed a good internal consistency' (Cronbach's alpha value = .80).

#### **4.2.3.2. Waves 2 and 3.**

PE at Wave 2 and CCF and PWB at Wave 3 were measured with the same instruments as Study 1.

#### **4.3.3.3. Control Variables.**

Age, Gender, study field, and previous work experience were conceived as control variables related to PE (Berntson & Marklund, 2007; Jackson & Wilson, 2016; Pitan & Muller, 2019; Wittekind et al., 2010). Dummy variables for the categorical control variables (for instance, work experience was recoded to 0 = no, 1 = yes) were created. Moreover, since the sample consisted of students and graduates, their status (i.e., 0 = student; 1 = graduate) was seen as a control variable. In addition, the data collection conducted during the pandemic led to the inclusion of students' perceptions of their labour market conditions on PE, with the same six-item scale as Study 1 (Jackson & Tomlinson, 2020). Also, considering the direct experience as a predictor of SE (Bandura, 1997; Sheu et al., 2018), participants' self-reported number of job interviews was seen as a control variable. It can influence ISE (Tay et al., 2006), so it was collected.

#### **4.3.4. Strategy for Data Analysis**

As for Study 1, a set of preliminary analyses was performed. The Mahalanobis distance ( $D^2$ ) scores were computed to detect the presence of outliers. Moreover, an attrition analysis tested whether the participants' dropout was related to the demographic variables. Chi-square and

independent t-test tests compared the respondents at Wave 3 and the no-respondents at Wave 3 concerning age, gender, study field, participants' status, and previous work experience.

As for study 1, the parcelling technique created composites from the items used to reduce the number of parameters to estimate. CI, PE and CCF had two parcels. PWB had three parcels. ISE had five parcels corresponding to the five sub-dimensions of MIJSE as theorised and tested by Petruzzello et al. (2022). Two parcels covered the perceptions of the graduate labour market. Also, a preliminary psychometric evaluation of the measures used was conducted. A CFA tested a measurement model including all the study scales (Perceptions of the Labour Market, ISE, CI, PE, PWB, and CCF) with the parcels used as indicators of their latent variables. Cronbach's alpha, CR, and AVE evaluated the scale's internal consistency and convergent validity (Hair et al., 2019). The Fornell-Larcker criterion (Fornell & Larcker, 1981) was used to establish discriminant validity.

Moreover, point-biserial correlations between dummy and continuous variables and bivariate correlations between continuous study variables were calculated. Comparison tests examined whether PE was different as a function of the categorical control variables. A CFA with an ML estimation in the AMOS software (Arbuckle, 2012) estimated two structural models and tested the hypotheses between the study variables. The first one— (Model-1 - CCF) encompassed the hypothesised associations between CI, ISE, PE and CCF. The second model (Model 2 – PWB ) comprised the relationships between CI, ISE, PE and PWB. Moreover, specific estimands to test the indirect effects were created. Similarly to the previous study, fit indices for evaluating the goodness of fit of the measurement and structural models were the CFI, NNFI, RMSEA, SRMR, and the  $\chi^2/df$  ratio (Cheung & Rensvold, 2002; Hair et al., 2019; Kline, 2016). CFI and NNFI  $\geq 0.90$ , with RMSEA and SRMR  $\leq 0.08$  and  $\chi^2/df < 5$ , suggest an acceptable fit (Byrne, 2013; Hair et al., 2019; Hu & Bentler, 1999).

## 4.4. Results

### 4.4.1. Outliers Detection and Attrition Analysis

As no case had a  $p$ -value  $<.001$  of the  $D^2$  score, none were excluded from the final sample. Table 8 reports the details of the sample characteristics. The results of the attrition did not report differences between those who left the study after Wave 1 ( $N = 521$ ) and those who remained until Wave 3 ( $N = 158$ ) concerning gender ( $\chi^2 = 5.39, p = .15$ ), previous work experience ( $\chi^2 = .09, p = .76$ ), and participants' status ( $\chi^2 = 1.55, p = .21$ ). Nevertheless, the two groups differed in the study field ( $\chi^2 = 9.27, p = .01$ ). In particular, the Humanistic-social field was overrepresented than Scientific-technologic and Medical-sanitary backgrounds among respondents at Wave 3, compared to those who dropped out at Wave 1. No differences emerged between the two groups concerning age,  $t(677) = -1.35, p = .18$ .

**Table 8.***Profile of the Respondents*

Demographic Variables		
	<i>M</i>	<i>SD</i>
Age	26.53	3.45
	n	%
Gender		
Man	11	7
Woman	147	93
University		
Academy of Fine Arts - Naples	1	0.6
Ca' Foscari University of Venice	1	0.6
D'Annunzio University of Chieti–Pescara	2	1.3
Roma Tre University	3	1.9
Sapienza University of Rome	4	2.5
University Ca' Foscari Venezia	3	1.9
Università Politecnica delle Marche	1	0.6
University of Bari – Aldo Moro	1	0.6
University of Cagliari	2	1.3
University of Calabria	1	0.6
University of Campania Luigi Vanvitelli	3	1.9
University of Catania	1	0.6
University of Ferrara	3	1.9
University of Florence	1	0.6
University of Genoa	1	0.6
University of Insubria	1	0.6
University of Macerata	1	0.6
University of Milano	10	6.3
University of Milano-Bicocca	7	4.4
University of Naples - "Federico II"	14	8.9
University of Naples - "L'Orientale"	1	0.6
University of Padua	15	9.5
University of Palermo	1	0.6
University of Parma	1	0.6
University of Pavia	2	1.3
University of Perugia	1	0.6
University of Pisa	6	3.8
University of Rome Tor Vergata	1	0.6
University of Salerno	6	3.8
University of Siena	1	0.6
University of Torino	4	2.5
University of Trento	1	0.6
University of Urbino "Carlo Bo"	1	0.6
University of Verona	3	1.9
Vita-Salute San Raffaele University	2	1.3

Demographic Variables		
	n	%
Type of Institution		
Public	156	98.7
Private	2	1.3
Status		
Student	66	41.8
Graduate	92	58.2
Field of Study <sup>a</sup>		
Humanistic-social	117	74.1
Sanitary	10	6.3
Scientific-technologic	31	19.6
Work Experience		
Yes	111	70.3
No	47	29.7

Note.  $N = 158$ .

<sup>a</sup>The field of study has been clustered based on the categorisation of the degree courses made by the Italian Minister of Education and Research (retrieved from: <https://www.gazzettaufficiale.it/eli/gu/2021/02/22/44/sg/pdf>).

#### 4.4.2. Measurement Model

The measurement model showed a good fit with the data ( $\chi^2(88) = 120.276, p = .01; \chi^2/df = 1.37; CFI = .97; NNFI = .96; RMSEA = .05; SRMR = .05$ ). All the factor loadings were significant. Table 9 reports information about the internal consistency and convergent validity. All the scales reported a Cronbach's alpha and CR values above the acceptable threshold of .70 (Hair et al., 2019; Nunnally, 1978), except for ISE. AVE was above the threshold of .50 for all scales except for ISE. The analyses met the requirements of the Fornell-Larcker criterion (Fornell & Larcker, 1981), providing evidence for the discriminant validity of the scales (see Table 10). Despite the concern for convergent validity of ISE measure, the study conducted by Petruzzello et al. (2022) provided evidence for convergent validity of the subscales, with a sample of Italian new entrants. The concerns about ISE construct validity will be further addressed in this study's Limitations and Future Research Recommendations section.



**Table 9.***Item Loadings, Internal Consistency, and Convergent Validity Coefficients*

Construct	Indicator	$\lambda$	$\alpha$	CR	AVE
PLM	<i>Indicator 1</i>	0.982	.81	.83	.72
	<i>Indicator 2</i>	0.687			
CI	<i>Indicator 1</i>	0.805	.81	.81	.68
	<i>Indicator 2</i>	0.843			
ISE	<i>Indicator 1</i>	0.838	.65	.64	.29
	<i>Indicator 2</i>	0.444			
	<i>Indicator 3</i>	0.268			
	<i>Indicator 4</i>	0.333			
	<i>Indicator 5</i>	0.626			
PE	<i>Indicator 1</i>	0.835	.81	.81	.68
	<i>Indicator 2</i>	0.815			
CCF	<i>Indicator 1</i>	0.935	.90	.90	.82
	<i>Indicator 2</i>	0.879			
PWB	<i>Indicator 1</i>	0.923	.93	.93	.82
	<i>Indicator 2</i>	0.873			
	<i>Indicator 3</i>	0.914			

*Note.*  $N = 158$ .  $\lambda$  = standardised factor loadings;  $\alpha$  = Cronbach's Alpha; CR = Composite Reliability;

AVE = Average Variance Extracted. PLM = Perceptions of the Labour Market; CI = Career

Identity; ISE= Job Interview Self-efficacy; PE = Perceived Employability; CCF = Confidence in

Career Future; PWB = Psychological Well-being.

**Table 10.***Discriminant Validity (Fornell and Larcker criterion).*

Variables	1.	2.	3.	4.	5.	6.
1. PLM	<b>.85</b>					
2. CI	-0.09	<b>.82</b>				
3. ISE	-0.13	.29**	<b>.54</b>			
4. PE	-.46**	.28**	.24**	<b>.83</b>		
5. CCF	-.41**	.41**	.37**	.55**	<b>.91</b>	
6. PWB	-0.12	.23**	.23**	.26**	.54**	<b>.90</b>

*Note.*  $N = 158$ . The figure in bold is the square root of the AVE of the variable, while the other values are the correlations with other variables. PLM = Perceptions of the Labour Market; CI = Career Identity; ISE= Job Interview Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being. \*\* $p < .01$ .

#### 4.4.3. Testing the Structural Model

Table 11 reports mean values, standard deviations, and correlations among the study variables. PE was positively related to all its hypothesised antecedents and outcomes. The negative correlation between the graduate labour market perceptions and PE was remarkable, while the correlation between the number of job interviews and ISE was negligible. The comparison test did not outline any significant differences in PE depending on gender, previous work experience, and participants' status. Yet, the study field significantly impacted PE. Therefore, the study field and the perceptions of the graduate labour market were included in the structural models' test as control variables. A bootstrap procedure allowed the estimation of the models' indirect effects with a 95% bias-corrected confidence interval using 1000 samples. The structural models showed acceptable fit: Model 1 - CCF ( $\chi^2(71) = 117.564, p = .000$ ) reported acceptable  $\chi^2/df = 1.66$ , CFI = .94, NNFI =

.92, RMSEA = .07, and SRMR = .08; Model 2 – *PWB* ( $\chi^2$  (85) = 117.221,  $p$  = .01) reported acceptable  $\chi^2/df$  = 1.38, CFI = .96, NNFI = .96, RMSEA = .05, and SRMR = .08.

**Table 11.***Means, Standard Deviations, and Correlations Among the Variables of Study 2.*

Variables	<i>M (SD)</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Age	26.12 (3.42)														
2. Gender <sup>a</sup>	-	-.08													
3. Study Field Dummy 1 <sup>b</sup>	-	-.05	.07												
4. Study Field Dummy 2 <sup>c</sup>	-	.06	.01	-.84**											
5. Study Field Dummy 3 <sup>d</sup>	-	-.02	-.13	-.44**	-.13										
6. Work Experience <sup>e</sup>	-	-.21**	.06	-.07	.04	.07									
7. Participants' Status <sup>f</sup>	-	.20*	.05	-.14	.13	.03	.01								
8. JI	2.32 (1.01)	.37**	-.13	.03	.00	-.06	-.44**	.08							
9. PLM	3.85 (.59)	-.01	.18*	-.01	.09	-.13	-.09	.02	.07						
10. CI (Wave 1)	3.79 (.72)	-.01	.01	-.11	.09	.06	-.06	.12	-.07	-.09					
11. ISE (Wave 1)	3.61 (.42)	.08	-.15	.18*	-.16*	-.06	.06	.07	.17*	-.13	.29**				
12. PE (Wave 2)	2.95 (.71)	.09	-.16*	.00	-.15	.24**	-.02	.09	.14	-.46**	.28**	.24**			
13. CCF (Wave 3)	3.09 (.81)	.00	-.10	-.02	-.09	.20*	-.02	.03	.03	-.41**	.41**	.37**	.55**		
14. PWB (Wave 3)	2.82 (.86)	-.04	-.05	.03	-.07	.05	-.12	.02	.02	-.12	.23**	.23**	.26**	.54**	

*Note.*  $N = 158$ . <sup>a</sup>1 = Woman, 0 = Man; <sup>b</sup>1 = Humanistic-social, 0 = Other; <sup>c</sup>1 = Scientific-technologic, 0 = Other; <sup>d</sup>1 = Medical-sanitary, 0 = Other; <sup>e</sup>1 = yes; 0 = no; <sup>f</sup>0 = student; 1 = graduate; JI = Self-reported number of Job Interviews; PLM = Perceptions of the Labour Market; CI = Career Identity; ISE= Job Interview Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future; PWB = Psychological Well-being.

\*\* $p < .01$ ; \* $p < .05$ .

#### ***4.4.4. Testing the Hypotheses***

Tables 12 and 13 display the path coefficients of the direct and indirect effects, and the 95% confidence intervals for the indirect effects. In both models, ISE showed a positive impact on PE (H1 confirmed), CI predicted PE positively only in Model 1 – *CCF* (H2 partially confirmed). Moreover, CI predicted ISE directly (H3 confirmed) and PE through ISE (H4 confirmed). PE predicted CCF in Model 1 – *CCF* (H5 confirmed) and PWB in Model 2 - *PWB* (H6 confirmed). The test of the serial indirect effects showed that ISE and PE serially mediate the relationship between CI and CCF (H7a confirmed) and PWB (H7b confirmed).

**Table 12.**

*Path coefficients in the Structural Model 1 – CCF*

Variable	Mediator: ISE (Wave 1)					Mediator: PE (Wave 2)					Dependent variable: CCF (Wave 3)					
	B	$\beta$	Stan dard error	<i>t</i> -value	<i>p</i> -value	B	$\beta$	Stan dard error	<i>t</i> -value	<i>p</i> -value	B	$\beta$	SE	<i>t</i> -value	<i>p</i> -value	
Control Variable																
Study Field <sup>a</sup>						.09	.09	.07	1.32	.19						
PLM						-.76	-.57	.13	-6.10	***						
Independent variable																
CI (Wave 1)	.42	.45	.09	4.29	***	.22	.23	.09	2.37	.018						
ISE (Wave 1)						.28	.27	.11	2.30	.009						
PE (Wave 2)											.97	.69	.12	7.91	***	
<i>R</i> <sup>2</sup>				.21					.52					.47		
Indirect effects																
CI→ISE→PE						$\beta$		SE							95% CI [LL; UL]	
CI→ISE→PE→ CCF						.12**		.06							[.04; .28]	
													.12*		.06	[.03; .28]

*Note.* *N* = 158; <sup>a</sup>1 = Humanistic-social; 2 = Scientific-technologic; 3 = Medical-sanitary; PLM = Perceptions of the Labour Market; CI = Career

Identity; ISE= Job Interview Self-efficacy; PE = Perceived Employability; CCF = Confidence in Career Future.. CI (95%) = 95% confidence interval

using the bootstrap bias corrected method using 1,000 samples. LL = Lower Limit; UL = Upper Limit. \*\**p*<.05; \*\*\**p* < .001

**Table 13.**

*Path coefficients in the Structural Model 2 – PWB*

Variable	Mediator: ISE (Wave 1)					Mediator: PE (Wave 2)					Dependent variable: PWB (Wave 3)				
	B	$\beta$	Standard error	<i>t</i> -value	<i>p</i> -value	B	$\beta$	Standard error	<i>t</i> -value	<i>p</i> -value	B	$\beta$	SE	<i>t</i> -value	<i>p</i> -value
Control Variable															
Study Field <sup>a</sup>						.09	.09	.08	1.25	.213					
PLM						-.69	-.52	.13	-5.37	***					
Independent variable															
CI (Wave 1)	.29	.41	.08	3.53	***	.17	.18	.09	1.85	.064					
ISE (Wave 1)						.36	.28	.13	2.74	.006					
PE (Wave 2)											.44	.29	.14	3.29	.001
<i>R</i> <sup>2</sup>			.16					.43					.09		
Indirect effects															
						$\beta$		SE		95% CI [LL; UL]		$\beta$		SE	95% CI [LL; UL]
CI→ISE→PE						.11*		.06		[.02; .28]					
CI→ISE→PE→PWB												.05*		.03	[.01; .16]

Note. *N* = 158; <sup>a</sup>1 = Humanistic-social; 2 = Scientific-technologic; 3 = Medical-sanitary. PLM = Perceptions of the Labour Market; CI = Career Identity;

ISE = Job Interview Self-efficacy; PE = Perceived Employability; PWB = Psychological Well-being. CI (95%) = 95% confidence interval using the

bootstrap bias corrected method using 1,000 samples. LL = Lower Limit; UL = Upper Limit. \**p*<.05; \*\*\**p* < .001.



## 4.5. Discussion

This study aims further to progress the empirical research about new entrants' PE in response to the call for deepening its nature and understanding (Di Fabio, 2017b; Jackson & Wilton, 2017; Vanhercke et al., 2016), basing on the COR framework and using a three-wave design. A central value of this study is addressing the current complexity of entering the graduate labour market, which requires new entrants to be equipped with career self-management skills. PE is seen here as a product of career self-management skills, especially those necessary to interact with employment gatekeepers properly and outstand in the competition for a job (Brigstock, 2009; Holmes, 2013). Therefore, this study posits ISE as a direct antecedent to PE (H1), as interviewing is crucial in the route to a job (Alonso & Moscoso, 2018) and a unique occasion to have an exchange with the employment gatekeepers and convince them of being worthy of a job (Tomlinson & Anderson, 2020). This study also posits the predicting role of CI on PE directly (H2) and indirectly via ISE (H3 and H4), supposing that CI is a solid structure that enhances the self-perceived capability to self-present convincingly (i.e., ISE; Fugate et al., 2004; Tomlinson, 2017b). As in Study 1, PE is hypothesised to influence subjective transition-related outcomes (CCF and PWB; H5 and H6) and mediate its hypothesised antecedents and outcomes (H7). The data used are collected with a three-wave time-lagged design. Two structural models test the direct and indirect effects.

### 4.5.1. Antecedents of PE

The results corroborate the expected relationships. The significant effect of ISE on PE (H1 confirmed) is coherent with past research on the role of self-presentation skills related to future graduate selection scenarios on PE (Jackson & Wilton, 2017). Moreover, it contributes to increasing clarity around this relationship, as opposed to the mixed findings reached by Jackson and Wilton (2017) among new entrants and Wittekind et al. (2010) among workers. Another valuable result is that about career identity's role. The direct effect on PE (although observed only in Model 1 - CCF, leading to a partial confirmation of H2) is consistent with existing research (e.g., Fugate et al., 2004;

Jackson & Wilton, 2017; Peeters et al., 2020). The significant indirect effect of CI through ISE (H3 and H4) observed in both models represents a new insight into the relationship between CI and PE and aligns with the COR theory's resource caravans tenet.

#### ***4.5.2. Outcomes of PE***

As for study 1, this study's results confirm that PE is a personal resource promoting positive subjective outcomes, further expanding sparse existent research on the role of PE on early career success perceptions (Baluku et al., 2020; Gunawan et al., 2021) and PWB (Ma & Bennet, 2021). The impact of PE on CCF (H5) supports the idea that those who have higher PE may also feel they could perform positively during their transition to work and, as such, expect a better adjustment to working life and goal achievements. In this study, PE fosters new entrants PWB (H6), corroborating its hypothesised beneficial psychological effects and importance to coping with the psychological threats of transition (Vanhercke et al., 2016). The serial mediation models (H7a and H7b) confirm the theoretical framework used here (Clarke, 2018) and the idea that PE mediates between resources that enhance employment potential and subjective outcomes (Silla et al., 2009)

#### ***4.5.3 Theoretical and Research Implications***

This study confirms the theoretical assumptions about PE (Clarke, 2018), expanding its understanding and bringing many theoretical implications, yet to be enriched with further research to confirm this study's findings and address its limitations, presented in the next section. First, the results demonstrate the importance that theory has assigned to career self-management factors—including displaying skills and abilities during the interaction with prospective employers—in fostering graduate employability, beyond the monolithic assumptions that it only corresponds with being awarded a degree (Bridgstock, 2009; Holmes, 2013). The impact of ISE on PE is consistent with the processual view of employability (Holmes, 2013; Okay-Somerville & Scholarios, 2017) and the idea that, nowadays, PE also relies on the capability to self-manage the transition to work and interact with employment gatekeepers (Bridgstock et al., 2009; Okay-Somerville & Scholarios,

2014). Presenting oneself compellingly while interacting with those in charge of hiring decisions is critical in the competition with other equally prepared graduates, and feeling capable of doing it raises the self-estimated chances of getting a job. Moreover, such a finding further confirms the recent theoretical assumption that SE beliefs about job search enhance PE (Caballero et al., 2020; 2021).

Second, the role of CI on PE is confirmed. Beyond partially corroborating this direct effect, reported by literature (e.g., Jackson & Wilton, 2017), this study also offers a novel perspective from which understanding the contribution of CI to PE. The relationship between CI, ISE, and PE aligns with the identity-claim tenet of the processual approach of Holmes (2013), which sees the capacity of presenting one's CI narratives convincingly essential for new entrants' employability. This study builds on this view and extends it, showing that CI enhances ISE because it offers a solid cognitive framework for producing convincing narratives (Fugate et al., 2004). Those with a formed CI may feel more confident to self-present during the exchanges with prospective employers with narratives conveying their commitment to the desired career and organisational value. The impact on ISE, in turn, fosters PE estimations. It represents a new insight into the relationship between CI and PE in the domain of the transition to work. Indeed, CI encourages PE not only because it facilitates coherent career decision-making processes and choices (Praskova et al., 2015). More than this, CI promotes PE as it yields more positive self-perceptions about the capability to manage the operational stage of the transition to work, namely job search and selection behaviours, as already hypothesised yet not empirically shown (Fugate et al., 2004; Huffcutt et al., 2011). Despite the importance of CI, the relevant capital-oriented theoretical research about new entrants' employability suggests that other factors or capitals may concur to influence ISE and, in turn, PE. For instance, Tomlinson (2017b) and Tomlinson et al. (2021) also hint at the role of cultural capital. The understanding and sensitiveness to the rule of the field and organisational culture may be aspects on which new entrants may capitalise to convey a strict cultural synergy with the employers when it

comes to presenting themselves. Therefore, it is reasonable that ISE may be sensitive to cultural capital or the interplay between cultural capital and CI. Future research may test these relationships.

Third, as for Study 1, this study confirms the structural model Clarke (2018) envisioned, corroborating the idea that employability is a psychological process which depends on the appraisal of the factors that determine employment capacity and leads to valuable outcomes. Moreover, similar to Study 1, this study adopts a multi-wave design to explore PE, as wished by many scholars (e.g., Di Fabio, 2017b; Ma & Bennett, 2021; Vanhercke et al., 2016). Yet, further research may be needed to apply a more robust multi-wave or longitudinal design and obtain more solid results, as discussed in this study's Limitations and Future Research Recommendations section.

Further theoretical and research implications pertain to the function of PE as a personal resource in promoting positive subjective outcomes. As these aspects concern also Studies 1 and 3, they will be stressed in the general discussion section.

#### ***4.5.4. Limitations and Future Research Recommendations***

There are some limitations that this study presents, suggesting caution in interpreting its results. First, This study adopted a time-lagged design, suggesting thoughtfulness in inferring causal effects. Moreover, CI and ISE were collected simultaneously, thus preventing a full confirmation that the former may influence the latter. Also, as recommended for Study 1, a longitudinal design measuring all the variables at all the measurement occasions may benefit future research with more robust conclusions, in-depth exploration of resources' fluctuations and evaluation of the sample attrition bias (Kirves et al., 2014). In addition, this study is based entirely upon self-report measures. A drawback of using only one data source may induce the problem of common method variance (Podsakoff et al., 2003). Future research may benefit from collecting data from other resources, such as judgments of new entrants' employability based on others (e.g. recruiters, career services staff). An interesting implication of using various sources of information is having a more accurate test of the processual approach to employability (Holmes, 2013). ISE may influence not only self-estimated

PE, but also one's PE estimated by others. Indeed, ISE positively impacts how people perform identity narratives (interview performance; Petruzzello et al., 2022). Moreover, performance evaluators (e.g. recruiters, interviewers) may use identity narratives to interpret the employability of those evaluated and thus confirm or not the identity claims performed (Anderson & Tomlinson, 2021). Future research may test the relationship between ISE and other-rated PE and combine PE scores estimated by different sources to analyse differences and overlaps (Donald et al., 2019).

Second, the short time lags, jointly with the sample consisting of new entrants, make this study unable to explore the predicting role of PE on other career-related outcomes. Future research may consider using a long-term research design and include more distal subjective criteria of a successful transition (e.g., organisational well-being, career satisfaction, person-organisation fit), as Jackson and Bridgstock (2018) suggested. Accounting for these criteria may give a more precise and complete sight into whether positive transition-to-work outcomes echo the possession of career-related resources (i.e. ISE and PE).

A third limitation pertains to the sample composition. Even though the role of gender is accounted for in this study in line with empirical literature upon PE (Pitan & Muller, 2019; Rothwell et al., 2007), a more balanced sample by gender can increase the generalisability of the results, which is here challenged by the preponderance of women in the sample. Moreover, the study field predicts dropout in the final sample, leading to an overrepresentation of the Humanistic-social field over the Scientific-technologic and Sanitary ones. This indicates that the final sample could not be representative of the general population regarding the study field, suggesting caution about the generalisability of these results. A replication of this study could use a more heterogeneous sample to increase the results' plausibility. Moreover, this study does not control for the geographical location of the participants, which may influence their perceived employment opportunities (Hillage & Pollard, 1998).

Fourth, the indicators for ISE used herein report a poor internal consistency and concern about convergent validity, which may be a challenge for interpreting the results (Carlson & Herdman, 2010). Such a problem could be explained by the fact the subdimensions of the MJISE scale were used to create parcels, used as indicators of the latent variables in the measurement and structural models. However, the bi-factorial structure found in the initial validation of the scale (Petruzziello et al., 2022) confirmed that such dimensions could also be considered discrete and independent. Moreover, the study conducted by Petruzziello et al. (2022) provided evidence for convergent validity of the subscales with a sample of Italian new entrants. Although this finding is promising in terms of construct validity (Hair et al., 2019), future studies may address this problem.

Fifth, even though the pandemic's impact is stressed in this study by controlling for the participant's perceptions of the labour market, it can be evaluated in other ways. For instance, the MJISE scale used herein (Petruzziello et al., 2022) only assesses SE about mastering face-to-face job interview situations. However, the adoption of technology-mediated interviews surged after the pandemic outbreak (Maurer, 2020). As also suggested by the scale authors, an ISE measure should also assess SE related to digital aspects of the job interview (e.g., the necessity to convey a good impression without social and interpersonal cues) is required. This may help enhance the understanding of the impact of ISE on PE in the current transition-to-work scenario.

#### ***4.5.5. Practical Implications***

The findings obtained herein offer solutions to improve new entrants' PE. As pointed out in the previous study, universities' meso level support agencies may have a crucial role in enhancing new entrants' PE (Donald et al., 2018; 2019). Coherently, Universities should encourage their meso level areas, such as their career services, to prepare students to manage transition tasks and enhance self-beliefs like SE about the skills required for those tasks. Prospective new entrants' should be provided with skills to perform in self-presentation and job interviews and with opportunities to exercise those skills to positively alter their SE (Liu et al., 2014). Existing research indicates that

improving ISE is possible by stimulating the typical SE sources. Indeed, ISE growth results from exercises for making a convincing presentation and job interview simulations (i.e., performance mastery; Tross & Maurer, 2008; Tymon et al., 2020), from successful examples of interviewing such as videoclips and role modelling (i.e., vicarious learning, Liu et al., 2014), and from formative feedback about one's interviewing capability or positive self-talk (i.e., verbal persuasion and encouragement; Brown et al., 2010; Latham & Budworth, 2006; Petruzzello, Chiesa et al., 2021). In the light of the pandemic and the related reduction of physical proximity, such actions should consider the increasing adoption of digital and virtual forms of interview (Maurer, 2020). ISE-enhancing activities should train new entrants' perceived ability to manage various aspects of a virtual interview, such as its technical features or the anxiety related to this specific type of situation (McCarthy et al., 2021).

The findings also remark on the necessity for universities to sustain students in forming their CI while still in Higher Education. Study 1 points out that Universities ought to engage students in a landscape of communities of practice (e.g., work-based learning activities in classrooms and curricular internships) to define and reinforce their CI (Jackson, 2016b; Jackson & Edgar, 2019). Students can practice their learning in these communities and imagine themselves in roles made of peculiar professional standards, values, and culture. This, in turn, should increase their understanding of themselves as future workers and their commitment to the desired career (Bridgstock & Jackson, 2019). In addition, Universities career services may also provide students with interventions (e.g., workshops with graduate recruitment professionals) to increase their ability to draw on educational achievements while interacting with prospective employers. The key is enhancing new entrants' ability to convey their identity while self-presenting and showing the coherence of their investment in career and education with the position desired (Jackson & Edgar, 2019; Tymon et al., 2020). As already said previously in Study 1, policy-makers should welcome such suggestions to stimulate and encourage a reform of Higher Education practices to drive employability and transition to work as a

means for a reprise from the pandemic impact on occupational prospects and the related psychological effects.



## **Chapter 5. Study 3 – The Reciprocal Relationship Between PE and PWB: a Cross-lagged Examination with Students and Graduates**

### **5.1. Introduction**

Studies 1 and 2 corroborate the beneficial role of PE as a coping resource to deal with the upcoming transition to work and elicit gain spiral processes, leading to a heightened better perception of CCF and PWB of new entrants. These studies add to the literature confirming the functionality of PE as a driver for psychological sustainability.

This study attempts to make a step forward. It aims to deepen the relationship with PE and its outcomes, represented in this study by PWB, to enrich the understanding of PE as a personal resource among the lines of COR theory. Accordingly, this study posits that PWB can also contribute to PE, triggering a bi-directional association that develops with a spiralling trend where PWB and PE impact each other over time. Indeed, Vanhercke et al. (2015, 2016) asserted that PWB functions as a personal resource in itself, promoting further gains of resources like PE, based on the assumption that mental health status influences individuals' self-estimated employment possibilities (Paul & Moser, 2009). More empirical research is needed to test such a bi-directional relationship, which would be valuable to PE literature by further progressing its understanding as a complex variable and eliciting important practical repercussions (Vanhercke et al., 2016). Therefore, this study tests hypotheses regarding normal, reversed and reciprocal effects between new entrants' PE and PWB with a three-wave longitudinal design involving Italian university students and graduates.

The value of this study is manifold for the development of the PE concept. First, differently from the previous studies, this study adopts a longitudinal approach, which has been demanded to strengthen empirical evidence of PE's effect on PWB (Ma & Bennett, 2021; Vanhercke et al., 2016). Second, testing the reversed and the reciprocal effects between PE and PWB may expand PE research beyond the unidirectional relationship. This study integrates and extends the PE theory and research in the transition-to-work field by including PWB as a personal resource and a possible PE

predictor. It is valuable to the PE literature because it provides a more comprehensive framework for future research. At a practical level, the existence of a reciprocal gain spiral would inform policy-makers actions to provide new entrants with resources for the transition to work. Indeed, the investment in the development of both PE and PWB would represent a building block for a sustainable transition and entrance into the labour market.

What follows reports the rationale behind the hypotheses of cross-lagged associations, along with the methodology employed and the results obtained. Implications are then discussed.

## **5.2. Study Hypotheses**

### **5.2.1. *PE and PWB***

The previous studies have confirmed that, as a personal resource, PE increases PWB self-reported by the participants. The normal causal relationship between PE and PWB roots upon the gain spiral principle that possessing baseline resources (e.g., PE) begets acquisition of further resources (e.g., PWB; Vanhercke et al., 2016). This relationship is possible since PE can influence stress evaluation processes as a personal resource (Lazarus & Folkman, 1984). The more people feel they have good employment prospects, the stronger their sense of control and capability to face stressful circumstances. Those who feel employable may worry less about their future, refrain from fearing the frustration of resources generated by the threat of a poor transition and, eventually, avoid the experience of strain to protect (Ma & Bennet, 2021) or even foster their mental health (Vanhercke et al., 2016). Coherently, new entrants who feel employable may expect a safer adjustment to a new life stage and have better PWB. Consistently with the previous studies and literature about PE, the following is hypothesised:

**Hypothesis 1.** PE has a positive cross-lagged effect on PWB.

### **5.2.2. *The Reversed Effect of PWB on PE***

If the normal causation effect of PE on PWB is established in the organisational literature and, thanks to previous studies, among new entrants, less explored is whether this relationship works

in the other way around. Indeed, other than being seen as an outcome, self-report levels of PWB can also function as a personal resource. As such, PWB is expected to provide individuals with better perceptions about their future and predispose them to successfully master the tasks associated with the transition to adulthood (O'Connor & Bodicoat, 2017). Vanhercke et al. (2016) suggested that the reversed relationship in which is PWB to affect PE is explained by the "selection effect" posited by Paul and Moser (2009). The selection effect assumes that those unemployed are likely to be more distressed and, in turn, more predisposed to remain unemployed for a longer period, as ill-being represents a threat to the factors that facilitate access to suitable employment. This is in line with the COR theory's tenets of resource caravans and loss spirals (Hobfoll et al., 2018). Indeed, distress reflects a drought of resources, which may activate a further loss of resources in a negative cycle. As such, distressed people may have fewer resources to invest or adopt defensive strategies (e.g. becoming more socially avoidant and isolated) to prevent the consumption of remaining resources until the stressor passes (De Cuyper et al., 2017; Fredrickson, 2001; Hobfoll et al., 2018). This hampers the possibility of undertaking social and development activities to replenish the social and psychological resources needed to benefit their employment chances, like SC and SE (De Cuyper et al., 2017; Yu et al., 2015). Eventually, it leads to poorer transition and employment experiences, as already shown in the literature (e.g., Huegaerts et al., 2020; Kesavayuth & Zikos, 2017; Olesen et al., 2013). Coherently, distress is expected to predispose people to be less confident in their employment prospects and perceive their ability and chances to win employment weakened, as shown by Matthews et al. (2019), which means a negative impact on PE. The effect of psychological ill-being on PE has been proved empirically by de Cuyper et al. (2012) and Vanhercke et al. (2015) with samples of workers and adult unemployed job seekers.

Vanhercke et al. (2016) contended that, beyond a negative effect of psychological ill-being on PE, the selection effect might also explain a positive effect, where positive mental health conditions (namely, PWB) are a driver for PE. Indeed, they assert that PWB is a resource that

corresponds with energy that gets freed and could be invested adaptively in positive gain spirals. Scholarly research has shown that higher levels of well-being are associated with adaptive coping strategies, such as problem-focused self-regulation (e.g., Howell, 2009; Neto et al., 2016). Moreover, feeling well predisposes people to use broader thinking and acting patterns (Fredrickson, 2001). This could drive them to perform more efficiently in life domains, interact with their environment to identify opportunities, and accumulate resources to overcome transition challenges. Research has provided findings coherent with this assumption. Mental health condition has been shown to predict academic performances, meaning that it can affect the development of knowledge relevant to human capital (e.g. Lipson & Eisenberg, 2018), and that PWB can facilitate it (e.g. Kotze & Kleynhans, 2013). Moreover, positive psychological conditions promote wider career exploration (e.g., Cordeiro et al., 2015), higher self-control and goal commitment (e.g., Neto et al., 2016; Singhal & Rastogi, 2017), career decidedness (e.g., Viola et al., 2016) and career resources (e.g. SE and CI; De Cuyper et al., 2017). In other words, PWB is expected to raise people's confidence and their feeling that they are well-equipped with resources for career transition. This should make them feel more attractive and competitive in the labour market, positively impacting PE (Vanhercke et al., 2016).

The exploration of the reversed causal effect between PWB and PE is not well established in the literature. Indeed, the study of Vanhercke et al. (2015), while confirming a negative impact of ill-being on PE among unemployed job seekers, lacked statistical significance in supporting the PWB effect on PE in a sample of adult workers. Such an absence of empirical evidence also affects transition-to-work studies since evidence about reverse causation between PE and its outcomes is lacking in the literature with new entrants. To the best of the knowledge acquired, only the study conducted by Bargsted et al. (2021) represented a very recent exception in this regard, although not testing PWB as an antecedent of PE. Indeed, they found a positive cross-sectional effect of subjective career success on PE with recent graduates.

In sum, the following is hypothesised to fill this gap in the literature and enrich the understanding of new entrants' PE as a personal resource:

**Hypothesis 2.** PWB has a positive cross-lagged effect on PE.

### ***5.2.3. The Reciprocal Relationship between PE and PWB***

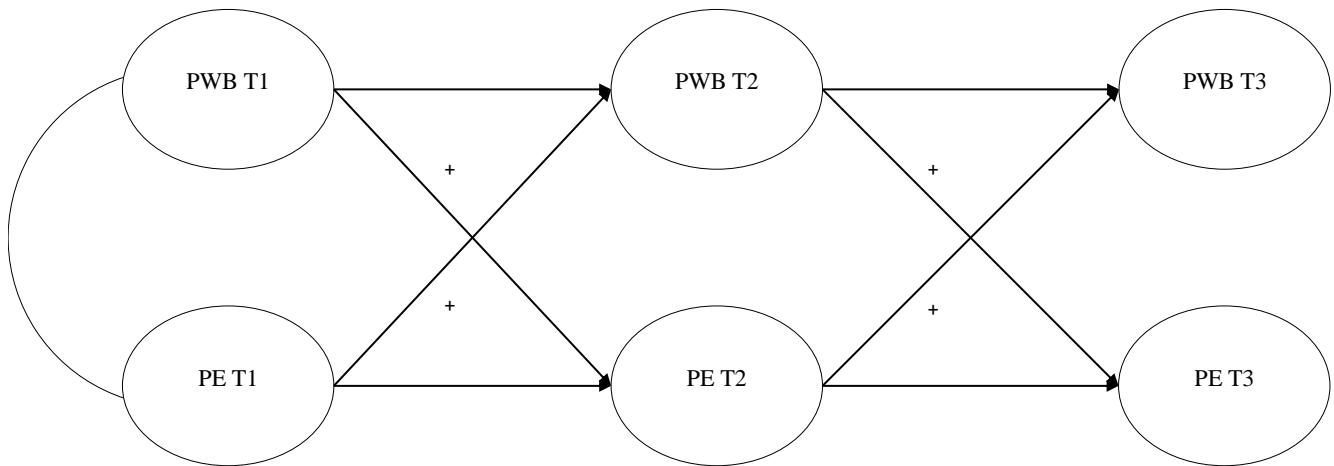
The tenets of COR theory allow hypothesising a positive gain spiral where PE and PWB affect each other over time. Indeed, as different resources move in caravans, they are highly correlated and influence each other over time. Their fluctuations follow a spiralling trend, such that resources acquisition stimulates an upward movement and a further resource gain. This means that having resources provides the momentum to build new resources and so on, so that the positive spiral continues (Halbesleben et al., 2014; Hobfoll et al., 2018). Vanhercke et al. (2016) explained what this positive upward spiral looks like: feeling employable leads to a higher sense of control and less worrying about a future career, inducing enhanced PWB. In turn, PWB enables people to feel more employable, with the mechanism explained in the previous section. The upward spiral may also function with well-being as its initiator. Therefore, PE and PWB may be posited to mutually reinforce their development over time. It is hypothesised the following.

**Hypothesis 3.** PE and PWB have a positive and reciprocal effect over time.

Figure 9 shows the hypothesised relationships.

**Figure 9.**

*The Hypothesised Model of Study 3*



*Note.* PWB = Psychological well-being; PE = Perceived Employability.

### 5.3. Method

#### 5.3.1. Procedure for Data Collection

The ethical standards of this study were reviewed and approved by the bioethical committee of the University of Bologna. Data were collected with a three-wave research design in which PWB and PE were measured at each measurement occasion. Two cohorts of participants were involved. They were university bachelor's and master's degree students and graduates – who got their degree up to one year before Wave 1 – from 43 Italian universities (Public = 38; Private = 5). Participants were recruited with an invitation for participation channelled via posts on social media (e.g., Facebook, Linked In). Overall, the data collection lasted from November 2019 to May 2021. The questionnaire was distributed for voluntary completion on the online platform Qualtrics ©. It contained an introduction that explained the research purpose and assured confidentiality. Participants could participate voluntarily and give their informed consent at every wave. They had the right to withdraw at any time, in compliance with the EU Regulation no. 679/2016. They could also provide their e-mail address separately so that the researcher could contact them for the Waves 2

and 3 measurements while maintaining participants' anonymity. An alphanumeric code was used to anonymously associate the questionnaire at Wave 1 with the same participants' questionnaire completed in the following data collections. After three and six months from the first completion, those who provided their e-mail address were contacted and invited to complete the questionnaire for Waves 2 and 3. After the invitation at each measurement, a reminder for the questionnaire completion was sent. The rationale behind adopting a three-month time lag is the same as in Study 1, also used in Study 2. Participants were given no material incentives. However, to keep them engaged in the study (Pulkkinen & Kokko, 2012), each participant received written output on Qualtrics © with practical suggestions on the transition to work (e.g., strategies for engaging in career self-management behaviours).

### **5.3.2. Participants**

Those who interacted with the questionnaire at Wave 1 consisted of 1597 people. After removing cases with missing values, the final sample of Wave 1 consisted of 1294 cases (81.03% of the baseline sample), with a mean age of 25.81 years ( $SD = 4.10$ ). Most of them were women (88.1%) and students (70.3%). Seven hundred sixty-eight interacted with the questionnaire at Wave 2, and 677 people filled it (response rate 52.32%). At Wave 3, 380 people interacted with the questionnaire, and 376 completed it (response rate of 29.06% compared to Wave 1 and 55.54% compared to Wave 2). The final sample's participants had a mean age of 25.79 years ( $SD = 4.21$ ) and were mostly women (89.1%) and students (71.5%). Section 5.3.1. reports the analyses conducted to refine the sample (outliers detection) and assess whether the dropouts and the participants at Wave 3 were different by the demographic variables.

### **5.3.3. Measures**

The PE and PWB measures used for this study were the same as those used in Studies 1 and 2. Age, gender, previous work experience, participants' status, and study field served as control variables, as suggested by previous research (e.g., Berntson & Marklund, 2007; Byrne, 2020;

Jackson & Wilson, 2016; Szelényi et al., 2013; Spurk et al., 2019; Wittekind et al., 2010). Dummy variables for the categorical control variables (e.g., work experience was recoded to 0 = no, 1 = yes) were created. The focal (PE and PWB) and the control (Age, Gender, previous work experience, participants' status, and study field) variables were measured on every measurement occasion.

#### **5.3.4. Strategy for Data Analysis**

As for the previous studies, a set of preliminary analyses were performed. The Mahalanobis distance ( $D^2$ ) scores were computed to detect the presence of outliers. Moreover, an attrition analysis tested whether the participants' dropout was related to the demographic and focal variables. Chi-square and independent t-test tests compared the respondents at Wave 3 and the no-respondents at Wave 3 concerning the demographic (age, gender, study field, previous work experience, participant status) and the focal (PE and PWB) variables.

The SEM approach was used to perform several CFAs, with the ML estimation method to test measurement, time-invariance and structural models (Arbuckle, 2012). As for the previous studies, the parcelling technique was used to create composites from the items and reduce the number of parameters to estimate (Little et al., 2002; Matsunaga, 2008). PE had two parcels, while PWB resulted in three parcels. Similarly to the previous studies, fit indices for evaluating the goodness of fit of the models were the CFI, NNFI, RMSEA, SRMR, and the  $\chi^2/df$  ratio (Cheung & Rensvold, 2002; Hair et al., 2019; Kline, 2016). CFI and NNFI  $\geq 0.90$ , with RMSEA and SRMR  $\leq 0.08$ , and  $\chi^2/df < 5$ , suggest an acceptable fit (Byrne, 2013; Hair et al., 2019; Hu & Bentler, 1999).

The measurement model was tested with the latent variables at all measurement occasions, with the parcels used as indicators of their latent variables. Moreover, to meaningfully compare the constructs under study across several measurement occasions, two different measurement invariance tests were performed (Selig & Little, 2012). The multiple group function for CFA of AMOS allowed the test and comparison of two models. A configural invariance model, which constrained the equality of patterns of factor loadings across time, was tested. Next, a metric invariance model,



which constrained the equality of the factor loadings across time, was tested. For models' comparison, the recommendation was followed to account for the change in fit indices between the less restrictive model (configural invariance) and the more stringent model (metric invariance). Indeed, the  $\chi^2$  difference test may be too sensitive to sample size when comparing nested models in invariance assessment (Chen, 2007; Cheung & Rensvold, 2002; Kline, 2016). With a sample size larger than 300, an absolute change in CFI  $\geq .01$  and RMSEA  $\geq .015$  would indicate noninvariance (Chen, 2007). Cronbach's alpha values evaluated the internal consistency of the scales employed in this study.

Means, standard deviations, point-biserial correlations between dummy and continuous variables and bivariate correlations between continuous study variables were calculated. Comparison tests evaluated whether PE and PWB were different as a function of the categorical control variables. The cross-lagged analysis tested the normal, reversed and reciprocal association between PE and PWB. The SEM approach evaluated four competing nested models: 1) the stability model (or baseline model), which only includes autoregressive effect paths between the latent variables over time; 2) the normal causation model, which consists of autoregressive effects and cross-lagged effect from PE at Waves 1 and 2 to PWB respectively at Waves 2 and 3; 3) the reversed-causation model, with the autoregressive effects and the cross-lagged effect from PWB at Waves 1 and 2 to PE respectively at Waves 2 and 3; 4) the reciprocal model, with the autoregressive effects, the cross-lagged effects from PE to PWB and the cross-lagged effects from PWB to PE modelled simultaneously. Beyond the assessment of models' fit comparing CFI, RMSEA, NNFI, SRMR, and  $\chi^2/df$  with the conventional standards (CFI and NNFI  $\geq .90$ ; RMSEA and SRMR  $\leq .08$ ;  $\chi^2/df < 5$ ), the models were compared using the  $\chi^2$  difference test. A significant  $\chi^2$  difference reflects a better fit for the more complex model than a baseline model despite having lower degrees of freedom.

## 5.4. Results

### 5.4.1. Outliers Detection and Attrition Analysis

The  $D^2$  scores were computed to detect the presence of outliers (Kline, 2011). As no case presented a  $p$ -value  $<.001$ , none was excluded from the final sample. Table 14 reports the details for the sample characteristics. The results of the attrition analysis did not report differences between those who left the study ( $N = 914$ ) and those who remained ( $N = 376$ ) concerning gender ( $\chi^2 = 5.43$ ,  $p = .14$ ), previous work experience ( $\chi^2 = 1.14$ ,  $p = .29$ ), and participants' status ( $\chi^2 = 1.09$ ,  $p = .29$ ). Nevertheless, the two groups differed for the study field ( $\chi^2 = 19.17$ ,  $p = .00$ ). In particular, the Humanistic-social field was overrepresented than Scientific-technologic and Medical-sanitary backgrounds among respondents at Wave 3, compared to those who dropped out after Wave 1. No differences emerged between the two groups concerning age,  $t(1288) = -.86$ ,  $p = .39$ , PE,  $t(1288) = -.71$ ,  $p = .48$ , and PWB,  $t(1288) = -1.62$ ,  $p = .11$ .

**Table 14.***Profile of the Respondents.*

Demographic Variables		
	<i>M</i>	<i>SD</i>
Age	25.79	4.21
	n	%
Gender		
Man	39	10.4
Non-Binary	1	0.3
Prefer not to say	1	0.3
Woman	335	89.1
University		
Alma Mater Studiorum – University of Bologna	215	57.2
Ca' Foscari University of Venice	4	1.1
Campus Bio-Medico University of Rome	1	0.3
D'Annunzio University of Chieti–Pescara	2	0.5
IULM University	2	0.5
Pegaso Univeristy	1	0.3
Polytechnic University of Bari	1	0.3
Polytechnic University of Turin	1	0.3
Roma Tre University	5	1.3
Sapienza University of Rome	13	3.5
Università Cattolica	1	0.3
Università Politecnica delle Marche	1	0.3
University of Bari – Aldo Moro	1	0.3
University of Cagliari	1	0.3
University of Calabria	4	1.1
University of Campania Luigi Vanvitelli	4	1.1
University of Cassino and Southern Lazio	1	0.3
University of Catania	1	0.3
University of Ferrara	3	0.8
University of Florence	1	0.3
University of Genoa	3	0.8
University of Insubria	1	0.3
University of Macerata	1	0.3
University of Milan	14	3.7
University of Milano-Bicocca	10	2.7
University of Modena and Reggio Emilia	2	0.5
University of Naples – “L’Orientale”	1	0.3
University of Naples – “Federico II”	15	4.0
University of Padua	18	4.8
University of Palermo	2	0.5
University of Pavia	4	1.1
University of Perugia	1	0.3
University of Pisa	10	2.7
University of Rome Tor Vergata	1	0.3
University of Salerno	9	2.4

Demographic Variables		
	n	%
University of Sassari	1	0.3
University of Siena	3	0.8
University of Trieste	1	0.3
University of Turin	7	1.9
University of Udine	2	0.5
University of Urbino “Carlo Bo”	2	0.5
University of Verona	3	0.8
Vita-Salute San Raffaele University	2	0.5
Type of Institution		
Public	370	98.4
Private	6	1.6
Status		
Student	269	71.5
Graduate	107	28.5
Field of Study <sup>a</sup>		
Humanistic-social	322	85.6
Sanitary	3	0.8
Scientific-technologic	51	13.6
Work Experience		
Yes	288	76.6
No	88	23.4

Note.  $N = 376$ ; <sup>a</sup>The field of study has been clustered based on the categorisation of the degree

courses made by the Italian Minister of Education and Research (retrieved from:

<https://www.gazzettaufficiale.it/eli/gu/2021/02/22/44/sg/pdf>).

#### 5.4.2. Measurement Invariance

Table 15 reports fit indices for the measurement models and the test of measurement invariance. The measurement models showed an acceptable fit on each measurement occasion. The configural and the metric invariance models showed acceptable fit. Moreover, in line with the criteria to assess the presence of noninvariance, the change in model fit was not substantial with the imposition of equality constraints. Therefore, a sufficient amount of metric invariance was accomplished.

**Table 15.***Measurement Models and Measurement Invariance for the Measures from Wave 1 to Wave 3*

Model	$\chi^2$ (df)	$\chi^2$ /df	CFI	RMSEA	NNFI	SRMR	$\Delta$ CFI	$\Delta$ RMSEA
Measurement Model (Wave 1)	253.042 (83)***	3.05	.928	.074	.901	.066		
Measurement Model (Wave 2)	232.591(83)***	2.80	.957	.069	.946	.051		
Measurement Model (Wave 3)	232.536(82)***	2.84	.951	.069	.938	.042		
Configural Invariance	793.135(255)***	3.11	.939	.043	.925	.069		
Metric Invariance	860.220(285)***	3.02	.935	.042	.928	.072	.004	.001

*Note.*  $N=376$ ;  $\chi^2$  = Chi-square; df = Degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation;

NNFI = Non-Normed Fit Index; SRMR = Standardised Root Mean Square Residual.

\*\*\*  $p < .001$

### ***5.4.3. Testing the Structural Model***

Table 16 reports Cronbach's alpha values, mean values, standard deviations and correlations among the study variables. PE and PWB measured at each measurement occasion correlated positively. The Cronbach's alpha values for the two measures at each Wave scored above the acceptable threshold of .70 (Nunnally, 1978). The correlation of the focal variables with age was negligible or non-significant. The comparison test outlined significant differences in PE at Waves 2 and 3 depending on the study field. Therefore, these relationships were accounted for in testing and comparing the structural models.

**Table 16.***Means, Standard deviations, Cronbach's Alpha Values, and Correlations Among the Variables of Study 3.*

Variables	<i>M (SD)</i>	$\alpha$	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Age	25.31 (4.16)	-															
2. Gender Dummy 1 <sup>a</sup>	-	-	.09														
3. Gender Dummy 2 <sup>b</sup>	-	-	-.09	-.99**													
4. Gender Dummy 3 <sup>c</sup>	-	-	.02	-.02	-.15**												
5. Work Experience <sup>d</sup>	-	-	.13*	.02	-.02	.03											
6. Participants' Status <sup>e</sup>	-	-	-.21**	.07	-.06	-.09	.08										
7. Study Field dummy 1 <sup>f</sup>	-	-	-.09	-.01	.01	.02	.08	.28**									
8. Study Field dummy 2 <sup>g</sup>	-	-	.09	-.01	.01	-.02	-.08	-.28**	-.97**								
9. Study Field dummy 3 <sup>h</sup>	-	-	.00	.07	-.07	-.01	-.02	-.02	-.22**	-.04							
10. PE Wave 1	2.95 (.76)	.78	.13*	.12*	-.10	-.09	.13*	.04	.03	-.08	.17**						
11. PE Wave 2	3.01 (.72)	.78	.06	.13*	-.12*	-.07	.12*	.06	.04	-.08	.15**	.75**					
12. PE Wave 3	2.98 (.72)	.78	.07	.13*	-.11*	-.09	.14**	.05	.05	-.08	.15**	.67**	.75**				
13. PWB Wave 1	2.87 (.76)	.89	.02	.11*	-.09	-.07	.08	.03	.06	-.07	.06	.24**	.30**	.32**			
14. PWB Wave 2	2.89 (.81)	.92	-.01	.12*	-.11*	-.06	.00	.06	.09	-.09	.00	.24**	.34**	.37**	.58**		
15. PWB Wave 3	2.87 (.82)	.93	.02	.14**	-.13*	-.04	.09	-.02	.03	-.03	.02	.21**	.31**	.35**	.54**	.64**	

*Note.*  $N = 376$ . <sup>a</sup>1 = Man, 0 = Other; <sup>b</sup>1 = Woman, 0 = Other; <sup>c</sup>1 = Non-binary, 0 = Other; <sup>d</sup>1 = yes; 0 = no; <sup>e</sup>1 = student; 0 = graduate; <sup>f</sup>1 = Humanistic-Social, 0 = Other; <sup>g</sup>1 = Scientific-Technologic, 0 = Other; <sup>h</sup>1 = Medical-Sanitary, 0 = Other. PE = Perceived Employability; PWB = Psychological Well-Being;  $\alpha$  = Cronbach's Alpha Values;

\*\*  $p < .01$ ; \*  $p < .05$ .

In testing the four-competing cross-lagged models, the error terms of the same parcel for PE and PWB over the three waves were allowed to covary. Table 17 compares the normal (M2), reversed (M3), and reciprocal causation (M4) models with the baseline model (M1) and reports the comparison between the reciprocal causation (M4) and the normal (M2) and reversed causation (M3) models. All the alternative models fitted significantly better than the baseline model. Moreover, the  $\chi^2$  difference test showed that the model with the cross-lagged reciprocal relationships between PE and PWB (M4) fitted better than the normal causation model (M2; PE→PWB) and the reversed causation model (M3; PWB→PE). Therefore, this model turned out to be the best fitting, testifying a reciprocal direction of the relationship between PE and PWB over time.



**Table 17.***Model Fit Indices and Model Comparison Tests*

Model	Fit Indices						Model comparison	
	$\chi^2$ (df)	$\chi^2$ /df	CFI	RMSEA	NNFI	SRMR	Compared Models	$\Delta\chi^2(\Delta df)$
Autoregressive (M1)	292.408 (88)***	3.32	.955	.079	.939	.102	M1vsM2	13.037(2) **
Normal causation (M2)	279.371 (86)***	3.24	.958	.077	.941	.073	M1vsM3	19.758(2) ***
Reverse causation (M3)	272.65 (86)***	3.17	.959	.076	.943	.079	M1vsM4	32.489(4) ***
Reciprocal causation (M4)	259.919 (84)***	3.09	.962	.075	.945	.054	M2vsM4	19.452(2) ***
							M3vsM4	12.731(2) **

*Note.*  $N = 376$ .  $\chi^2$  = Chi-square; df = Degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation;

NNFI = Non-Normed Fit Index; SRMR = Standardised Root Mean Square Residual.

\*\*\*  $p < .001$

#### 5.4.4. Testing the Hypotheses

Table 18 and Figure 10 report the path coefficients of the relationships tested in the reciprocal model. It was found that PE at Waves 1 and 2 has a cross-lagged positive effect on PWB, respectively, at Waves 2 and 3. Therefore, Hypotheses 1 was confirmed. The reversed causation model confirmed Hypothesis 2 as a cross-lagged positive effect from PWB at Waves 1 and 2 to PE, respectively at Waves 2 and 3, was found. The previous findings confirm Hypothesis 3 as well, as they prove the existence of an upward gain spiral of resources where PE and PWB reinforce each other over time.

**Table 18.**

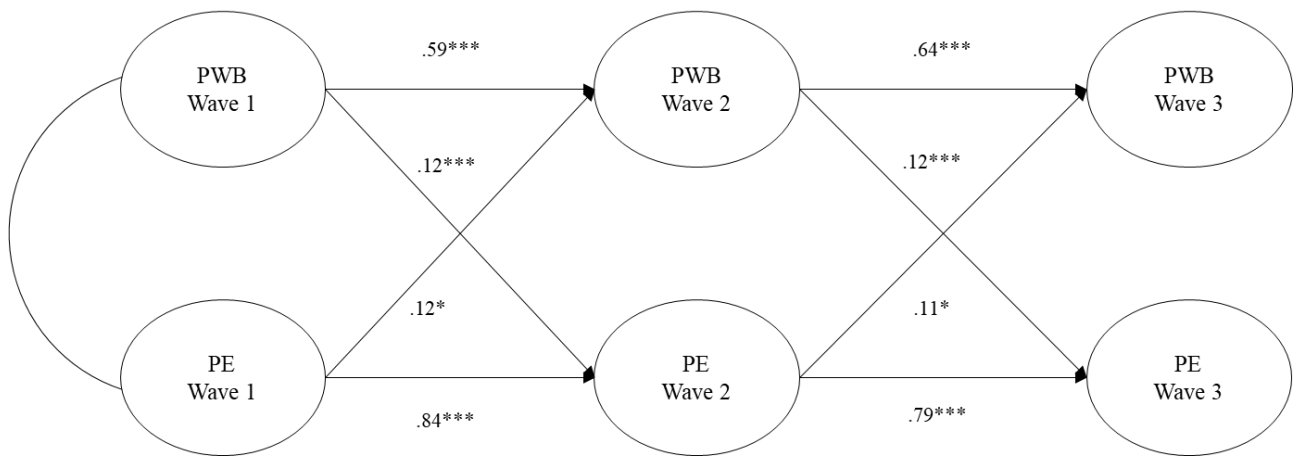
*Path Coefficients in the Reciprocal Model*

Hypothesis	Coefficient		Standard Error	t-value	p-value
	B	$\beta$			
Study field $\rightarrow$ PE (Wave 2)	-.01	-.01	.06	-.20	.840
Study field $\rightarrow$ PE (Wave 3)	.01	.01	.06	.16	.873
H1 PE (Wave 1) $\rightarrow$ PWB (Wave 2)	.15	.12	.06	2.56	.011
H2 PWB (Wave 1) $\rightarrow$ PE (Wave 2)	.10	.12	.03	2.99	.003
H1 PE (Wave 2) $\rightarrow$ PWB (Wave 3)	.14	.11	.06	2.42	.016
H2 PWB (Wave 2) $\rightarrow$ PE (Wave 3)	.09	.12	.03	2.95	.003
	$R^2$				
PE (Wave 2)	.77				
PWB (Wave 2)	.40				
PE (Wave 3)	.70				
PWB (Wave 3)	.47				

*Note.*  $N = 376$ ; PE = Perceived employability; PWB = Psychological well-being.

**Figure 10.**

*Path Coefficients in the Reciprocal Model*



*Note.*  $N = 376$ . PWB = Psychological Well-Being; SPE = Self-perceived Employability.

\*\*\*  $p < .001$ ; \*  $p < .05$ . For parsimoniousness, the coefficients of the control variables on the focal variables and covariance coefficients are not shown.

## 5.5. Discussion

This study aims at extending the findings achieved in Studies 1 and 2 by further deepening the understanding of PE as a personal resource that new entrants in the labour market can harness adaptively. Herein, under the lens was whether PE, as suggested by the COR theory tenets, promotes PWB and elicits positive and reciprocal gain spirals. Moreover, this study intends to explore PE and its relationship with other variables (herein, PWB) with a more robust research design.

A cross-lagged approach investigates the longitudinal patterns of the relationship between PE and PWB. Following the existing research that typically attributes the role of predictors of mental health status to PE and the results of Studies 1 and 2, a positive cross-lagged effect from PE to PWB is posited (H1). In addition, consistently with the suggestion provided by Vanhercke et al. (2016), a positive reversed cross-lagged effect is hypothesised, positing that PWB also acts as a personal resource that fuels the PE (H2). A longitudinal design allows contending that these two variables are

involved in an upward spiral where they reinforce each other over time reciprocally (H3). The results confirm the hypothesised relationships. The positive cross-lagged effect of PE on PWB aligns with previous research with workers (e.g., Berntson & Marklund, 2007; Vanhercke et al., 2015) and new entrants (Ma & Bennet, 2021) and with the findings of the studies presented previously herein. Moreover, the reversed causation hypothesis (H2) is supported, affirming that an increase in PE is also elicited by PWB, providing new insights into understanding new entrants' PE. As Hypothesis 3 was confirmed, it is possible to assert that PE and PWB could be both the starter points of positive gain cycles, where both may reinforce each other over time. The confirmation of Hypotheses 2 and 3 represents a valuable contribution to the empirical research to explore new entrants' PE, which has lacked testing cross-lagged and reciprocal causation models.

#### ***5.5.1. Theoretical and Research Implications***

The cross-lagged reciprocal association found generates some important contributions to the understanding of PE as a personal resource in the COR framework, yet to be enriched with further research to confirm this study's findings and address its limitations, presented in the next section. First, the results advance the literature on new entrants' PE and its beneficial psychological effect. Such a finding further corroborates that PE is something individuals may draw upon to cope with uncertainty, protect and increase their mental health (Vanhercke et al., 2016). This is particularly important to identify the psychosocial factors that can increase new entrants' chances of succeeding in their transition, especially after the pandemic and its economic consequences have endangered the occupational perspectives of new entrants.

Second, as Hypothesis 2 was confirmed, it made it possible to assert that PWB is not only an outcome of PE. Yet, the relationship works also the other way around. The better students and graduates feel, the higher their perceived employment capacity and easiness of winning employment. This piece of evidence parallels the explanation provided by Vanhercke et al. (2016), based on the selection effect (Paul & Moser, 2009) and the resource gain principle of the COR theory. Namely,

higher levels of mental health represent a resource that could be invested to trigger the accumulation of further resources. Herein, feeling better may represent a reserve of energy that people can harness and invest in preparing for the upcoming transition to work and coping adaptively with the challenges of a new life stage. Eventually, people may consider themselves more attractive in the labour market and capable of competing for a job, raising their PE. Such a shred of empirical evidence is an added value to the existent research. Indeed, to the best of the knowledge acquired, it is the first study to test a cross-lagged reverse effect of PWB on PE among new entrants. Moreover, the existent cross-lagged studies involving PE and mental health have mostly corroborated resource loss mechanisms, with a negative effect of ill-being on PE (De Cuyper et al., 2012; Vanhercke et al., 2015). In contrast, this study validates the resource gain mechanism, with a status of positive psychological health that begets the acquisition of PE, which has not been explored in-depth in research, apart from Vanhercke et al. (2015), who, anyway, found no statistical support to this hypothesis. These authors explained that the non-significant effect of PWB on PE might be because employed people have their priority and focus on the augmentation of their PE. In contrast, young people not already employed may value having good mental health as a focal feature to attract more resources, be active in the labour market and perceive more chances of competing for a job. Future research shall explore this relationship further and account for it when studying PE and its outcomes.

Third, the results confirm the COR theory's tenet that resource gain can assume the form of caravans that follow upward spirals (Hobfoll et al., 2018), where resources build one another in a positive continuing cycle. The results obtained remark the existence of such a gain spiral involving PE and PWB, where one predicts the other that, in turn, predicts the former. This evidence represents a valuable contribution to the literature about PE. Indeed, where research has already dealt with this kind of relationship, only two-wave data collections have been implemented (e.g., De Cuyper et al., 2012; Vanhercke et al., 2015), with the drawback of not having robust evidence to establish the existence of a gain spiral. Differently, this study adopts a three-wave longitudinal design, yielding a

more thorough exploration, more solid results and responding to the call for using more than two waves of data collection for a test of gain spirals issued by Vanhercke et al. (2015; 2016). This also aids the PE theory. After Kirves et al. (2014) 's work with a person-centred approach in studying PE trajectories and the subsequent trend of the PE-PWB relationship, this study further advances the notion of PE as a personal resource given its involvement in resource gain spirals. Future research should examine whether this effect occurs across more measurement occasions to cover longer periods, similar to what was done by Urbanaviciute et al. (2019), who tested a loss spiral involving psychological health and job insecurity with a five-wave research design.

### ***5.5.2. Limitations and Future Research Recommendations***

This study presents some limitations that need to be accounted for in interpreting the results obtained. First, this study is based entirely upon self-report measures. Even though alleviated by the research design, a drawback of using only one data source may induce the problem of common method variance (Podsakoff et al., 2003). Future research may benefit from collecting data from other resources, such as an estimation of new entrants' employability based on others (e.g., recruiters, career services staff). This may confirm further the selection effect used here to explain the reversed causation hypothesis. Indeed, psychological health status can influence the signals about the ability to work that people send to those in charge of hiring (Paul & Moser, 2009). Therefore, a new entrant's PWB may influence the employability perceptions that others (i.e. recruiters during a selection process) can have about them. Future studies may consider studying this relationship.

Second, other limitations concern the composition of this study's sample. Indeed, the study field predicts dropout in the final sample, leading to an overrepresentation of the Humanistic-social field over the Scientific-technologic and Sanitary ones. This indicates that the final sample could not be representative of the general population regarding the study field, suggesting caution about the generalisability of these results. Moreover, as in the previous study, Women were the large majority

of the sample, which could challenge the results' generalisability. Future studies may try to rule out the impact of these factors, using more heterogeneous samples, on the relationships tested herein.

Third, this study does not control the pandemic impact in terms of participants' labour market perceptions, unlike previous studies. Logistical and procedural constraints linked to the data collection made it impossible to collect variables related to the participants' perceptions of the pandemic impact and evaluate the subsequent effect on PE. Future replications of this study may want to consider such aspects and match them with more measurement occasions to ascertain whether and how the external conditions and their evolution affect the reciprocal relationships found here.

Fourth, Vanchercke et al. (2016) posited that PWB predicts PE as it frees energy that could be invested in broader patterns of actions and thought. However, this study does not test a reverse mediation hypothesis where PWB predicts PE via the mediation of proactive career self-management behaviours or career resources. Neither this study tests whether PWB may reinforce career behaviours and resources via PE, as hinted by scholarly work in the organisational field (Peeters et al., 2020). Doing so could test a full reverse relationship model compared to the models tested in the previous studies, where PWB acts as a predictor, PE as a mediator with career self-management behaviours and personal resources as outcomes. Future research could perform such mediation analyses with a cross-lagged approach. Lastly, as mentioned previously in Studies 1 and 2, future research may consider using different time lags, as this issue is debated in the literature about PE (i.e. Kirves et al., 2014; Vanchercke et al., 2014). This may confirm that the reciprocal effects exist even with longer intervals between measurement occasions.

### ***5.5.3. Practical Implications***

Some practical suggestions are also drawable from the results. It is known that PE is a resource amenable to change and, therefore, many actions may increase it in new entrants. The previous studies presented in this work have shed light on how such efforts can be implemented

within university settings. Universities are demanded to encourage collaboration between the different actors within their meso levels (such as teaching staff and their career services) and with external stakeholders (e.g., employers). Such a collaboration is intended to form students' and graduates' capital of career resources and agency, drawing on which they perceive their employment possibilities boosted (Clarke, 2018; Donald et al., 2018; 2019; 2021).

The reverse causation, which sees PWB as a predictor of PE and starting point of the upward spiral, outlines that efforts should be devoted to promoting positive mental health, given its value in helping young people adapt to life changes (O'Connor & Bodicoat, 2017). This assignment should be on the top of governments' and agencies' agendas, following, for instance, the World Health Organisation guidelines to predispose universal or targeted interventions to promote resilience or prevent the risk of mental disorders and risky behaviours among young people (World Health Organisation, 2020). Such an assignment grows particularly relevant as the pandemic has severely challenged mental health among university students, not only due to the weakened occupational outlooks but also because of education disruption and social isolation (OECD, 2021; Pownall et al., 2021). As such, it is urgent to activate support agencies, even internal to universities, to help them replenish this resource with tailored interventions. Bottaccioli et al. (2021) proposed that a systematic intervention strategy is needed, with a differential assessment of the impact of the pandemic in the different sub-populations and targeted actions to promote well-being through the development of personal and social resources in university settings. In this sense, literature already offers some inspiring examples. For instance, Di Consiglio et al. (2021) developed an online intervention to increase PWB, emotional awareness, and assertiveness of Italian University students. This multi-module intervention consisted of explanations and practical exercises apt to nurture self-knowledge, overcome harmful psychological processes and build relational skills. The authors showed that this intervention has promising results for improving University students' PWB.



Adopting these actions as best practices may encourage the activation of gains spirals and provide new entrants with higher PE.

## Chapter 6. General Discussion

This dissertation's main purpose is to deepen and expand the understanding of employability among Italian university students and graduates. Indeed, employability is a necessary resource for a sustainable transition to work in a context where the labour market's structural barriers to a graduate job and the COVID-19 pandemic have deteriorated career perspectives, with the risk of negative psychological impact (Mahmud et al., 2021).

For this purpose, this dissertation adopts a psychological approach, which emphasises self-estimated employability (Clarke, 2018), namely PE, conceived as a personal resource within the COR theory framework (Vanhercke et al., 2014; 2016). Adopting the subjective approach allows asserting that employability is constructed psychologically. It reflects how people interpret and appraise various factors determining their employment capacity and the likelihood of gaining employment. In virtue of this, this approach permits a more profound exploration of employability-enhancing factors related to the individual and the context. Indeed, people may interpret their employability not only based on the appraisal of their strengths but also by internalising contextual influence (Clarke, 2018; Vanhercke et al., 2014). Moreover, PE makes also possible to study subjective outcomes related to the transition to work. Indeed, it determines how people approach the upcoming transition, influencing thoughts, feelings and subjective outcomes (Silla et al., 2009), thus mediating between antecedents and outcomes (Clarke, 2018).

Consistently, this dissertation seeks to enrich the empirical exploration of PE, which is still in its infancy among new entrants (Jackson & Wilton, 2017; Ma & Bennet, 2021; Vanhercke et al., 2016). A series of three studies included in this work aims to provide empirical literature with novel insights into PE antecedents and test the relationships between PE and its psychological outcomes, which seems overlooked by scholarly work. Also, the studies adopt multi-wave time-lag and longitudinal approaches, aiming at bringing PE research beyond cross-sectional designs, which have been dominant so far.

Understanding the key determinants of PE and its psychological outcomes is crucial for empirical research to advance the theoretical understanding of this concept and contribute to the debate about employability in Higher Education, which still captures scholarly attention (Tomlinson & Nghia, 2020). Moreover, an enriched empirical knowledge of the antecedents and outcomes of PE should inform policy-makers actions in new entrants' employability development and sustainable transition. Universities are among these policy-makers because they have unanimously been assigned the social responsibility of easing the transition to work and contributing to national and international sustainable development goals (Donald et al., 2021; Lopez-Minguens et al., 2021; OECD, 2021; Tomlinson, 2012). The following sections consist of an overview of the studies' research questions, goals and results. The implications of the studies are further discussed to remark on their theoretical and practical contributions to the debate about employability in Higher Education.

### **6.1. Antecedents of PE**

Study 1— a two-wave time-lagged study with Italian university students— investigates two underexplored factors which may determine new entrants' PE, namely contextual and career self-management behavioural factors (Clarke, 2018; Jackson & Wilton, 2017). These factors are herein represented, respectively, by STS and CE. This study posits that these factors may shape PE directly and, in line with the resource caravan principle of the COR theory, indirectly, through the mediation of relevant career resources (students' CI, SE and SC). The findings outline that STS and CE impact PE only indirectly via nurturing the career resources included in this study. The findings on the role of STS corroborate the current theorising about the contextual antecedents of PE, which have envisioned the environmental influence on PE also in terms of support strategies at the organisational level (e.g., Guilbert et al., 2016; Vanhercke et al., 2014; Wittekind et al., 2010). That is to say, there can be meso level actors operating at the institutional level that prepare students for post-graduation life and, as such, enhance self-estimations of employability (Donald et al., 2018; Holmes, 2013). Study 1 shows that teaching staff that supports students through collaborative, active, work-based

and career-oriented learning is one of these meso level actors and a propeller for PE (Donald et al., 2018; Lopez-Minguens et al., 2021). Also, the impact of CE confirms the current theorising about PE of new entrants' (e.g., Clarke, 2018), which posits career behaviours as crucial for PE because they facilitate the preparation for the upcoming transition, enhance the feeling of control and help to overcome career barriers. This finding reinforces this idea, which was debated in literature because of mixed empirical results (i.e. Clements et al., 2018; Okay-Somerville & Scholarios, 2017). Moreover, it progresses research about the role of career self-management behaviours, as a unique general variable reflecting multiple behaviours has been used, differently from previous studies. Furthermore, another noteworthy contribution of Study 1 is finding a full mediation of career resources between STS and CE on the one hand and PE on the other hand. This finding confirms the COR theory tenets about resource gain spirals and caravans (Hobfoll et al., 2018) and advances novel avenues for theoretical and empirical advancements about how PE antecedents' relate.

Study 2— a three-wave time-lagged study with Italian university students and graduates— further explores whether career self-management shapes PE, focusing on the skills to manage transition-related endeavours (Jackson & Wilton, 2017). Study 2 posits that ISE fosters PE, based on the assumption that PE is also sensitive to the capability to self-present proficiently during the exchanges with prospective employers on occasions like the job interview (Bridgstock, 2009; Hillage & Pollard, 1998). Moreover, CI is hypothesised as an antecedent of ISE because it offers a cognitive structure to create more compelling identity narratives, thus enhancing one perceived capability to perform during a job interview. The results confirm ISE's impact on PE. Such a finding reinforces the current theorising of PE (Clarke, 2018) that asserts that, in a volatile labour market, where several aspects increase competition for a graduate job, career self-management factors are crucial and enhance students' perceived competitiveness. Moreover, results confirm that CI influences ISE and that ISE mediates the relationship between CI and PE, suggesting novel insights into this relationship.

Apart from the specific studies' contributions previously discussed, the exploration of PE antecedents in Studies 1 and 2 still brings some general implications that advance the understanding of employability in Higher Education. First, the empirical support of the relationship between the hypothesised antecedents and PE confirms the theorised input-output perspective on which PE theory relies (Clarke, 2018; Forrier et al., 2015; Vanchercke et al., 2014). Therefore, the idea of integrating the two main views of employability, such as the input-based (i.e., the host of career-related personal and contextual factors) and the output-based (i.e., PE) in a dynamic chain connecting them, is plausible. As Forrier et al. (2015) suggested, this integration could be beneficial to reduce the smokiness around the concept of employability and encourage future research to base on it. Second, the findings of these studies align with the critics of a human capital-based, supply-side understanding of employability (Tomlinson, 2017a). Indeed, the results reinforce the idea that graduate employability is not only about having skills and certified learning outputs. Instead, a more nuanced host of factors are involved, which are necessary to compete in the contemporary labour market and overcome the barriers to a smooth transition. Third, the results further remark on the need to study how employability is constructed at a subjective level and how new entrants interpret it (Silla et al., 2009). As Donald et al. (2019) and Monteiro et al. (2021) suggested, conveying attention to self-perceptions is necessary for graduates' employment stakeholders (Universities included) to understand what new entrants think makes them employable and what they really need to be proficient in their transition.

Overcoming the monolithic idea of employability consisting only of skills also has important practical implications for Higher Education institutions. In line with the relevant scholarly work (i.e. Blehe et al., 2020; Cage et al., 2021; Donald et al., 2018; 2021; Lopez-Minguens et al., 2021), universities should encourage their meso level actors (e.g. teaching staff, career counsellors, career service staff) to collaborate with external partners (e.g. graduate employers, alumni) and prepare students for post-graduation life. A multidisciplinary approach seems essential to raise new entrants'

PE with clear roles, activities and indicators of employability gains, as suggested by Behle (2020). Teaching staff, career counsellors, career service staff and external support agencies should collaborate to provide new entrants with the resources they may need in terms of knowledge, understanding, psychological resources, knowledge of opportunities and career self-management factors. For instance, teaching staff may collaborate with graduate employers to support an initial understanding of knowledge or development of career-related resources. Such resources could be further refined by work-based learning experiences offered by career services in collaboration with graduate employers (Jackson, 2015; 2016a). Moreover, teaching staff may help students reach knowledge understanding to articulate it in future interactions with prospective employers (e.g. a job interview), and the university career services may further improve this capability through interview preparation techniques (Jackson & Edgar, 2019; Tymon et al., 2020). Since the Italian NRRP aims at facilitating access to the labour market of new entrants coming from universities, such a multidisciplinary and integrative approach should be encouraged and funded. In this regard, the Italian Society for Vocational Guidance (Società Italiana per l'Orientamento, 2021) has indicated that the NRRP governance should recognise meso level actors (e.g., teaching staff, career services, external partners) as agents for fostering new entrants' employability against the pandemic economic downturn. In virtue of this, the competencies of these meso level actors regarding new entrants' employability development ought to be recognised, assessed and reinforced.

## **6.2. Outcomes of PE**

Both Studies 1 and 2 have the worthwhile goal of confirming whether PE exerts a positive psychological effect, in line with the COR theory framework. PE is expected to positively influence subjective transition-related outcomes, herein CCF and PWB. The results confirm such relationships. PE is a personal resource that leads individuals to higher perceptions of control over their transitions, allowing better self-representation about future career achievements and adjustment in the labour market. Said differently, it enhances CCF. The literature about new entrants' PE being a resource

beneficial for mental health does not mirror the extensive evidence available among established workers or unemployed people (e.g., de Cuyper et al., 2012; Kirves et al., 2014; Lo Presti et al., 2018; Vanhercke et al., 2015). The studies conducted herein successfully fill this gap, confirming that PE enhances PWB even among new entrants.

These results bring some theoretical and research implications. The findings that PE has positive psychological effects create evidence for the theoretical framework used (Clarke, 2018) and contribute to the debate about the interpretation of employability and its outcomes. This work's findings reinforce the idea that employability is a complex phenomenon that is processed at a subjective level and that its outcomes should not be conflated with objective indicators such as employment rates, which can be biased indicators in a congested labour market (Jackson & Bridgstock, 2018; Tomlinson, 2017a). Instead, accounting for the subjective dimension provides a more precise explanation of employability and its outcomes. It allows assessing how people interpret their employment potential, which is essential to explain employability outcomes (Silla et al., 2009). Moreover, using subjective outcomes provides a clearer idea of whether people feel that their employability predisposes them to reach the outcomes they value the most.

Another valuable contribution is that these results expand the research about new entrants' PE subjective outcomes, which is still lacking (Ma & Bennett, 2021). Gaining insights into the benefits of PE aligns with the request of the psychology of sustainability concerning the importance of studying and nurturing personal resources not only to protect psychological health from harm, but also to foster it to have people more mentally healthy (Di Fabio, 2017a; Tokarz & Malinowska, 2019). The positive influence of PE on PWB expands the empirical study of PE on mental health among new entrants. It corroborates the theoretical assumption that PE influences stress evaluation processes, promotes better appraisal of the employment perspectives and prevents the worries of a poor transition (Berntson & Marklund, 2007; Silla et al., 2009) even in this group of people. Furthermore, it is one of the first empirical pieces of evidence among new entrants that PE can be

invested not only to deactivate resource loss cycles related to a worrisome transition. Instead, PE can also trigger gain spirals and enhance mental health, leading to gains in PWB. In this, the studies described here differ from the study of Ma & Bennett (2021), who found that PE is negatively associated with life stress among Chinese University students. The studies conducted conceive and measure PWB, as suggested by the World Health Organization (1948), as a complete state of well-being and not merely the absence of distress symptoms. However, even broader interpretations of PWB can be used by future research to assess the psychological effect of PE and establish it as a resource for psychological sustainability. For instance, the concept of Flourishing reflects the prevalence of positive emotions, the subjective evaluation of one's life, and optimal human functioning (Diener et al., 2009; Di Fabio, 2016), and it has already been successfully shown to result from PE in a sample of Italian workers (Magnano et al., 2019). Moreover, the utilisation of CCF as an outcome of PE considers the subjective facet of career success, yet adapted to the specific target of the studies and to a specific career stage, in line with what has been suggested by earlier scholarly work (e.g. De Oliveira et al., 2016; Jackson & Bridgstock, 2018). In virtue of this, it provides a more precise evaluation of the effect of PE on early subjective career success compared to existing research (e.g., Baluku et al., 2021; Gunawan et al., 2021). Such a criterion has a practical utility for future research, which may want to investigate the early outcomes of PE in new entrants' samples.

At a practical level, these results align with the need to create conditions to enhance PE expressed previously in the practical implications, in line with the assumptions of the psychology of sustainability (Di Fabio, 2017a; Di Fabio & Tsuda, 2018) and COR theory (Clarke et al., 2018). Indeed, a key to promoting a psychologically sustainable transition is acting with primary prevention by enriching the personal pool of resources to counteract the impact of possible adverse events. In this sense, the suggestions to nurture PE in Higher Education should also be followed to offset the detrimental impact of structural problems of the graduate labour market on new entrants' mental



health and confidence about the future. Moreover, given that the pandemic has exacerbated this impact, adopting strategies to foster PE could be even more relevant (e.g., to reach the sustainability goals of the Italian NRRP; Italian Government, 2021).

### **6.3. An Integrated View of PE**

Apart from studying the specific relationships of PE with its antecedents and outcomes, Studies 1 and 2 also test structural models assessing the mediating role of PE between antecedents and outcomes. The significant indirect effects represent a noteworthy contribution to PE literature. They provide empirical evidence of the theoretical framework employed herein, which sees the employability of new entrants as characterised by a psychological process (Clarke, 2018). PE is an essential link connecting career-related resources and psychological consequences because it reflects the appraisal of the factors that determine employment capacity and defines the approach, the thoughts, and the feelings related to career development (Silla et al., 2009; Vanhercke et al., 2016). Such a finding responds to the demands for an empirical test of integrated models connecting PE antecedents and outcomes (Di Fabio, 2017b; Gunawan et al., 2021; Vanhercke et al., 2016) and expands the sparse research in this regard (e.g., Ma & Bennet, 2021; Gunawan et al., 2021).

As mentioned in the implication and limitations sections of Studies 1 and 2, time-lagged research designs are adopted. This represents a valuable contribution to the literature about PE in new entrants, as it matches the request to go beyond the vast majority of PE explorations among new entrants, mostly cross-sectional (Ma & Bennet, 2021; Vanhercke et al., 2016). Such research designs produce more solid conclusions about the relationships between PE and other variables. However, further research may be needed to apply a more robust multi-wave or longitudinal design and obtain more powerful results.

### **6.4. A Dynamic View of PE: Upward Resource Gain Spirals and Reciprocal Relationships**

The results of Study 3 confirm the beneficial psychological effect of PE, corroborating the previous studies. In addition, this study makes a step forward. It tests whether a reciprocal

relationship between PE and PWB exists over time positing positive upward resource gain spirals as envisioned by Vanhercke et al. (2016) based on the COR theory framework (Hobfoll et al., 2018), with a three-wave cross-lagged design. The significant results deepen the theoretical knowledge about PE. They confirm that PWB is not only a result of PE. Instead, it is a resource that represents energy to devote to one's personal development, broadening individuals' self-perceived attractiveness and competitiveness in the labour market. Moreover, the upward spiral effect suggests that activating one's PE or PWB may result in continuing positive gain cycles, with these variables reinforcing each other over time. Apart from the theoretical value, this finding has practical relevance. Indeed, since PWB can also initiate the upward gain spiral, Universities can help new entrants in the labour market by investing in their PWB to encourage them to foster their PE. This insight can reinforce the idea that a multidisciplinary approach is essential to assist new entrants in facing a challenging developmental stage. Career resources like PE and PWB are equally building blocks of a sustainable transition, and policy-makers should devote their efforts to developing both.

## **6.5. Conclusion and Final Remarks**

PE is a prominent personal resource that new entrants can capitalise on to deal with the challenges of the University-to-work transition, which has grown complex due to the impact of the pandemic on employment perspectives. This dissertation expands the empirical research upon new entrants' PE, which, so far, is a demand that has been not met thoroughly. Notably, this work is based on the comprehensive approach to PE (Clarke, 2018) and considers PE as a personal resource within the COR theory framework (Hobfoll et al., 2018). It intends to investigate some underresearched antecedents of PE within the contextual and career self-management domains. Moreover, this work also wants to examine the psychological effects of PE on new entrants since there is a significant lack of research in this regard. Also, the mediating role of PE is under study, which would have allowed corroborating the theoretical assumptions that PE is a crucial nexus between career-related factors and psychological outcomes. In addition, this work deepens further

the empirical literature about PE by adopting a multi-wave research approach, allowing for more robust explorations and findings.

Three studies are conducted, involving independent samples of Italian University students and graduates. Study 1 shows an indirect impact of STS (contextual antecedent) and CE (career self-management antecedent) on PE through the mediation of three career resources (CI, SE and SC). On the other hand, it confirms a positive impact of PE on CCF and PWB. Study 2 shows that ISE (a career self-management factor) predicts PE and mediates the relationship between CI and PE. Moreover, this study confirms the findings of Study 1, as PE is shown to predict CCF and PWB. Study 3 adopts a three-wave cross-lagged design, which allows to confirm the beneficial effect of PE on PWB and points out that PWB can also act as a predictor of PE, with such a reciprocal relationship forming a positive upward spiral over time.

These findings have theoretical and empirical value since they provide a heightened understanding of PE, contributing to the debate on employability in Higher Education and supplying novel insights into it being a psychological phenomenon. Focusing on this self-perception is viable for stakeholders to understand what new entrants consider essential for proficient transition. The positive psychological effect of PE confirms that self-perception influences people's patterns of thought and actions, sustaining their motivation and assisting them in coping with reality. The cross-lagged and reciprocal relationship outline new insights into PE relationships with other variables. In sum, this work confirms and extends PE theorising and opens new research horizons. Theoretical contribution does not exclude the practical value of this work, particularly relevant now that the pandemic has grown the need for psychological resources urgent. The novel insights into the antecedents and outcomes of PE may inform the strategies of policy-makers and stakeholders of graduate employment, which see Universities in the front row. A multidisciplinary, integrated and targeted approach is needed to foster new entrants' PE and facilitate a sustainable transition from Higher Education to work.

In conclusion, this work outlines that in the future, employability in Higher Education should be studied and fostered with a holistic approach, witnessing that it is not only a responsibility of the single. Instead, it should be a product of the investment of multiple stakeholders, with universities and their internal meso level actors in the front row. The mission of Higher Education is apt to create a well-rounded graduate, equipped with a broad host of resources, which are now necessary for personal and professional growth and to negotiate access to, and multiple transitions into, a labour market that does not guarantee stability. Future research and practice ought to account for subjectivity. Employability is processed psychologically, and its psychological outcomes must receive more attention in a context where promoting sustainability is of utmost importance, even from a psychological perspective. Indeed, neglecting subjective outcomes may not tell whether the efforts invested towards employability in Higher Education result in a sustainable transition, prologue to a sustainable career.

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My thoughts are also with Giulio Regeni. He was one of us, a person who studied and explored reality to get some more light. May nobody forget his sacrifice, and may his soul rest in peace.

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