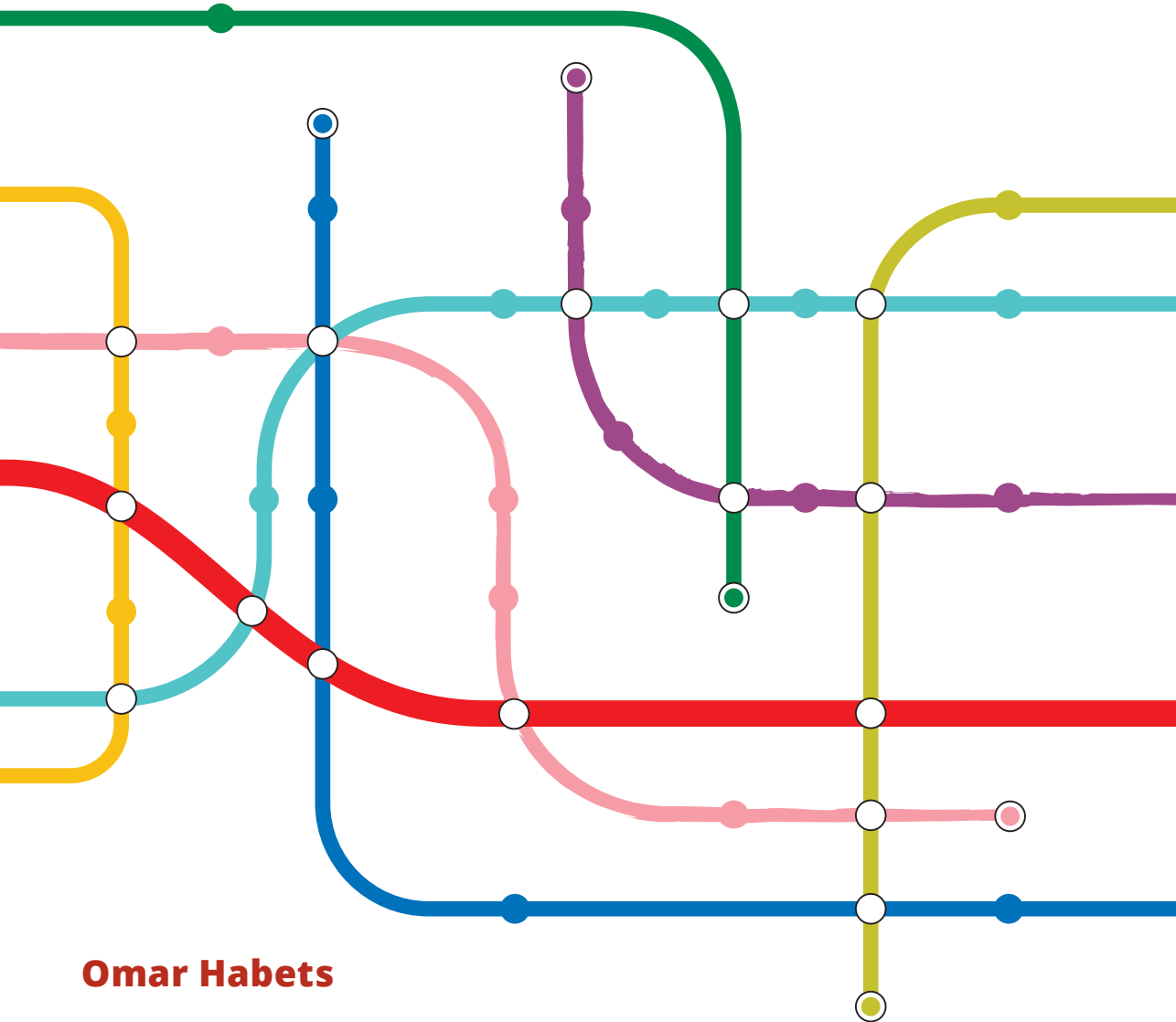


Navigating employability

Exploring determinants, outcomes and contextual factors



Omar Habets

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Omar T. E. Habets

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Navigating employability
Exploring determinants, outcomes and contextual factors

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according to the decision of the Doctorate Board
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Tuesday, October 27, 2026
at 12.30 pm

by

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Navigating employability
Exploring determinants, outcomes and contextual factors

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aan de Radboud Universiteit Nijmegen
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volgens besluit van het college voor promoties
in het openbaar te verdedigen op

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To Silvie, Sophie and Olivia

Summary

This dissertation examines how individuals navigate employability across different stages of their working life by exploring its determinants, outcomes, and contextual influences. Employability is conceptualized as the continuous ability to obtain, maintain, or create work through the optimal use of competences. The central aim of this dissertation is to examine the predictive validity of several determinants of employability and to investigate how employability relates to work outcomes, while accounting for important contextual moderators. The research adopts a multi-theoretical perspective by drawing on Assignment Theory, Social Capital Theory, Conservation of Resources Theory, the Convergence–Divergence perspective, Person–Environment Fit Theory, and Socioemotional Selectivity Theory. Together, these theoretical lenses provide an integrated framework to understand employability as a dynamic construct shaped by individual capabilities, organizational environments, and broader socio-institutional contexts.

Four empirical studies address key gaps in employability research. Study 1 investigates how students' self-perceived 21st-century skills relate to their perceived education–future labor market fit. Based on large-scale survey data and longitudinal observations among higher education students, the results demonstrate that social and cognitive skills such as collaboration, communication, problem solving, and critical thinking significantly enhance perceived labor market readiness.

Study 2 examines the role of technology-based learning in employability development. A longitudinal intervention study shows that training employees to use social media for professional development significantly increases professional social media use, which in turn positively relates to employability.

Study 3 investigates contextual influences by examining how learning climate facilitation relates to turnover intention through employability in both the Netherlands and China. The findings show that a supportive learning climate enhances employability and reduces turnover intention, while dark leadership can weaken these relationships.

Finally, Study 4 explores how the learning value of the job contributes to employability and subjective career success. A mixed-methods design demonstrates that meaningful learning opportunities at work foster employability, which partially translates into greater subjective career success.

Taken together, this dissertation advances employability research by integrating multiple theoretical perspectives and by demonstrating that employability is a dynamic process throughout an individual's career.

Samenvatting

Dit proefschrift onderzoekt hoe individuen hun employability navigeren gedurende verschillende fasen van hun werkzame leven door determinanten, uitkomsten en contextuele invloeden te bestuderen. Employability wordt geconceptualiseerd als het voortdurende vermogen om werk te verkrijgen, te behouden of te creëren door het optimaal benutten van competenties. Het centrale doel van dit proefschrift is het onderzoeken van de voorspellende waarde van verschillende determinanten van employability en het analyseren van de relatie tussen employability en werkuitkomsten, waarbij tevens rekening wordt gehouden met belangrijke contextuele moderators. Het onderzoek hanteert een multi-theoretisch perspectief en bouwt voort op Assignment Theory, Social Capital Theory, Conservation of Resources Theory, het Convergence–Divergence perspectief, Person–Environment Fit Theory en Socioemotional Selectivity Theory. Gezamenlijk bieden deze theoretische lenzen een geïntegreerd kader om employability te begrijpen als een dynamisch construct dat wordt gevormd door individuele capaciteiten, organisatorische omgevingen en bredere sociaal-institutionele contexten.

Vier empirische studies behandelen belangrijke lacunes in het employabilityonderzoek. Studie 1 onderzoekt hoe door studenten ervaren 21e-eeuwse vaardigheden samenhangen met hun ervaren aansluiting tussen het hoger onderwijs en de toekomstige arbeidsmarkt. Op basis van grootschalige surveydata en longitudinale observaties onder studenten in het hoger onderwijs laten de resultaten zien dat sociale en cognitieve vaardigheden, zoals samenwerken, communiceren, probleemoplossend vermogen en kritisch denken, significant bijdragen aan de ervaren arbeidsmarktgeredheid.

Studie 2 onderzoekt de rol van technologie gedreven leren in de ontwikkeling van employability. Een longitudinale interventiestudie toont aan dat een training gericht op het professioneel gebruik van sociale media leidt tot een significante toename van het gebruik van sociale media voor professionele ontwikkeling, wat op zijn beurt positief samenhangt met employability.

Studie 3 richt zich op contextuele invloeden door te onderzoeken hoe het faciliteren van een leerklimaat samenhangt met verloopintentie via employability in zowel Nederland als China. De bevindingen laten zien dat een ondersteunend leerklimaat employability versterkt en verloopintentie vermindert, terwijl destructief leiderschap deze relaties kan verzwakken.

Tot slot onderzoekt studie 4 hoe de leerwaarde van het werk bijdraagt aan employability en subjectief carrièresucces. Een mixed-methods ontwerp laat zien dat betekenisvolle leermogelijkheden in het werk employability bevorderen, wat gedeeltelijk samenhangt met een groter ervaren carrièresucces.

Gezamenlijk levert dit proefschrift een bijdrage aan het employabilityonderzoek door meerdere theoretische perspectieven te integreren en te laten zien dat employability een dynamisch proces is gedurende de loopbaan van individuen.

Chapter 1

Introduction: Navigating employability – Exploring determinants, outcomes and contextual factors

Employment, reemployment, and professional transitions are major concerns for employees in turbulent economic environments (Abrahamsson & Larsson, 2021; Guilbert et al., 2015), and uncertainty has made employability an increasingly important asset for professionals who navigate labor markets. Life-time employment in the same organization is diminishing (Lo Presti & Pulviano, 2015), and thus employees should realize that “life-time employability instead of lifetime employment is the way to protect oneself in the labor market” (Forrier & Sels, 2003, p. 102). In this dissertation, employability is defined as “the continuously fulfilling, acquiring or creating of work through the optimal use of competences” (Van der Heijde & Van der Heijden, 2006, p. 453). To assess lifetime employability, I researched determinants, expected (mediated) effects of employability on work outcomes, and contextual factors that moderate the relationships (Duggal et al., 2024; Van der Heijde & Van der Heijden, 2014). Current employment trends show that careers are becoming increasingly longer and less predictable (De Vos & Van der Heijden, 2017), leading to more volatile career conditions. In recent decades, labor market requirements have changed radically (Forsythe et al., 2022; Soulé & Warrick, 2015), driven by new ways of organizing work in the 21st century (Nilsson & Ekberg, 2013). New ways of organizing work imply that work conditions are increasingly characterized by greater competition, work intensification, faster work pace, shorter lead times, expansion of disparate work contracts, including part-time work, and increased decentralization of decision-making authority and responsibilities in the workplace (Nilsson & Ekberg, 2013). Lechner et al. (2016) argue that career prospects and the “education-future labor market fit” have become more uncertain, individual career paths have become less stable (Tomlinson, 2017), and entrants to the labor market must prepare for this new environment.

Enabled by technological developments, social media use has been increasingly integrated into organizational landscapes (Nisar et al., 2019). Consequently, in past decades, traditional face-to-face classroom learning has gradually been replaced by technology-based learning (Clayton et al., 2018). For example, LinkedIn was in 2021, the world’s largest professional online network, with over 740+ million users in more than 200 countries and territories worldwide (LinkedIn, 2021). The platform has shown its potential to function as a professional learning platform (Bridgstock, 2019). More specifically, Sobaih

et al. (2016) showed that social media might have great value, particularly as a learning tool. Furthermore, it is worthwhile examining its effectiveness in terms of employability enhancement (Osgerby & Rush, 2015), especially since the COVID-19 pandemic has accelerated the adoption of online learning in organizational contexts (Ratten, 2020).

Next to that, across the globe, the COVID-19 pandemic has had implications for both people's daily (e.g., health conditions, distress, and life satisfaction) and working (e.g., working from home) lives (Zhang et al., 2020). In its aftermath, in both Western and non-Western contexts, people are facing socio-economic challenges, such as dealing with substantial labor-market shortages (CBS, 2025; Cui et al., 2018) that cause difficulties for organizations to attract and retain personnel (De Winne et al., 2019). More specifically, organizations experience challenges and instability, which calls for higher levels of employee agility, curiosity, learning by exploring, and learning by doing, as these characteristics can enhance organizations' survival chances and competitiveness (Levenson, 2020). In view of this, the importance of focusing on maintaining and enhancing individuals' employability and facilitating learning opportunities (Buheji & Buheji, 2020) is evident.

Despite increasing scholarly attention, several important research gaps remain. Longitudinal evidence on 21st-century skills and education-labor market fit is limited (Study 1). The role of technology-based learning and social media in employability development remains underexplored (Study 2). Contextual influences, such as dark leadership and cross-cultural differences, require further investigation (Study 3). Finally, little is known about the two-dimensional operationalization of occupational future time perspective in employability and career success (Study 4). These gaps are addressed in more detail later in this chapter and within the individual studies.

To illustrate and explore the concept of navigating employability, in this dissertation, comprising four studies, I draw on data collected from diverse groups of respondents. Across these four studies, I included both students preparing for their entry into the labor market and professionals actively engaged in lifelong learning to sustain and enhance their employability. By incorporating diverse samples, I highlight how employability is not a static attribute, but rather a dynamic quality that requires continuous development and adjustment as individuals move through their employable life.

The inclusion of professionals from both Western and non-Western contexts allows for a broad and context-sensitive exploration of how individual and contextual determinants shape employability over time. In this way, the concept of an employable life is examined not only as an individual responsibility, but also as the product of ongoing interaction between personal agency, organizational practices, and broader institutional and cultural environments (cf. Mayrhofer & Gunz, 2019).

Based on insights from Kay and Greenhill (2011), regarding new entrants to the labor market, in Study 1 of this dissertation, I use education future labor market fit as an operationalization of employability. The concept focusses on the alignment between the competences developed during one's education and the competences required in one's

anticipated future labor market. In all other studies in this dissertation, I build on the competence-based approach of employability (Van der Heijde & Van der Heijden, 2006).

More specifically, I focus on four determinants of employability, being 21st century skills (Deming, 2017; Voogt & Pareja Roblin, 2012), social media use for professional development (Sigala & Chalkiti, 2015), learning climate facilitation (Nikolova et al., 2014), and learning value of the job (Van der Heijden & Bakker, 2011). In a society where people are expected to constantly learn, must work longer, and where work becomes more digitalized, these are important determinants of employability. Specifically, for 21st century skills the items were operationalized as being “social” and “cognitive” skills (Deming, 2017). Social media use for professional development is based on the exploitation levels of Sigala and Chalkiti (2015). Facilitating a learning climate is essential and can be defined as “employees’ perceptions of organizational policies and practices aimed at facilitating, rewarding and supporting employee learning behavior” (Nikolova et al., 2014, p. 259). Finally, learning value of a job refers to the extent to which tasks and responsibilities enable the employee to elaborate on his or her existing arsenal of occupational knowledge and skills (Van der Heijden & Bakker, 2011, p. 234).

As regards to work outcomes, turnover intention was included, based on the measurement of (Cammann et al., 1979) about the thoughts of leaving the organization. Moreover, subjective career success was included as defined by Hughes (1937) as an individual’s reactions to his or her unfolding career experiences and more recent Spurk et al. (2019, p. 41) further defined subjective career success as “a focal career actor’s evaluation and experience of achieving personally meaningful career outcomes”.

Finally, more and more, contextual factors play an important role in regard to employability as well. Motivation is an important attribute for professional development and, in this dissertation, motivation to communicate refers to the computer-mediated communication (CMC) competence measure for motivation by Spitzberg (2006). Another contextual factor comprises negative attributes at work. In the Netherlands, for example, around 27% of employees are experiencing a form of bullying or intimidation at work (CNV, 2024). Dark leadership or abusive supervision (Tepper, 2000) is a leadership style wherein supervisors humiliate, belittle, or otherwise treat subordinates derisively. Dark leadership is defined as subordinates’ perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact (Tepper, 2000, p. 178). The scarce empirical evidence (Muzio et al., 2016) that has been obtained up till now has indicated that it can have dramatic consequences (Liu et al., 2012; Tepper, 2000). Hence, more scholarly work is needed in this field. Finally, occupational future time perspective, based on the operationalization by Zacher and Frese (2009) in both remaining time and focus on opportunities forms an important factor. Future time perspective originates from the Socioemotional Selectivity Theory (Carstensen, 1999) which states that “the perception of time plays a fundamental role in the selection and pursuit of social goals” (Carstensen et al., 1999, p. 165). Especially, people persuade goals in accordance to their life’s time horizon which is also called “future time perspective” (FTP) (Carstensen et al., 1999). In the Netherlands, for example, where recent changes in labor law have taken

place, people need to stay in the workforce longer (Henkens & Van Solinge, 2016). Moreover, new entrants to the labor market, specifically young people are having an increasingly flexible attitude towards work. This may change one's future time perspective and willingness to invest in employability.

Besides the call for more research on employability, its determinants, work outcomes, and contextual factors, including their interactions, there is a call for cross-cultural employability research (Duggal et al., 2024; Wittekind et al., 2010). The potential of a working organization to perform optimally in global markets depends on workers' employability (Van der Heijden & Bakker, 2011). Variables can be partially shaped by cultural context and thus can be dissimilar in different countries (Bolton et al., 2013). In particular, this research uses, among others, data from Egyptian and Chinese professionals. This is valuable given the fact that, for example, the use of social media for professional development is upcoming in Egypt, mainly due to the increasing technological advancements. Another example is the concept of dark leadership that has attracted increasing attention in Anglo-Saxon management literature, however, in mainland China, the concept received less attention (Wu et al., 2009). Certain cultural roots in China, such as a strong hierarchical orientation and high power distance, may create a context in which dark leadership behaviors can emerge more easily (Wu et al., 2009). For this reason, China is a highly interesting country to incorporate in the research since the negative consequences of dark leadership may even be stronger in countries with a high power distance society (Aryee et al., 2008). To conclude, there is a need to do further cross-national research of dark leadership (Aryee et al., 2008).

In the light of the research demands addressed above, a sophisticated and context-sensitive methodological framework becomes imperative. Specifically, there is a growing call in the field of employability research to utilize longitudinal data, mixed methods, and cross-national data to gain a more comprehensive understanding of employability dynamics across different contexts and over time. In response to these calls, in this dissertation, I collect samples of both longitudinal and cross-national data, integrating mixed methods to provide a robust analysis. Moreover, quantitative and qualitative methods are combined to capture a nuanced understanding of employability. This methodological approach allows for an in-depth exploration of how employability manifests itself in an employable life.

In preparation for this dissertation, comprehensive literature reviews were conducted, alongside several workshops, in-depth interviews and discussions with scholars, professionals, and supervisors in order to identify key variables relevant to studying employability in a contemporary context. These collaborative sessions helped to determine possible determinants, the expected (mediated) effects of employability on work outcomes and contextual factors including their interactions that are explored in the research. Through these discussions, valuable insights were gathered, which contributed to shaping the framework for the study, ensuring a comprehensive understanding of the factors influencing and enhancing employability. This process was crucial in refining the research focus and establishing the foundation for the dissertation.

The conceptual overarching research model informing this dissertation (see Figure 1) includes the determinants, the expected (mediated) effects of employability on work outcomes and contextual factors, including their interactions. More specifically, the model states that 21st century skills, social media use for professional development, learning climate facilitation, and learning value of the job are all associated with employability, employability, in its turn, being associated with turnover intention and subjective career success. What is more, the model indicates that employability might be a construct mediating the relationship between the determinants, on the one hand, and the outcomes, on the other hand. It also states that motivation, dark leadership and occupational future time perspective might moderate the relationship between determinants and employability.

Overall, these insights and research ideas have led to the following conceptual model:

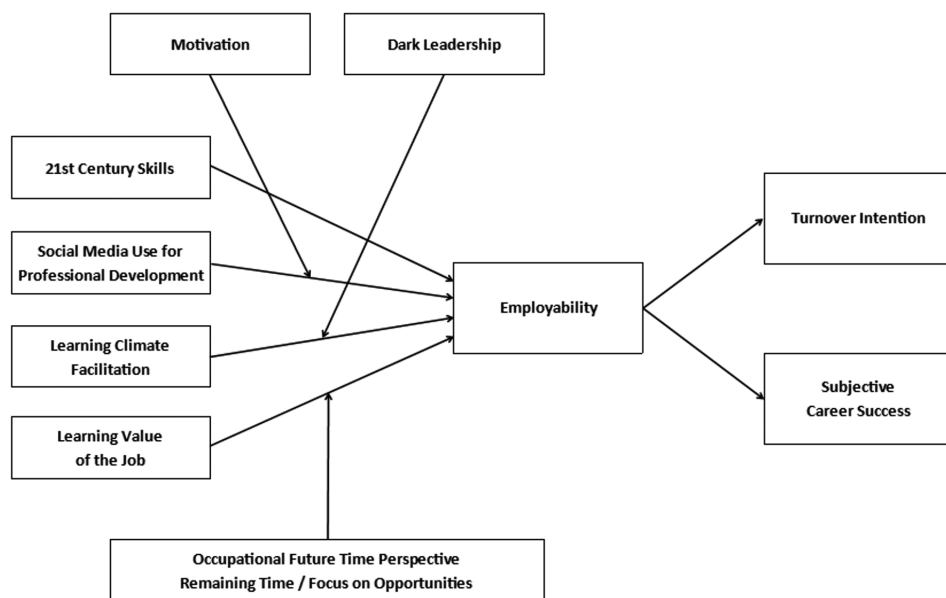


Figure 1. Conceptual Model

The main research question that forms the basis of this dissertation:

What is the predictive validity of the distinguished determinants in this study for employability and, through this, to the included work outcomes and which role do the moderators play in the model relationships?

The main research question is divided into the following sub-questions:

1. How do 21st century skills (e.g., collaboration, communication, problem-solving, and critical thinking) influence students' perceptions on the alignment between their education and future labor market fit?
2. To what extent does a technology-based learning intervention influence employees' professional use of a social media platform on employability?

3. In what way does motivation to communicate through social media affect the relationship between professional social media usage and employability?
4. How does facilitating a learning climate impact employees' turnover intention mediated by employability in different cultural contexts?
5. In what way does dark leadership affect the relationship between facilitating a learning climate and employability in different cultural contexts?
6. How does learning value of the job impact employees' subjective career success mediated by employability?
7. In what ways do perceptions of occupational future time perspective affect the relationship between learning value of the job and employability?

In this dissertation, I draw on several complementary theoretical frameworks to examine the phenomenon of employability as a dynamic and context-sensitive concept.

To answer Sub-question 1 (Study 1), I apply Assignment Theory in the context of higher education (García-Aracil & Van der Velden, 2008). This theory explains how alignment between individuals' competences and labor market demands is essential for sustainable career development. When individuals' skills do not match job requirements, employability is at risk.

To answer Sub-question 2 and 3 (Study 2), Social Capital Theory (Coleman, 1990) is used, highlighting how professional networks offer access to valuable career-related resources that contribute to employability. Conservation of Resources (COR) Theory (Hobfoll, 1989) further explains how individuals actively build and protect personal and professional resources to safeguard their career resilience in rapidly changing environments.

To answer Sub-questions 4 and 5 (Study 3), I used the Convergence-Divergence Perspective (Cooke et al., 2020), which explains how human resource management practices, leadership styles, and employability strategies may converge due to globalization but also diverge because of cultural and institutional differences. This framework is central to comparing the Dutch and Chinese contexts and understanding how cultural factors may shape the relationships between learning climate facilitation, employability, turnover intention, and the moderating role of dark leadership.

Finally, to answer Sub-questions 6 and 7 (Study 4), I used the Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013) and the Socioemotional Selectivity Theory (Carstensen, 1999). Within the Person-Environment Fit framework, the "Person" dimension refers to employees' employability and subjective career success, while the "Environment" dimension represents the learning value of the job. This theory helps explain how a strong alignment between employees' competencies and the learning opportunities provided by their work fosters employability development and enhances subjective career success. In addition, Socioemotional Selectivity Theory offers a lifespan perspective by explaining how individuals' perceptions of their remaining opportunities and remaining time shape the way they prioritize learning, employability, and career investments. Taken together, these theoretical lenses provide an integrated framework to

examine employability as a product of personal agency, educational experiences, workplace environments, and broader institutional and cultural contexts.

The operationalization of employability, its determinants, work outcomes, and contextual factors was done using a range of validated measurement instruments. Employability was assessed through the 22-item short-form, five-dimensional instrument developed by Van der Heijden et al. (2018), alongside the education-future labor market fit measure proposed by Kay and Greenhill (2011). The construct of 21st century skills was operationalized based on the framework of Deming (2017) with “social” and “cognitive” skills. Furthermore, social media use for professional development was measured using a scale adapted from Sigala and Chalkiti (2015). The facilitation of a learning climate was measured with a validated scale developed by Nikolova et al. (2014). Learning value of the job was assessed with a validated scale by Van der Heijden and Bakker (2011). Turnover intention was measured using a three-item scale developed by Cammann et al. (1979). Subjective career success was assessed using the measurement scales developed by Gattiker and Larwood (1986). Motivation was assessed using five items derived from the computer-mediated communication (CMC) competence measure by Spitzberg (2006). To assess dark leadership, the abusive supervision scale by Tepper (2000) was employed. Occupational future time perspective was measured using the six-item scale developed by Zacher and Frese (2009). These validated instruments provide a robust foundation for analyzing the complex interplay of employability-related factors and their implications in contemporary work environments.

Throughout this dissertation, the reliability and validity of the research instruments were carefully considered to ensure the robustness of the findings. Reliability was assessed using measures such as Cronbach’s alpha and composite reliability, demonstrating acceptable internal consistency across key constructs. In addition, the validity of the instruments was evaluated through Confirmatory Factor Analysis (CFA) and tests for convergent and discriminant validity, ensuring that the scales appropriately captured the intended constructs and were distinguishable from one another. Where applicable, instruments were adapted from previously validated scales in the literature, further supporting their conceptual and empirical grounding. Across all studies, data quality checks were conducted to confirm that assumptions for multivariate analysis were met. Taken together, these steps ensured that the instruments used across the dissertation were both conceptually sound and empirically reliable.

In this dissertation, I present four studies in Chapter 2, up until and including Chapter 5, with each one elaborating and investigating one or more of the sub research questions outlined above. In the sections which follow, the different studies will be introduced and summarized in order to make clear how they are linked to one another and how they embroder upon each other’s theme.

Study 1. Am I fit for tomorrow's labor market? The effect of graduates' skills development during higher education for the 21st century's labor market (Chapter 2)

The aim of Study 1 was to contribute to the employability skills debate by investigating how students' self-perceived 21st century skills relate to the self-perceived fit between their higher education curriculum and their future labor market for a sustainable entry into this labor market. Survey data were collected from 4,670 fourth-year students over a period of four years. In addition, a subsample of 83 students was monitored longitudinally throughout their entire educational careers. The results showed a positive relationship between students' self-perceived 21st century skills and their self-perceived education-future labor market fit. Furthermore, more recent student cohorts reported significantly higher self-perceived 21st century skills. Overall, this study indicates that in order to deliver employable graduates, students must be thoroughly trained in 21st century skills, and the development of these skills should be continuously supported and reinforced. This study is among the few that combines both large-scale cross-sectional data and longitudinal data on skills and labor market perspectives among new graduates.

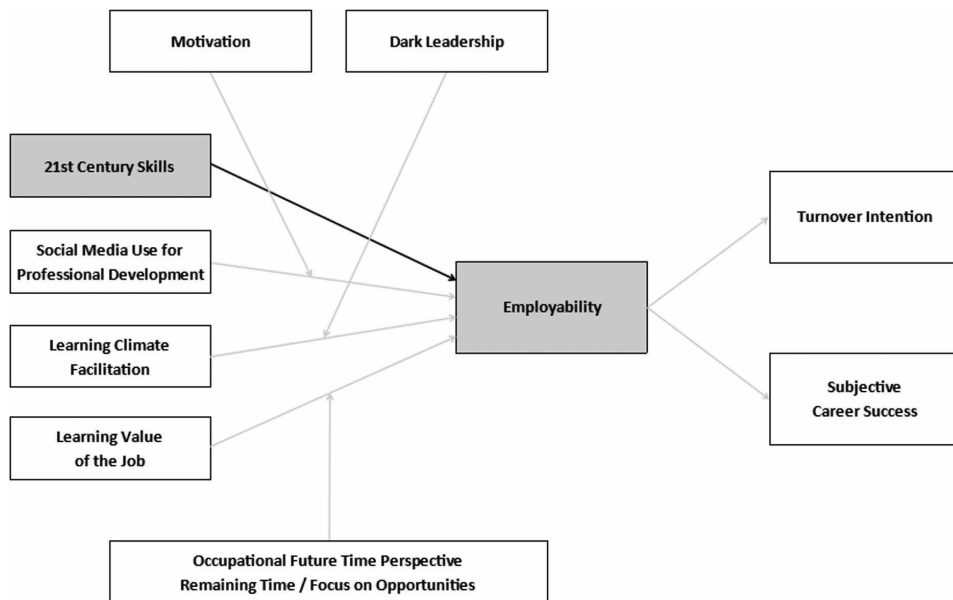


Figure 2. Conceptual Model of Study 1 (dark boxes and arrows)

Study 2. Employable through social media: An intervention study (Chapter 3)

The purpose of Study 2 was to contribute to the ongoing debate on technology-based professional development by examining how a social media learning intervention within a university setting affects individual social media use for professional development, and

how this in turn relates to self-reported employability. This longitudinal, quantitative study also investigated the moderating role of motivation to communicate through social media in this relationship. Building on Social Capital Theory (Coleman, 1990) and (COR) Theory (Hobfoll, 1989), a set of hypotheses was developed and tested using longitudinal data collected from university employees ($N = 101$) in middle- and high-level positions. The findings demonstrated that social media use for professional development increased significantly following the learning intervention. Furthermore, social media use for professional development was positively related to the employability dimension anticipation and optimization. However, contrary to expectations, motivation to communicate through social media did not moderate this relationship. The study concludes that such learning interventions can effectively foster social media use for professional development, which in turn contributes to employability. As such, this intervention offers a sustainable and promising HRM practice that aligns with the human capital agenda.

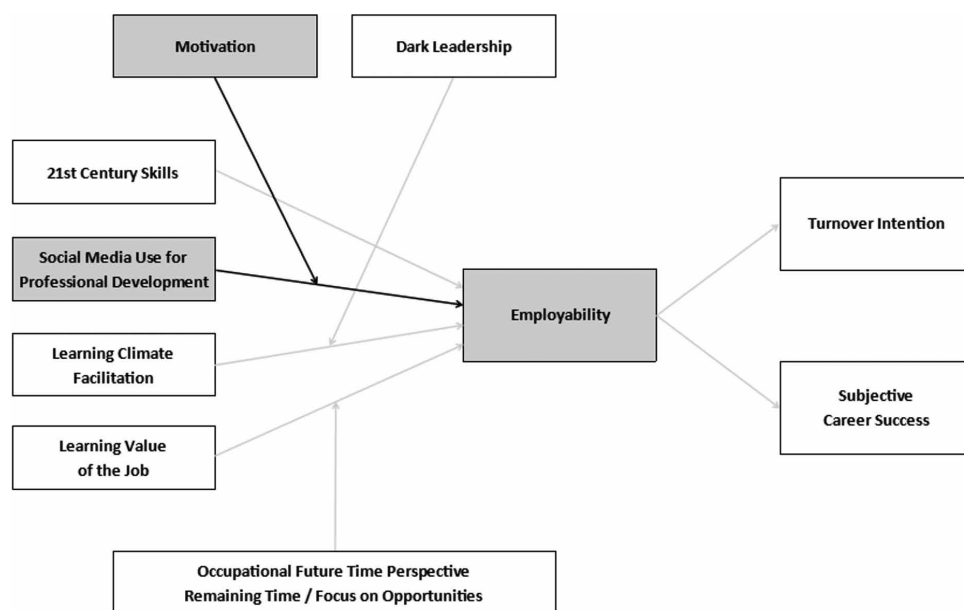


Figure 3. Conceptual Model of Study 2 (dark boxes and arrows)

Study 3. Do you really want to hurt me? The impact of contextual factors on the moderating role of dark leadership in the relationships between learning climate facilitation, employability and turnover intention in the Netherlands and China (Chapter 4)

The purpose of Study 3 was to contribute to employability research and the broader debate on contextualizing theories, specifically within the debate on the Convergence-Divergence Perspective (Cooke et al., 2020), by investigating how learning climate facilitation relates to

turnover intention in two culturally distinct labor markets: the Netherlands and China. The study further examined whether this relationship is mediated by employability and moderated by dark leadership. Data were collected from 368 Dutch and 319 Chinese respondents participating in a master's program while working and analyzed using PLS-Structural Equation Modeling. The findings revealed that, in both contexts, learning climate facilitation was directly and indirectly, via the balance dimension of employability, negatively related to turnover intention. In the Dutch sample, dark leadership weakened the relationship between learning climate facilitation and the corporate sense dimension of employability, although corporate sense did not mediate the relationship with turnover intention. In the Chinese sample, no moderation effects were found. The results emphasize the importance of learning climate facilitation and the potential negative impact of dark leadership on employability and retention. The study highlights the relevance of balancing individual and group goals to enhance retention, while also showing that interpretations of key HRM concepts may differ across cultural contexts, underscoring the importance of context-sensitive HRM approaches.

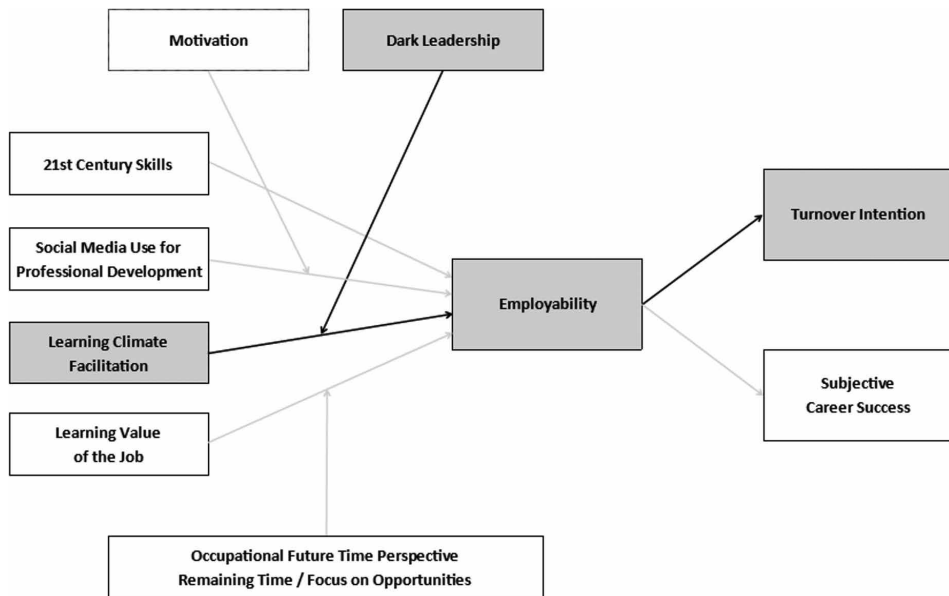


Figure 4. *Conceptual Model of Study 3 (dark boxes and arrows)*

Study 4. What's going on? Occupational future time perspective in the relationship between learning value of the job, employability and career success, a moderated mediation model (Chapter 5)

In the final study in this dissertation, I investigated the relationship between learning value of the job, employability, and subjective career success, while also examining the moderating role of occupational future time perspective. This explanatory sequential

mixed-method study collected quantitative data from 417 professionals enrolled in a master's program while working, followed by qualitative focus group sessions to further elaborate on the quantitative findings. Results indicated that learning value of the job was positively related to most dimensions of employability. In turn, employability showed a partially significant positive relationship with subjective career success. However, occupational future time perspective did not significantly moderate the proposed relationships within the specific sample under study. Consistent with Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013), the findings suggest that, positive dynamics between employees and employers emerge when the job provides meaningful learning opportunities. At the same time, the absence of significant moderation effects calls for further research into how future time perspectives shape employability and career success. By integrating quantitative and qualitative insights, the study provides a richer understanding of how professionals perceive their employability and career success, and how these perceptions manifest itself throughout an employable life.

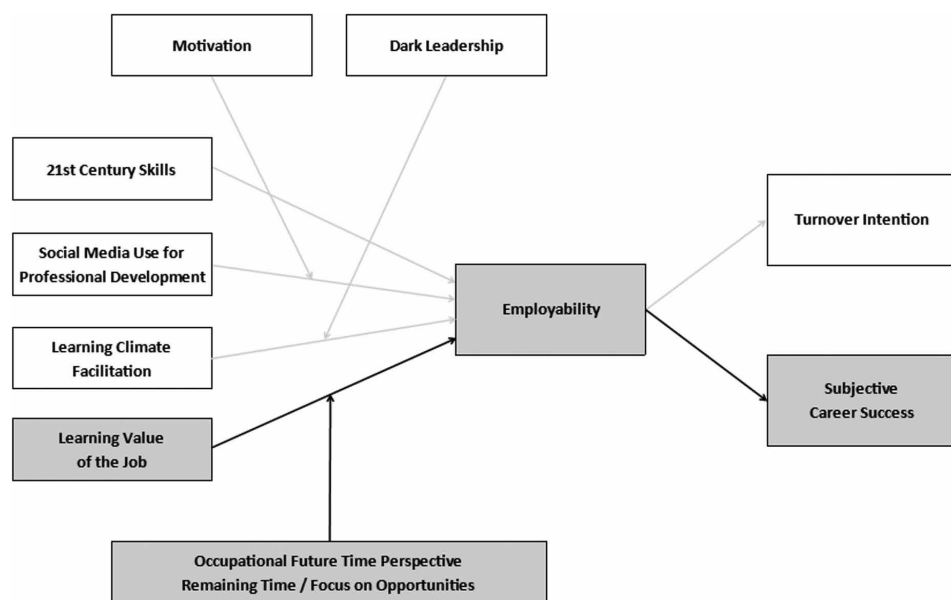


Figure 5. Conceptual Model of Study 4 (dark boxes and arrows)

The central aim in this dissertation is to empirically test the predictive validity of distinguished determinants for employability and, through this, to the included work outcomes and which role do the moderators play in the model relationships?

In this dissertation, I conclude by providing a discussion of the results of the research studies (Chapter 6). Here a reflection on the concepts, methodology, and theoretical and practical relevance of the study's finding is presented. Finally, avenues for future research will be discussed.

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Chapter 2

Study 1: Am I Fit for Tomorrow's Labor Market? The Effect of Graduates' Skills Development during Higher Education for the 21st Century's Labor Market

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Abstract

This study contributes to the employability skills debate by investigating how students' self-perceived 21st century skills relate to the self-perceived fit between their higher education curriculum and their future labor market for a sustainable entry to this labor market. Survey data from 4670 fourth-year students over a period of four years were analyzed. Furthermore, out of this group, 83 students were monitored longitudinally over their full educational student careers. Results showed a positive relationship between students' self-perceived 21st century skills and their self-perceived "education-future labor market fit". Among more recent cohorts, a significant improvement in their self-perceived 21st century skills was found. Overall, this study indicated that in order to deliver "employable" graduates, students need to be thoroughly trained in 21st century skills, and their development should be retained and expanded. This is one of the few studies that uses a vast amount of both cross-sectional and longitudinal data on skills and labor market perspectives among new graduates.

Keywords

education-future labor market fit; self-rated 21st century skills; labor market analysis; employability; role of higher education

1. Introduction

Over recent decades, labor market requirements have radically changed (Soulé & Warrick, 2015), particularly in view of the introduction of new ways of organizing work in the 21st century (Nilsson & Ekberg, 2013). New ways of organizing work implies that working conditions are increasingly characterized by more competition, work intensification, a faster work pace, shorter lead times, the expansion of different kinds of flexible work contracts, including part-time work, and an increased decentralization of decision-making authority and responsibilities in the workplace (Nilsson & Ekberg, 2013). Due to these changes, a sustainable entry to this labor market is crucial, and the interest in the degree of graduates' so-called "work-readiness" has exploded (Tomlinson, 2017). Among others, by the notion that educational systems suffer from a lack of training with regard to employment skills (López et al., 2019). According to Lechner, Tomasik, and Silbereisen (Lechner et al., 2016), career prospects and the "education-future labor market fit" have become more uncertain, individual career paths have become less stable (Tomlinson, 2017), and graduates need to be prepared for this new environment.

It has been recently noted that attention should be drawn to the skills of graduates who are entering the current labor market (Piątkowski, 2020). The future workforce is required to pursue more general skills for living and working in the 21st century, besides job specific skills (Voogt et al., 2013). These more general skills comprise so-called "21st century skills" (Voogt et al., 2013; Binkley et al., 2012), which include amongst others: collaboration (Sahin et al., 2014), communication (Greenaway et al., 2015), problem-solving skills (Neubert et al., 2015), and critical thinking (Hughes & Lavery, 2015). Though, not being fundamentally new skills, they remain a crucial base and necessary in the 21st century. A recent study by Butum et al. (2020) showed that these four skills are highly appreciated by students of different fields (economic and social) to participate in the current labor market. Hence, Voogt et al. (2013) suggest a critical role for education with regard to the implementation of these 21st century skills. Therefore, universities (including universities of applied sciences) have been pressured to deliver graduates that are highly employable at the end of their educational career (Bridgstock, 2009). This means that individuals should have the capacity to continuously fulfill, acquire, or create work by using their competences in an optimal way (Van der Heijde & Van der Heijden, 2006) in order to sustainably enter the labor market. Furthermore, sustainable employment may foster positive, sustainable organizational development (Magrin et al., 2019).

Since the transition from education to work can be challenging for graduates that enter the labor market (Kuron et al., 2015), a strong "education-future labor market fit" is deemed essential for their early careers to be successful. In order to achieve this fit or match of the supply and demand in labor markets (Martínez-Cerdá et al., 2018), universities are supposed to update their higher educational programs by stimulating graduates to develop 21st century skills (Kay & Greenhill, 2011). Furthermore, the 2030 agenda for sustainable development by the UN General Assembly (2020) specifically stresses with goal four, quality education, with amongst others a focus on sustainable development (goal 4.7). The present study aims

to contribute to the scholarly and societal debate between employability and (21st century) skills (Wright et al., 2010). Moreover, this study adds to the literature on 21st century skills (Dede, 2010) by helping to close the gap between what stakeholders involved intend to reach in terms of learning, that is the "implemented curriculum", and what is actually obtained, that is the so-called "attained curriculum" (Voogt & Pareja Roblin, 2012) in order to assess if expected learning outcomes (preparing students for a sustainable entry to the labor market) are achieved. This is performed by analyzing a vast amount of data while combining both cross-sectional and longitudinal methods. Overall, this study focuses on investigating the extent to which students' self-reported 21st century skills relate to how they perceive fit between their curriculum and their future labor market; whether recent cohorts of students in their final year have gained more skills at the end of their student career than older cohorts; and whether students have developed these skills over their student careers.

2. Theoretical Framework and Hypotheses

In order to cope with 21st century changes and a more sustainable entrance to the labor market, multiple reviews e.g., Binkley et al., (2012); Dede, (2010); Mishra & Kereluik, (2011); Voogt & Pareja Roblin, (2012) have outlined frameworks incorporating the current necessary knowledge, skills, individual attitudes, and attributes. These frameworks show consensus that, in order to live, contribute to, and survive in the present society, collaboration, communication, problem solving, critical thinking, digital literacy, citizenship, creativity, and productivity are vital (Voogt et al., 2013). Although not being radically new skills, these first four types of skills; that is, collaboration, communication, problem solving and critical thinking, remain essential, and a fundamental base in the 21st century, and they can be grouped under "social" and "cognitive" skills. Following the definition by Deming (2017), collaboration and communication fall under social skills. Problem solving and critical thinking can be labelled as cognitive skills, in line with the description of the "non-routine analytical" job tasks used by Autor et al. (2003).

In their recent review of skill requirements in relation to the contemporary labor market, Deming and Kahn (2018) report that both "social" and "cognitive" skills correlate positively with external measures such as firm performance. Furthermore, they also find evidence for a so-called cognitive/social skill complementarity, thus stressing the continued importance of skills such as collaboration, communication, problem solving, and critical thinking. This means that these skills are still indispensable in the 21st century (Lewin & McNicol, 2014), hence the name 21st century skills (Van Laar et al., 2017). In particular, as mentioned earlier, Voogt et al. (2013) find consensus in the literature on the following 21st century skills: collaboration, communication, problem-solving, and critical thinking which will be elaborated on below.

Collaborating is a skill, which in the current labor market has become a necessary requirement, as organizations acknowledge that collaboration, for instance, drives innovation (Cardon & Marshall, 2015), being an important capability that is needed in order to

reach the organizational goals. Collaboration allows people to “solve the problems they face and to reach a common goal” (Sahin et al., 2014, p. 318). Previous studies have shown that both critical thinking and problem-solving (other desirable 21st century skills) can be enhanced by students who are involved in collaborative learning (Neo, 2003). Moreover, we know from earlier research that challenges and problems in the labor market with regard to collaborative work are often due to a lack of training in this particular skill (Forte & Flores, 2014). Hence, it is essential to focus on teaching these collaborative skills, early on that is, in higher educational programs and not only once being employed, in order to have a sustainable entrance to the future labor market.

Another highly important human social function is the skill to communicate with one another (Greenaway et al., 2015). In particular, communication is an essential skill to possess for new entrants to the labor market in their collaboration with others. After all, almost all interpersonal and social interactions in the workplace involve a component of communication (Bonaccio et al., 2016). Specifically, conversing, which can have many different forms, e.g., negotiating, advising, explaining etc., and presenting, the main method of one-way communication, both play an essential role in the workplace (Brink & Costigan, 2015). Hence, in the 21st century, communication has a predominant position at the labor market. Therefore, focusing on communication skills is important for higher educational organizations to be able to provide a sustainable entry for graduates to the labor market.

In the 21st century, the amount of repetitive jobs is reduced and, as a result, the increasing job complexity and dynamics make problem-solving skills crucial for a sustainable entry to the labor market. In other words, at present, one needs to solve problems “on-the-spot”, which comprises that in many circumstances, workers are not enabled to follow rationale in solving problems at work (Neubert et al., 2015). However, in order to solve work-related problems effectively, a precise understanding of the problem at hand is required (Newell & Simon, 1972). Although it may be argued that problem solving is a “generic” skill, a more precise knowledge of the complexity and dynamics that are inherent to modern jobs, and a sound arsenal of domain-specific knowledge, are indispensable (Wheelahan et al., 2015). This means that students need to be trained in problem-solving in a context that is specific for their occupational field. D’Zurilla and Sheedy (1992) found that sound teaching is needed to thoroughly educate problem solving skills. Therefore, they stress the importance for ample attention for carefully integrating this skill development in higher educational programs.

Finally, nowadays, one is often exposed to “fake news”, and information can easily become blurred, thus making critical thinking another necessary skill in the workplace. “If we lack critical thinking skills, we can easily be fooled into thinking that an argument is strong when the premises actually provide little or no support for the conclusion” (Hughes & Lavery, 2015, p. 6). McPeck (2016) states that in order to execute critical thinking, reflective skepticism is needed in order to set apart critical thinking from just thinking. With critical thinking also being an important requirement for success, as perceived by employers (Carnevale & Smith, 2013), it should have a fundamental place within higher educational programs. As such, critical thinking is also one of the skills that is essential for sustainable development (Rieckmann, 2012).

2.1. Hypotheses Development

Based on the outline given above, we developed a set of three hypotheses to be empirically tested in this study.

First, according to the assignment theory (García-Aracil & Van der Velden, 2008), educational mismatches imply competency mismatches. Hence, the importance of curricula and the fit they provide with the labor market is a crucial characteristic. “Nowadays, the career trajectory of graduates becomes more complex and so does the relationship between education and jobs: Graduates with the same educational background can apply for a range of jobs and one job can be executed by graduates with different educational backgrounds” (Grosemans et al., 2017, p. 69). Whereas individuals may experience the degree of fit between their higher educational program and the future labor market in different ways, notwithstanding the degree of factual fit, the fit as perceived by students has become an important measure (Kowtha, 2011) as it relates to their early career success after graduation. Developing and enhancing the fit between students’ education and the requirements of future labor markets is one of the goals of higher education, which also implies that students need 21st century skills (Kay & Greenhill, 2011). Based on this, the following Fit Hypothesis was developed.

Fit Hypothesis 1 (H1). *Students’ self-perceived 21st century social and cognitive skills (i.e., the skill for collaboration, communication, problem-solving, and critical thinking) are positively related to them perceiving more education-future labor market fit.*

Second, in view of current changes in education and labor market policies, universities in general are increasingly pressured to produce employable graduates (Bridgstock, 2009; Burke et al., 2017). Looking at the core mission of higher educational programs, which is to make students employable for the labor market, we argue that this can be reached by the advancement of competencies, i.e., a combination of knowledge, skills, and attitudes (Warn & Tranter, 2001). Being employable nowadays for a job in a future labor market starts with building up the necessary 21st century skills (Kay & Greenhill, 2011), which should, therefore, be taught in educational programs, over and above the domain-specific knowledge (Van der Heijde & Van der Heijden, 2006). In particular, Kay and Greenhill (2011) mention that students preparing for present-day labor markets also need 21st century skills, in the sense of having a more multidisciplinary focus. In line with Deming and Kahn (2018), and building upon the 2030 agenda for sustainable development (UN General Assembly, 2020) to ensure quality education, it can be assumed that over time universities have started to pay more attention to those social and cognitive skills that are deemed to be particularly important for the 21st century labor market (Voogt et al., 2013): collaboration, communication, problem-solving, and critical thinking. In view of this, the following Change Hypothesis was developed:

Change Hypothesis 2 (H2) *Fourth-year students in higher educational programs who are part of later cohorts score higher on 21st century skills in comparison with their counterparts from earlier cohorts.*

Third, over the course of their educational careers, students can be expected to develop and accumulated their skills on an ongoing basis, or in other words, learn, thus increasing the amount of 21st century skills they possess (Chew et al., 2013). Since we may expect universities to build curricula in which students can learn and develop the skills that fit the future labor market, the following Learning Hypothesis was developed.

Learning Hypothesis 3 (H3) *Students in the final year (i.e., the fourth year) of their higher educational program report more 21st century skills in comparison with their report in their first year.*

3. Methodology

3.1. Procedure and Sample

For this study, a quantitative deductive approach (Bahari, 2010) was chosen, using both a cross-sectional and a longitudinal survey design. The data were gathered via a survey approach in a university of applied sciences comprising a diversity of higher educational programs. The data were derived from multiple annual waves (2014–2017) of the National Students' Survey (NSE) in The Netherlands. Studiekeuze123, which manages the NSE, is an independent collaboration between the Dutch Ministry of Education, Culture and Science, student organizations, and the Dutch institute for higher education. The NSE measures the opinions of students about their higher educational programs. The results are used by Studiekeuze123 for study choice information. Universities and colleges use the results to improve their education.

Two subsets of the data were created for the analyses. The first data set (Data set 1) that was used in this study consisted of 4670 fourth-year students' data points, gathered over a period of four years (Cohorts 2014–2017). Data set 1 was used to test Hypotheses 1 and 2. Data set 2 which comprised a cohort of 83 students that were followed longitudinally in their first year (2014) and in their fourth year (2017) was used for Hypothesis 3.

3.2. Measures

Education-future labor market fit was measured by means of a scale consisting of three items based on insights from Kay and Greenhill (2011). The items were: "Please rate your satisfaction with acquiring skills for professional practice"; "Please rate your satisfaction with the focus of your program on professional practice"; and "Please rate your satisfaction with the link to professional practice (e.g., work placements/internships, guest speakers, assignments for external organizations)". All items were measured on a five-point Likert scale with answering possibilities ranging from (1) "very dissatisfied" to (5) "very satisfied". The scale had a good reliability with Cronbach's $\alpha = 0.94$.

The variable 21st century skills is a scale that builds upon insights from Voogt et al. (2013) and from Deming and Kahn (2018). The following six items were included: "How satisfied are you with the degree in which you learn to collaborate with others?"; "How

satisfied are you with the degree in which you acquire communication skills (e.g., oral presentations, conversation)?”; “How satisfied are you with the degree in which you acquire problem-solving skills?”; “How satisfied are you with the degree in which you acquire analytic thinking?”; “How satisfied are you with the degree in which you acquire a critical assessment of practice-oriented research?”; and “How satisfied are you with the degree in which you acquire a critical attitude?”. All items were measured on a five-point Likert scale with answering possibilities ranging from (1) “very dissatisfied” to (5) “very satisfied”. The scale had a good reliability with Cronbach’s $\alpha = 0.94$.

In order to test for possible confounding effects, and based upon earlier empirical research in this field in line with e.g., O’Leary (2019), we investigated whether “gender” (O’Leary, 2019), “age” (Sulaiman & Mohezar, 2006), “highest educational degree before admission to the current program” (Jackson, 2013), and “housing situation” (Kuh et al., 2006) explained variance in our analysis. As our outcomes indicated that these factors did not add to the predictive validity of our research model, we left them out from all further analyses in order to increase the power of our tests.

3.3. Data Analysis

First, for testing the direct relationship between 21st century skills and education-future labor market fit (see Fit Hypothesis 1), Structural Equation Modeling (SEM) (using Mplus) was performed. Based on insights of Kay and Greenhill (2011), the proposed model as presented in Figure 1 assumes 21st century skills to have a positive structural path with education-future labor market fit. Combined with insights of Deming and Kahn (2018) and of Voogt et al. (2013), we performed Confirmatory Factor Analysis (CFA) with SEM to test the psychometric qualities of the latent variables itself, and the path between these two distinguished latent variables.

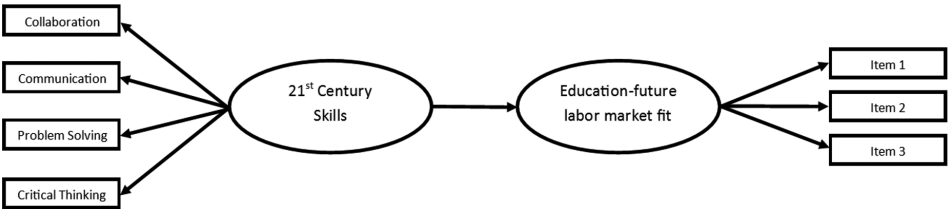


Figure 1. Education-future labor market fit model.

Second, testing for possible differences among fourth-year students from various cohorts (See Change Hypothesis 2), a cohort analysis using ANOVA was conducted. In particular, this analysis is aimed to examine whether fourth-year students of later cohorts score differently on 21st century skills, in comparison with fourth-year students in an earlier cohort.

Third, for testing the longitudinal development of scores on the 21st century skills variable (see Learning Hypothesis 3), a one-way repeated measures ANOVA was conducted. In principle, this analysis is aimed to investigate whether there is a significant difference

in the scores of the 21st century skills students gave in their first year in comparison with the scores in their final, fourth year of their academic career.

To check the quality of the data, the assumptions for multivariate analysis were tested (i.e., linearity, randomness, homoscedasticity, normality of errors, and no multicollinearity) (Field, 2013). As no violations of the assumptions were found, further analyses were conducted as planned.

4. Results

The descriptives are reported per data set (Data set 1, cross-sectional; Data set 2, longitudinal) on the latent variables. Table 1 shows the number of completed answers per latent variable, the mean scores, the standard deviations, and the correlations between model variables. In Data set 1, the mean score for 21st century skills was 3.84 (SD = 0.66). Education-future labor market fit appears to have a mean score of 3.71 (SD = 0.89). Furthermore, Table 1 also shows that 21st century skills and education-future labor market fit were positively, significantly correlated ($r = 0.62$).

Table 1. Descriptives Data set 1 (fourth-year students in 2014–2017).

Variable	N	Mean	SD	[1]	[2]
[1] 21st century skills	4670	3.84	0.66	~	
[2] Education-future labor market fit	4563	3.71	0.89	0.62 *	~

* Correlation is significant at the 0.01 level (2-tailed). The variable 21st century skills is a latent variable comprising collaboration, communication, problem solving, and critical thinking. Education-future labor market fit is a latent variable comprising 3 items.

In Data set 2, the variable 21st century skills is measured at two moments in time: in 2014 when the student was in his/her first year and in 2017 when the student was in the fourth-year of their higher educational program. In 2014, 21st century skills had a mean score of 3.85 (SD = 0.60) and, in 2017, 21st century skills had a mean score of 3.74 (SD = 0.65). With regard to their correlation, we found that the two measurement points for 21st century skills did not correlate significantly with one another (see Table 2).

Table 2. Descriptives Data set 2 (longitudinal data: students who were in year one in 2014 and year four in 2017).

Variable	N	Mean	SD	[1]	[2]
2014					
[1] 21st century skills	83	3.85	0.60	~	
2017					
[2] 21st century skills	83	3.74	0.65	0.07	~

There were no significant correlations. The variable 21st century skills is a latent variable comprising collaboration, communication, problem solving, and critical thinking.

4.1. The Relationship between 21st Century Skills and Education-Future Labor Market Fit

Structural Equation Modeling was used in order to test the fit between the proposed model and the data. The proposed model appears to have an acceptable to good fit to the data. The χ^2 value, the Goodness-of-Fit Index (GFI), and the Root Mean Square Error of Approximation (RMSEA) were calculated. As a rule of thumb, a GFI ≥ 0.90 and a RMSEA ≤ 0.08 indicate a reasonable fit between the model and the data (Browne & Cudeck, 1993). The model for the total sample appears to have a reasonable fit ($\chi^2 = 1163.60$, $df = 26$, GFI = 0.94, RMSEA = 0.09). Standardized parameter estimates are provided in Figure 2, and unstandardized estimates are shown in Table 3.

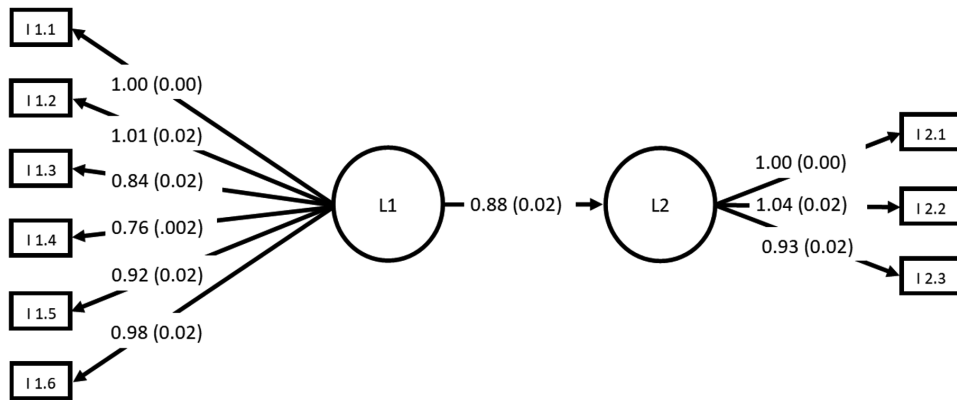


Figure 2. Results Education-future labor market fit model. I 1.1/I 1.6—Critical thinking. I 1.2/I 1.5—Problem solving. I 1.3—Collaboration. I 1.4—Communication. L1—21st century skills. L2—Education-future labor market fit. I 2.1/I 2.2/I 2.3—Education-future labor market fit (items).

Table 3. Standardized and unstandardized coefficients for CFA and results from SEM.

Observed Variable	Latent Construct	β	B	SE
Critical Thinking (B1)	21st century skills	0.73	1.00	
Problem solving (B2)	21st century skills	0.80	1.01	0.02
Collaboration (B3)	21st century skills	0.63	0.84	0.02
Communication (B4)	21st century skills	0.61	0.76	0.02
Problem solving (B5)	21st century skills	0.72	0.92	0.02
Critical thinking (B6)	21st century skills	0.70	0.98	0.02
Preparation 1 (C1)	Education-future labor market fit	0.86	1.00	
Preparation 1 (C2)	Education-future labor market fit	0.86	1.04	0.02
Preparation 1 (C3)	Education-future labor market fit	0.73	0.93	0.02
Model				
Education-future labor market fit on 21st century skills		0.71	0.88	0.02

The significant structural path shows that the variable 21st century skills is positively related to education-future labor market fit ($b = 0.88$, $p < 0.001$), thus providing support for our Fit Hypothesis 1.

4.2. 21st Century Skills over Different Cohorts of Students

A one-way between-groups analysis of variance was conducted to explore the impact of cohort (2014–2017) on the students' levels of 21st century skills. Fourth-year students were grouped according to one of the four specific fourth-year cohorts they belonged to (over the time span 2014–2017). We found a statistically significant difference for 21st century skills between the four different cohorts: $F(3, 4664) = 5.6, p = 0.001$. Posthoc comparisons, using the Tukey HSD test, because of the large sample size (Field, 2013), indicated that the mean score in skills among the cohorts that started in 2014 ($M = 3.81, SD = 0.66$) was significantly lower compared to the ones from the cohort that started in 2017 ($M = 3.90, SD = 0.64$). Additionally, students from cohort 2015 ($M = 3.80, SD = 0.66$) appeared to score significantly lower than the ones from cohort 2017. Cohort 2016 ($M = 3.86, SD = 0.66$) did not differ significantly from either cohort 2014, cohort 2015, or cohort 2017. In addition, cohort 2014 did not differ significantly from cohort 2015. With these outcomes, we found partial support for our Change Hypothesis 2.

4.3. The Longitudinal Relationship between 21st Century Skills in Year One and Year Four

A one-way repeated measures ANOVA was conducted to evaluate the development of students' 21st century skills over their educational careers (longitudinal). For 21st century skills, no statistically significant difference was found for the skills' variable, with Wilks' $\Lambda = 0.99, F(1, 82) = 1.23, p > 0.05$, and multivariate partial eta squared = 0.02. Hence, no support for Learning Hypothesis 3 was found with our data.

5. Discussion and Conclusions

Educational programs need to be constantly reviewed because of the rapidly changing labor market (Caggiano et al., 2020). In view of the rising need for 21st century skills enabling a sustainable fit with future labor market requirements, schools and educational systems are pressured to ensure quality education (UN General Assembly, 2020) and embrace these skills increasingly in their curricula. Consequently, implementing and executing 21st century skills in higher educational programs is viewed to be an important step in the adaptation to future labor market requirements. In view of the core mission of higher educational programs to prepare students for future employment (Warn & Tranter, 2001), stakeholders in educational institutions have to analyze the labor market to keep track of labor market developments and requirements, and continuously have to invest in enhancing the fit between students' required skills and their higher educational programs to ensure a sustainable entry to this labor market. This study questioned whether higher educational programs keep up with the current labor market requirements, in particular, the demand for 21st century skills (i.e., collaboration, communication, problem-solving, and critical thinking) (Voogt et al., 2013), by investigating how the 21st century skills affect students' perceived education-future labor market fit (Fit Hypothesis 1); how the acquired

skills levels across four cohorts of students having attended higher educational programs have developed over time (Change Hypothesis 2); and, finally, how students perceive these skills to have accumulated throughout their educational careers (Learning Hypothesis 3).

5.1. The Importance of Fit

First, in line with our expectations, the results showed that 21st century skills positively relate to students' perceived education-future labor market fit. This outcome underlines the importance of acquiring these indispensable skills in light of the changes in the world of work, which has a considerable impact on today's graduates entering the workforce (c.f. Soulé & Warrick, 2015). Moreover, in line with Warn and Tranter (2001) who state that it is important to focus on these skills to prepare students for the labor market—that is, enhancing their employability—is a priority for higher education. This can be realized by paying more attention to students' development of 21st century skills in their curricula (Bonaccio et al., 2016; Cardon & Marshall, 2015; Hughes & Lavery, 2015; Neubert et al., 2015). All in all, this result indicates that future employees need to learn and build up sufficient skills in order to be able to adapt to changing environments as posted by Carnevale and Smith (Carnevale & Smith, 2013).

5.2. The Importance of Change

Second, 21st century skills need to be further implemented in the curricula of educational systems (Van Laar et al., 2017). By examining the embedment of 21st century skills in higher educational programs, as perceived by the fourth-year students themselves, this study indicated that there is a significant increase over time (Cohorts 2014/2015/2016/2017) based on the scores for the variable "21st century skills" for the distinguished cohorts. However, a significant difference was only present between the cohorts from the years 2014/2015–2017, with the cohort of 2017 scoring highest. In general, this implies that the required focus in educational systems on quality education (UN General Assembly, 2020), enabling a sustainable entry to the labor market, is acknowledged, and that the landscape for learning has transformed to curricula (in higher education or even before) with increasing 21st century skills (Trilling & Fadel, 2009). It could also be that fourth-year students of the later (2017) cohort gathered the 21st century skills to a higher degree before they entered higher education in comparison to earlier cohorts. Nevertheless, the recognition or perception by students in our sample where students judge the quality of their education is important (Duke, 2002). Hence, students' perceptions form an interesting place for inquiry for study programs in transition (Neier & Zayer, 2015). Furthermore, this outcome is in line with notions on the character of the 21st century skills that are urgently needed in the current labor market (Van Laar et al., 2017).

5.3. The Importance of Learning

Third and finally, using our longitudinal data, we found that there was no significant difference between the scores on the variable "21st century skills", comparing students in their first year with those in their fourth year. Surprisingly, the mean scores show that students in their fourth year reported lower scores (though not significantly lower) rather

than higher scores in their estimation of their own 21st century skills. From a learning perspective, this surprising finding may be explained by students going through "phases in learning". Howell (1982), being one of the earliest in the literature dealing with these "phases in learning", stated that students move from what he calls "unconscious incompetent", via "conscious incompetent", "conscious competent", to "unconscious competent". The phenomenon of students going through this development process during their studies, transiting from Phase 1, unconscious incompetent, to Phase 2, conscious incompetent, might explain the lower score for students in year four compared to their assessments in year one. Nonetheless, it remains an important point of attention with regard to this sample.

6. Limitations and Recommendations for Future Research

First of all, the sample was taken from one higher education institute, which is a university of applied sciences, only. This limits the generalizability of the findings but future, preferably more extended, longitudinal research comprising more but similar educational institutions is needed to understand the pattern of differences better. In addition, differences between other types of educational institutions could also be studied. Furthermore, there is a lack of study program specification. Given the limited sample size per higher educational program in our sample, it was not possible to perform analyses per study program of the educational institution under study. Future large-scale research across various higher educational programs could be conducted in order to investigate the generalizability and/or differences across various study programs. Through this, one could highlight differences across levels of educational programs or across work fields, and, accordingly, align the distinguished curricula in order to safeguard students' future labor market fit, depending on their specific needs.

A second limitation pertains to the measurement of 21st century skills in this study. In line with Deming (2017) and Voogt et al. (2013), this study focused on "social" and "cognitive" skills, of which multiple frameworks show consensus that these are vital to live, contribute to, and survive in the present society. Specifically, those skills that form a crucial base for a sustainable entrance to today's labor market, collaboration, communication, problem solving, and critical thinking, were discussed in this study. Nonetheless, future research could include other skills such as digital literacy, citizenship, creativity, and productivity.

Finally, a third limitation concerns the issue of common-method bias, which is the systematic variance in measurement that is attributable to the specific method used to measure two or more variables (Podsakoff et al., 2003). In this study, for all variables, only Likert scales and self-reports were used. In future research, the incorporation of multi-source ratings and/or both qualitative and quantitative measures is recommended. Especially the addition of qualitative data could shed more light on the rather surprising results of the Learning Hypothesis 3.

7. Practical Implications

Working on the delivery of “sustainable employable” graduates has even increased in importance with the year 2020 being dominated by the COVID-19 pandemic. More specifically, the crisis that this pandemic entails has also left its mark on education (Chen et al., 2020). Currently, more than ever, graduates should perceive themselves to fit with the labor market and to be able to deal with a continuously altering environment (Soulé & Warrick, 2015). Therefore, we posit that students need to be thoroughly trained in 21st century skills. Skills that have reached broad consensus on being relevant for the 21st century enabling a more sustainable entrance to the labor market are collaboration, communication, problem-solving, and critical thinking skills (Voogt et al., 2013), and these should have a focal place in the curricula in order to enhance the students’ fit for the labor market. Nonetheless, in practice, it should be taken into account that not all students start with the same skills or learn the 21st century skills at the same pace (Sahlberg, 2014). Especially when including 21st century skills in an educational curriculum, this point-of-attention should be taken into account and tailor-made. Extracurricular activities are a way to introduce this to e.g., those students who are behind on particular 21st century skills.

This study also implies that, over the past four years, given the perceptions of the most recent cohort of fourth-year students in comparison with their counterparts from earlier cohorts, a higher perception of 21st century skills exists. This focus, may it be in higher education or earlier on, on the further development of 21st century skills should be retained and expanded.

Notwithstanding these promising outcomes, our longitudinal results show that the average scores of 21st century skills did not increase during the time of the students’ educational careers in higher education. In particular, although nonsignificant, there was even a slightly negative trend. Therefore, we need to interpret these outcomes with caution and reflect critically on them. Possibly, students’ collaboration, communication, problem-solving, and critical thinking skills do not actually decrease, yet students’ perception of those skills decrease. The latter could be explained by the “phases in learning”, where students may only have reached the “conscious incompetent” phase later onwards in their study. Hence, a more conscious development of students’ own skills—in other words, metacognition—is of utmost importance, in order for the students to take charge of their own learning (Kolb & Kolb, 2009). Furthermore, from a metacognitive perspective, Nelson (1996) argues that, immediately after someone has learned something new, the self-assessment of how well something is learned is less accurate in comparison with the assessment at a later moment in time. Therefore, from a practical point of view, it is crucial to raise students’ awareness of their learning curve by stressing the need for continuous self-evaluations.

Overall, the direct effects of 21st century skills on education-future labor market fit, and the increase in 21st century skills scores of more recent cohorts, show that higher-order skills needed for jobs in the new economy are highly important.

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Chapter 3

Study 2: Employable through Social Media: An Intervention Study

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Abstract

This longitudinal, quantitative study contributes to the debate on technology-based professional development by examining the extent to which a learning (LinkedIn) intervention in a university setting affects an individual's social media use for professional development, and the extent to which this relates to self-reported employability. In addition, we investigated how this relationship is moderated by an individual's motivation to communicate through social media (LinkedIn). Based on social capital theory and the conservation of resources theory, we developed a set of hypotheses that were tested based on longitudinal data collected from university employees ($N = 101$) in middle- and high-level jobs. First, in line with our expectations, social media use for professional development was significantly higher after the learning intervention than before. Second, partially in line with our expectations, social media use for professional development was positively related with the employability dimension anticipation and optimization. Third, contrary to our expectations, motivation to communicate through social media (LinkedIn) did not have a moderating role in this relationship. We concluded that the learning intervention has the potential to foster social media use for professional development, and in turn, can contribute to individuals' human capital in terms of their employability. Hence, the intervention that forms the core of this empirical research can be a sustainable and promising human resource management (HRM) practice that fits the human capital agenda.

Keywords

social media use for professional development; learning intervention study; motivation; employability; sustainable human resource management

1. Introduction

Professional development acquired through formal training and informal interactions with peers has become key for individuals' careers and organizations' competitiveness, as they allow individuals to enhance and maintain their employability in ever changing markets (Martínez-Cerdá et al., 2018; Sun et al., 2020). Enabled by technological developments, new suppliers have emerged and social media use has been increasingly integrated in organizational landscapes (Nisar et al., 2019). Consequently, in past decades, traditional face-to-face classroom learning has gradually been replaced by technology-based learning (Clayton et al., 2018). For example, LinkedIn, the world's largest professional online network, with over 740+ million users in more than 200 countries and territories worldwide (LinkedIn, 2021), has recently shown its potential to function as a professional learning platform (Bridgstock, 2019). This type of technology-based learning can be characterized as being less individual and more social, open, and collaboration-oriented (Moghavvemi et al., 2018), and allows people to learn from subject-matter experts and role-alike peers (Nussbaum-Beach & Hall, 2011). With millions of people worldwide having started to use social media to learn and develop themselves (Grosbeck, 2009), Egypt forms a highly interesting country for scholarly work on the impact of social media, given that the social and political upheavals at the beginning of the second decade of the 21st century created a rapid rise in social media use (Kamel, 2014). More specifically, Sobaih et al. (2016) showed that social media might have a great value in the Egyptian context, in particular as a learning tool. Furthermore, it is worthwhile to examine its effectiveness in terms of employability enhancement (Osgerby & Rush, 2015), especially now when the COVID-19 pandemic has accelerated the adoption of online learning in organizational contexts (Ratten, 2020).

Building on social capital theory (Coleman, 1990), which states that network ties can provide access to valuable resources (Manzoor et al., 2019; Nahapiet & Ghoshal, 1998), it can be argued that using embedded resources in an online network can be useful to develop oneself professionally and enhance one's employability. Additionally, in the specific context of academic careers, informal learning activities, such as networking, have been shown to be solid determinants to employability enhancement of academic staff members (Van der Klink et al., 2014). In a similar vein, Miller et al. (2017) underpinned the importance of social networks in academic careers, and the opportunities to learn from these in a more informal manner. However, although technology-based professional development can be beneficial for these employees and their employers, not all academics may be in favor of communicating through social media for their further growth. Some may lack interest in, or affinity with, technology-based professional development, or do not have the knowledge on how to use the existing social media platforms to professionally development themselves. This implies great challenges for their organization that would like to embrace this new way of learning, e.g., in terms of the institutionalization of social learning (Zhang et al., 2015). Learning interventions, such as training sessions on how to use social media, can therefore be regarded as an important tool for organizations to foster the adoption of technology-based professional development.

Previous research, however, found that personal motivation to use technology can be an important factor in both engaging in technology-based professional development, and, hence, in employees' learning success (Ahmad et al., 2018). Motivation can be viewed as the energizing component of competent performance (Spitzberg, 2006), that can be reached by communicating in social media networks (in the remainder of the text, motivation to communicate through social media will be addressed as 'motivation'). Based on the conservation of resource (COR) theory (Hobfoll, 1989), it can be reasoned that this motivation can drive employees to both maintain their current resources and to develop new ones, such as knowledge, skills, social contacts, and well-being. Hence, individuals' motivation can be expected to play an important moderating role (Wang et al., 2019) in the relationship between their actual social media use for professional development and self-reported employability.

The aim of this longitudinal, quantitative study is to contribute to the debate on technology-based professional development and employability, by examining the extent to which a learning (LinkedIn) intervention in a university setting affects individual's social media use for professional development. Moreover, it examines the extent to which social media use for professional development relates to their self-reported employability, and how this relationship is moderated by their motivation. Altogether, by means of this empirical work, we intend to help closing the lack of research on the possible added value of social media use in a professional and career context. Moreover, notwithstanding the fact that over the past decades, the amount of career research using non-Western samples has expanded, there is still an urgent need to overcome the so-called WEIRD perspective (Western, educated, industrialized, rich, and democratic countries) (Mayrhofer et al., 2016) that still dominates the career literature. In this regard, our Egyptian sample is highly welcome, as it helps to increase our insight into the diversity of meanings ascribed to careers in other economic, cultural and institutional contexts across the globe (Mayrhofer et al., 2016).

This empirical work has multiple contributions to scientific and societal debates in the field. More specifically, first, by presenting a longitudinal, quantitative study, we provide insights into the usefulness of training as an employability-enhancing practice in professional settings. Second, we contribute to the increasing scholarly research on using social media (i.e., LinkedIn) as a platform to learn (Bridgstock, 2019; Tang et al., 2019), and its long-term effects on employability. Third, we contribute to earlier knowledge by gaining understanding on the variation in effectiveness of technology-based learning activities on employability, by assessing the moderating role of motivation in this relationship. The present study also has some practical relevance. The use of technology-based learning can not only improve cost-effectiveness of employee development, but can also enhance employees' access to both internal and external resources. By examining the effects of training on social media use for professional development, and its effectiveness in terms of employability, this study can provide guides for policymakers concerned with organizational and human resource development, herewith taking into account individual differences.

In the next section, an overview of the scholarly literature on employability, social media use for professional development, and motivation is given, resulting in our research

hypotheses. After that, an explanation of the research methodology will be outlined, including a detailed description of the intervention and the operationalization of our key variables. Subsequently, the results will be presented. This paper concludes by summarizing its main findings and discussing the study's implications, limitations and recommendations for future research and managerial practice.

2. Theory and Hypotheses' Development

2.1. Employability

Sustainable employability has become increasingly important and a shared responsibility between individuals and organizations, in which the latter party should preferably provide access to employability-enhancing practices (Peters & Lam, 2015). Employability is an individual characteristic that is defined as the "capacity of continuously fulfilling, acquiring, or creating work through the optimal use of competences" (Van der Heijde & Van der Heijden, 2006, p. 453). In our empirical study, the psychological notion of employability is adopted, referring to the subjective perception of an employee on their possibilities, in terms of competences, to obtain and maintain work (Van der Heijden et al., 2018). This notion is in line with Katz and Kahn (1978) who posited that one's perceptions are the main drivers of one's behavior. We follow Van der Heijde and Van der Heijden (2006), who proposed a five-dimensional operationalization of employability, including one domain-specific (occupational expertise) and four more generic competences (anticipation and optimization, personal flexibility, corporate sense, and balance).

First, the dimension of occupational expertise refers to having the right skills for the job, having the right knowledge (including meta-cognitive), and being socially recognized by relevant others. Second, the dimension anticipation and optimization comprise the capability to prepare for and adapt to the best possible results in a personal and creative manner. Third, the dimension personal flexibility refers to the ability to adapt to all kinds of changes that do not pertain to one's immediate job domain in the internal and external labor market. Fourth, the dimension corporate sense refers to an individual's participation and performance in different work groups, such as organizations, teams, occupational communities, and other networks. Here, participation and performance refer to, amongst others, sharing responsibilities, knowledge, experiences, feelings, credits, failures, goals, etc. Finally, the fifth and last dimension, balance, refers to an individual's competences to merge and align conflicting employers' and employees' interests, or at least to make a well-considered decision among them. Using a competence-based measurement for employability has the advantage of determining potential that already is or may be converted into action (Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2018).

2.2. Social Media Use for Professional Development

Previously, knowledge has been detected as one of the definite sources of durable competitive advantage in the organizational context (Nonaka & Takeuchi, 1995). However,

managing one's knowledge is a complex and heterogeneous area (Anand & Singh, 2011). From a cognitive science or knowledge science perspective, Wiig (1993) was one of the first authors who put knowledge management on the map. Although there is not one single definition of knowledge management, the general belief is that it relates to "unlocking and leveraging the knowledge of individuals so that this knowledge becomes available as an organizational resource" (Anand & Singh, 2011, p. 932). This unlocked and leveraged knowledge can have different forms, of which one of the most common divisions is between tacit and explicit knowledge (Polanyi, 1962). According to Nonaka and Von Krogh (2009), tacit knowledge (obtained from experience) is subjective, while explicit knowledge (obtained from rationale) is objective by nature. The combination of these two forms of knowledge enables the creation of new knowledge. Knowledge creation demands a permanent interaction between different types of knowledge, both tacit and explicit, held by different entities as individuals, groups, and organizations (Nonaka, 1994).

As both tacit and explicit knowledge can be effectively exchanged through technology-based knowledge management systems (Nonaka et al., 1996), social media comprises a promising tool for fostering individuals' professional development activities. However, the latter is not an easy task, especially since knowledge is considered to be an intangible asset. Yet, managing people's knowledge is critical for an organization's capacity to learn, to expand its knowledge base, and to stimulate employees to share their knowledge to sustain an organization's success (Teece, 2007). All in all, this makes learning and development salient in organizations nowadays and stands high on the HRM agenda (Antunes & Pinheiro, 2020).

2.3. The Effectiveness of Training in Social Media Use for Professional Development

Technology integration may be viewed as inescapable and just a further extension of daily operations (Morris et al., 2005). Yet, putting technology-based learning and development activities (e.g., managing one's knowledge) high on the organization's HRM agenda does not mean that the implementation to stimulate employees' employability is an easy job. One of the challenges of the optimal use of social media is to motivate employees to engage in professional development activities (Zhang et al., 2015). It may well be that some individuals just do not understand the functioning of new systems, such as technology-based (social media) tools implemented to foster interaction with others. To optimize professional development, it is key that employees are confident in working with the adopted new technologies. In this respect, social capital theory (Coleman, 1990), with its premise that relationships and interaction are an important resource for social action, might offer a promising perspective, in that professional relationships can easily be made through the social media platform LinkedIn. Obviously, people need to be well-prepared to work with its functionalities.

In previous scholarly work, it has already been noted that training is key to the introduction of IT. For instance, Culpan (1995) stated that "... the most important factor involved in successfully introducing IT is that of providing appropriate training for employees"

(p. 168). In line with Culpan (1995), Rosenbusch (2020) argued that to reach a successful implementation of state-of-the-art technologies, the introduction of workplace technology must be accompanied by training and the creation of support mechanisms for all involved. In view of the continued influx of technology incorporation in the workplace, adequate training (Sun et al., 2020) has been central in the past decades. We assume that interventions can be used to efficiently and effectively train employees in using new technologies and to make them acquainted with using social media for professional development. Based on this, the first hypothesis is proposed:

Hypothesis 1 (H1): *A learning intervention to train the use of social media positively influences professionals' actual social media use for professional development purposes.*

2.4. The Relationship Between Social Media Use for Professional Development and Employability

Social media and the social use of the web offer professionals, amongst others, new opportunities to learn and develop. In line with social capital theory (Coleman, 1990), the unlocked resources in people's relationships that have been formed through social media provide tremendous opportunities for social action. Currently, LinkedIn is the world's largest online professional network (LinkedIn, 2021), making it the predominant tool for professional social media use. Historically, organizations who wish to retain control over their knowledge used to block social media on the shop-floor level. Nowadays, however, social media has become more and more integrated within the organizational landscape (Nisar et al., 2019), as it offers organizational members great opportunities to remain informed and to develop themselves in multiple ways (Sigala & Chalkiti, 2015). By integrating the concepts of social action, unlocking and leveraging the knowledge of individuals, and social media, Sigala and Chalkiti (2015) presented a three-layer framework with different levels of social media exploitation for managing individuals' professional knowledge.

The first and lowest exploitation level represents individuals' technology use related to searching, storing, categorizing, and linking information. On this level, employees in the organization may use LinkedIn to find up-to-date information and to keep up with new professional developments. For example, the global perspective of LinkedIn allows people to draw information from a certain area in a heartbeat, compared to drawing from the more traditional knowledge gathering sources, such as books or journals.

The second exploitation level represents individuals identifying and participating in social networks for developing and maintaining interpersonal relationships, and for sharing, discussing, and negotiating information with others. On this level, the use of LinkedIn allows employees to relate with others, both within and across organizations, often overcoming the physical boundaries of existing relationships. Talking about new aspects in the professional field becomes much easier while using the online environment. This level is different from the first one because "the people are not solely passive receivers of information coming from various networks, but they are also active discussers and

users of this information with other people in the networks. Thus, by going from exploitation level one to two, social media supports not only inner, but also external cognitive knowledge management processes” (Sigala & Chalkiti, 2015, p. 50).

The third and highest exploitation level represents individuals’ use of technology for (co)-creating knowledge. In this third level, employees can use LinkedIn to discuss insights and combine these with insights from others in order to create new knowledge on specific topics. Furthermore, through LinkedIn, employees have much easier access to new information and to combine these new insights to (co)create new knowledge and to learn.

Learning can be seen as the cornerstone of the enhancement of employability (Van der Heijden et al., 2009), which makes professional development through social media a highly interesting field of research. Some scholars have linked technology-based learning (Martínez-Cerdá et al., 2018) and social media use (Osgerby & Rush, 2015) to employability enhancement. To maintain one’s fundamental qualifications (i.e., knowledge and skills) and, hence, one’s employability, participating in the ample development opportunities that social media provides can be viewed as essential and, therefore, both formal and informal learning activities (cf. Van der Klink et al., 2014) through this medium can be recommended. In general terms, formal learning is related to gaining structured knowledge through educational settings, while informal learning is related to everyday practices through non-educational settings (Callanan et al., 2011). Through learning, employees can expand their knowledge base.

In a recent study, Froehlich et al (2019) found support for the assumption that employees who engage in information-seeking behavior show higher levels of all five employability dimensions, as distinguished by Van der Heijde and Van der Heijden (2006). In particular, Froehlich et al. (2014) found that both formal and informal learning can enhance employability. Focusing on academic careers, Miller et al. (2017) underpinned the importance of social networks, and the opportunity they provide to learn in an informal manner. In a similar vein, Van der Klink et al. (2014) showed that networking in academic careers, being an informal learning activity, is a strong antecedent for employability. Based on these insights, the second hypothesis is proposed:

Hypothesis 2 (H2): *Social media use for professional development purposes is positively related to employability.*

2.5. The Moderating Role of Motivation in the Relationship between Actual Social Media Use for Professional Development and Employability

The early introduction of social media platforms, but also the (continuous) launching of new features within existing platforms, are at some point “foreign to the user” (Ross et al., 2009, p. 580). Bryant et al. (2006) found that people are initially willing to learn these new technologies in order to stay connected with others in their networks. Although they are willing to learn these new technologies, the step towards using new, sometimes unknown features of a social media platform and communicating through social media, however,

may be daunting for some people. In this light, Spitzberg (2006) noted that it is necessary to take a person's own motivation to communicate through technologies into account when trying to understand its effectiveness. In line with COR theory (Hobfoll, 1989), the preservation of individuals' current resources and the development of new resources that are available on and developed through LinkedIn are assumed to be associated with motivation. More specifically, employees' motivation to communicate through social media facilitates them in working with the information on the platform, and as a result to develop themselves. Hence, with respect to technology-based learning, motivation can be regarded to be a critical factor (Ahmad et al., 2018). Especially in the context of our empirical study, where social media (i.e., LinkedIn) is used as a development tool, the careful integration of technology-based learning in the working organization is an important point of concern. This relates to the fact that learning and motivation are inseparable from each other (Wlodkowski & Ginsberg, 2017), and that in order to optimize technology-based learning, core attention for a sound integration at the workplace is key (Brooks & Roberts, 2016). As psychologists have found (e.g. Pintrich et al., 1991), people that are motivated to learn are more likely to engage in things they believe will help them to learn. Following this line of reasoning, we argue that people who are motivated to communicate through social media are more likely to benefit from it in terms of their employability enhancement. Their motivation may, for example, stimulate them to spend more time on getting acquainted with the technicalities involved in communicating through social media. Indeed, in a recent study, Wang et al. (2019) found that motivation to use social media had a positive moderating effect in the relationship between social media use and social learning. Based on this, the following moderation hypothesis is proposed:

Hypothesis 3 (H3): *Motivation moderates the positive relationship between social media use for professional development purposes and employability, such that this relationship is stronger when the individual is highly motivated.*

3. Methodology

3.1. Procedure and Sample

This study used a two-wave longitudinal design (De Lange, 2005; Griffin et al., 2010), with a learning intervention (LinkedIn) that was implemented between T1 and T2 (see the conceptual model depicted in Figure 1).

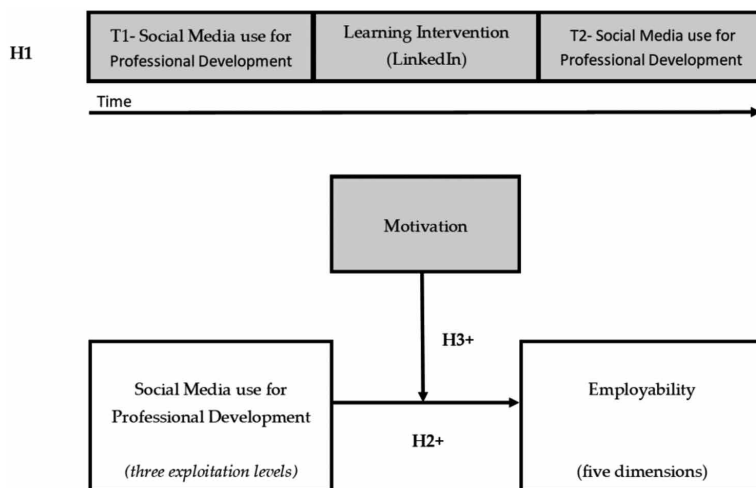


Figure 1. Conceptual model visualizing our research hypotheses.

All participants who participated in the learning intervention (LinkedIn) were university employees of an Egyptian university located in Cairo. The university has a combined focus on teaching and research, with an average age of the participants of 32.85 years (*SD* is 8.31), and 37% were male. They had several job types at middle and higher levels of functioning and were spread amongst all faculties of the university. In total, 101 matched samples were created by matching the T1 and T2 data of the individual participants.

3.2. The Learning Intervention

The overall aim of the learning intervention was to increase university staff members' social media (LinkedIn) use for professional development. It was executed between the T1 and T2 measurement. The T1 measurement functioned as a base-line measurement and after a time span of three months all data of the T2 measurement was collected. LinkedIn was chosen as the social media tool in this study because it is most strongly related to the professional setting of the type of participants in comparison with other social media tools. Moreover, the intervention approach needed to be generic in order to allow academic staff with various disciplinary backgrounds to participate. However, it also needed to allow for domain-specific development so that all participants could learn and identify personal room for improvement. In addition, it was important that the intervention took place in a computer room with good internet facilities. Finally, another important characteristic of the intervention was that it had to be evidence-based, and thus needed to include scientifically validated learning techniques.

The intervention consisted of a 2h session that was held at the campus of the case university. Prior to the session, all participants were instructed through email on how to create a LinkedIn profile, and all participants had a functioning LinkedIn profile at the start of the session. This email also included a request to fill in the T1 base-line measurement on the research variables. The session had two main topics: LinkedIn in general and

learning with LinkedIn. Overall, the session included a blended learning style with online and offline interaction. For the interaction to work, small groups of 10–15 participants were created in order to allow room for personal feedback. The content of the first part of the session included sharing some background about the platform and a peer review exercise with a checklist of the LinkedIn profiles of the participants. The second part of the session focused on opportunities to learn through the LinkedIn platform. This included explanations of the (advanced) search engine, the use of ‘#’ (hashtag), influencers and company pages to find information, as well as the newly added work button in LinkedIn for learning, insights and SlideShare. This second part also included an exercise to practice with the platform and to find and learn from new information. After the session, participants were invited to fill in the T2 measurement.

The content of the session was created in collaboration with a LinkedIn employee and LinkedIn expert. The LinkedIn employee occupied a managerial function and took part in a face-to-face interview with the first author of this paper and gave valuable feedback on the (new) learning opportunities of the platform to be included in the intervention. The LinkedIn expert worked at the University of Applied Sciences in the Netherlands and was engaged in providing a paid LinkedIn course to university students and external professionals. As such, our learning intervention was based on a widely used LinkedIn training for students and professionals, which focused on the particular learning aspects of the platform.

During the intervention, two trainers who both hold a PhD and who are working at the Dutch University of Applied Sciences were available. They were thoroughly instructed about the learning materials prior to the sessions by the LinkedIn expert and the first author of this paper. The adherence to the intervention was controlled for by using one similar format for all sessions, including a content checklist for the trainers.

3.3. Measures

Employability was measured using the thoroughly validated 22-item short-form, five-dimensional instrument by Van der Heijden et al. (2018). This instrument is based on the 47-item Five-Factor Employability instrument (Van der Heijde & Van der Heijden, 2006). The measurement scale consists of the following five dimensions: occupational expertise (5 items); anticipation and optimization (4 items); personal flexibility (5 items); corporate sense (4 items); and balance (4 items). All items were scored on a six-point Likert-type scale that ranged from, for instance, not at all/never (1) to considerable degree/very often (6), depending on the item’s wording. Example items were: “I consider myself ... competent to weigh up and reason out the ‘pros’ and ‘cons’ of particular decisions of working methods, materials, and techniques in my job domain” (for occupational expertise; Cronbach’s alpha = 0.77); “I consciously devote attention to applying my newly acquired knowledge and skills” (for anticipation and optimization; Cronbach’s alpha = 0.70); “I adapt to developments within my organization ...” (for personal flexibility; Cronbach’s alpha = 0.73); “In my organization, I take part in forming a common vision of values and goals” (for corporate sense; Cronbach’s alpha = 0.89); “The time I spend on my work and career development on the one hand and my personal development and relaxation on the other are ... evenly balanced” (for balance; Cronbach’s alpha = 0.88).

Social media use for professional development scale based on Sigala and Chalkiti (2015) was used. This scale consists of three exploitation levels: the first exploitation level (4 items related to the use of social media for searching, storing, and reading information for personal or public use); the second exploitation level (four items reflecting the use of social media for networking, sharing, and discussing information with others); and the third exploitation level (two items measuring the exploitation of web 2.0 for (co)-creating and generating new knowledge). Example items were: “When using social media for professional purposes, I use at least one social media tool in order to read information” (for exploitation level 1; Cronbach’s alpha = 0.91); “When using social media for professional purposes, I use at least one social media tool in order to update my personal profile and status” (for exploitation level 2; Cronbach’s alpha = 0.89); “When using social media for professional purposes, I use at least one social media tool in order to participate in online discussions for creating new knowledge” (for exploitation level 3; Cronbach’s alpha = 0.84).

The moderator variable, motivation was measured by five items based on the CMC (computer-mediated communication) competence measure for motivation by Spitzberg (2006). The items were rephrased to explicitly refer to ‘social media’ instead of ‘computer’. All items were scored on a five-point Likert-type scale that ranged from not at all true of me (1) to very true of me (5). An example item was: “I am very motivated to use social media to communicate with others.” (Cronbach’s alpha = 0.95).

3.4. Data Analysis

First, the quality of the data and the corresponding assumptions for multivariate analysis was tested (i.e., linearity, normality, and homoscedasticity) (Hayes, 2017). As no violations of the assumptions were found, we proceeded with the analysis. Our research hypotheses (see Figure 1) were tested by employing SPSS version 25 in combination with the PROCESS macro by Hayes (2017). For testing Hypothesis 1 in SPSS, the effect of the intervention was estimated using a dependent sample T-test with bootstrapping. The analysis of Hypothesis 2 was done in SPSS by conducting five different series of multiple linear regression analyses, one for each of the five employability dimensions. For Hypothesis 3, Model 1 in PROCESS (Hayes, 2017) was used, and to better interpret the results, all continuous predictor variables were centered. Table 1 presents the means, standard deviations, and correlations between the study variables. Table 2 presents the results of the multiple linear regression analyses, and Table 3 presents the analysis using the PROCESS macro.

4. Results

4.1. Descriptive Statistics

The correlation coefficients between the exploitation levels of social media use for professional development are relatively high, varying between $r = 0.71$ and $r = 0.77$ with a $p < 0.05$ (see Table 1). Furthermore, the correlation coefficients between the five dimensions of employability varied between $r = 0.38$ and $r = 0.58$ and are all significant ($p < 0.05$).

4.2. The Difference in Social Media Use for Professional Development before and after the Learning Intervention (LinkedIn)

On average, participants reported a higher score for the first exploitation level of social media use for professional development after the learning intervention (LinkedIn) ($M = 5.09$, $SD = 1.25$) than they did before the intervention ($M = 4.69$, $SD = 1.55$). This mean difference of 0.40, BCa 95% $CI [-0.71, -0.08]$ was significant [$t(95) = -2.48$, $p = 0.015$], and represented an effect of Cohen's $d = 0.25$. This small to medium effect shows that the difference is not trivial, while being statistically significant. Additionally, for the second exploitation level of social media use for professional development, participants reported a higher score after the learning intervention (LinkedIn) ($M = 4.97$, $SD = 1.14$) than they did before the intervention ($M = 4.48$, $SD = 1.51$). This mean difference of 0.49, BCa 95% $CI [-0.79, -0.18]$ was significant [$t(95) = -3.16$, $p = 0.002$] and represented an effect of Cohen's $d = 0.32$. Finally, in line with the outcomes for the first two exploitation levels, participants reported a higher score for the third exploitation level of social media use for professional development after the learning intervention (LinkedIn) ($M = 4.85$, $SD = 1.26$) than they did before the intervention ($M = 4.48$, $SD = 1.50$). This mean difference of 0.37, BCa 95% $CI [-0.64, -0.09]$ was also significant [$t(95) = -2.63$, $p = 0.010$] and represented an effect of Cohen's $d = 0.24$. With these outcomes, Hypothesis 1 is fully supported by our data.

4.3. The Direct Relationships between Social Media Use for Professional Development Exploitation Levels and the Employability Dimensions

This section will discuss the results per dimension of employability. Contrary to Hypothesis 2, none of the three exploitation levels of social media use for professional development showed a significant relationship with occupational expertise. In line with Hypothesis 2, the second exploitation level of social media use for professional development, becoming active discussers and users of information, showed a positive relationship ($\beta = 0.48$, $p < 0.01$) with anticipation and optimization. The other two exploitation levels (level one and three) did not show any significant relationships for anticipation and optimization. Moreover, contrary to Hypothesis 2, none of the three exploitation levels of social media use for professional development showed a significant relationship with corporate sense, flexibility or balance. Overall, partial support is found for hypothesis 2.

4.4. The Moderating Role of Motivation in the Relationship between Exploitation Levels of Social Media Use for Professional Development and the Employability Dimensions.

Contrary to Hypothesis 3, none of the relationships between the three exploitations levels of social media use for professional development and the employability dimensions were moderated by the motivation. No support for Hypothesis 3 is found.

Table 1. Means, standard deviations (SD) and correlations between the model variables.

	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Social media use for professional development _ exploitation level 1	4.69	1.55								
(2) Social media use for professional development _ exploitation level 2	4.48	1.51	0.71 **							
(3) Social media use for professional development _ exploitation level 3	4.48	1.50	0.71 **	0.77 **						
(4) Motivation	3.18	0.76	0.31 **	0.36 **	0.41 **					
(5) Occupational expertise	4.93	0.65	0.00	0.08	0.02	0.10				
(6) Anticipation and optimization	4.32	0.77	0.04	0.24 *	0.06	-0.06	0.53 **			
(7) Corporate sense	4.67	0.86	0.11	0.18	0.21 *	0.03	0.53 **	0.52 **		
(8) Personal flexibility	4.51	0.62	0.02	-0.05	-0.06	-0.08	0.55 **	0.45 **	0.57 **	
(9) Balance	3.78	0.86	0.19	0.24	0.14	0.08	0.39 **	0.58 **	0.41 **	0.38 **

N = 101, * $p < 0.05$, ** $p < 0.01$.

Table 2. Regression analyses for perceived Social media use for professional development and Motivation as predictor of five employability dimensions.

Variable	Occupational Expertise T2			Anticipation and Optimization T2			Corporate Sense T2			Personal Flexibility T2			Balance T2		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	3.35	0.46		3.20	0.49		3.44	0.53		3.49	0.45		2.08	0.51	
Occupational expertise T1	0.30	0.08	0.37 ***												
Anticipation and optimization T1				0.25	0.09	0.27 **									
Corporate Sense T1							0.22	0.09	0.26 *						
Personal flexibility T1										0.27	0.08	0.34 ***			
Balance T1													0.34	0.10	0.33 ***
Social media use for PD_1	-0.05	0.06	-0.13	-0.10	0.07	-0.20	-0.10	0.09	-0.17	0.03	0.06	0.07	0.04	0.08	0.06
Social media use for PD_2	0.06	0.07	0.13	0.25	0.08	0.48 **	0.05	0.10	0.08	-0.01	0.07	-0.02	0.15	0.09	0.26
Social media use for PD_1	-0.06	0.07	-0.14	-0.11	0.08	-0.22	0.11	0.10	0.19	-0.08	0.07	-0.20	-0.12	0.10	-0.20
Motivation	0.13	0.07	0.15	-0.01	0.11	-0.11	0.00	0.13	0.00	0.03	0.10	0.03	0.04	0.13	0.04
R ²	0.16			0.18			0.11			0.12			0.17		

N = 101, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Social media use for PD_1 = Social media use for professional development _ exploitation level 1, Social media use for PD_2 = Social media use for professional development _ exploitation level 2, Social media use for PD_3 = Social media use for professional development _ exploitation level 3.

Table 3. Moderation of Motivation in the relationship between Social media use for professional development and the five employability dimensions.

Moderation	Occupational Expertise T2				
	<i>B</i>	<i>T</i>	<i>p</i>	<i>F</i>	<i>R</i> ²
Social media use for PD_1 * Motivation	-0.08	-1.25	0.22	4.38	0.16
Social media use for PD_2 * Motivation	-0.06	-1.10	0.27	3.89	0.15
Social media use for PD_2 * Motivation	-0.08	-1.54	0.13	4.60	0.17
	Anticipation and optimization T2				
	<i>B</i>	<i>T</i>	<i>p</i>	<i>F</i>	<i>R</i> ²
Social media use for PD_1 * Motivation	-0.08	-1.04	0.30	2.67	0.10
Social media use for PD_2 * Motivation	-0.07	-1.13	0.26	3.64	0.14
Social media use for PD_2 * Motivation	-0.06	-0.83	0.41	2.54	0.10
	Corporate sense T2				
	<i>B</i>	<i>T</i>	<i>p</i>	<i>F</i>	<i>R</i> ²
Social media use for PD_1 * Motivation	-0.08	-0.94	0.35	2.31	0.09
Social media use for PD_2 * Motivation	-0.02	-0.32	0.75	2.32	0.09
Social media use for PD_2 * Motivation	-0.05	-0.72	0.47	2.62	0.10
	Personal flexibility T2				
	<i>B</i>	<i>T</i>	<i>p</i>	<i>F</i>	<i>R</i> ²
Social media use for PD_1 * Motivation	-0.05	-0.84	0.40	2.66	0.11
Social media use for PD_2 * Motivation	-0.04	-0.81	0.42	2.81	0.11
Social media use for PD_2 * Motivation	-0.04	-0.79	0.43	3.10	0.12
	Balance T2				
	<i>B</i>	<i>T</i>	<i>p</i>	<i>F</i>	<i>R</i> ²
Social media use for PD_1 * Motivation	-0.03	-0.39	0.70	3.93	0.15
Social media use for PD_2 * Motivation	-0.06	-0.90	0.37	4.52	0.17
Social media use for PD_2 * Motivation	0.03	0.35	0.73	3.63	0.14

N = 101. Social media use for PD_1 = Social media use for professional development _ exploitation level 1. Social media use for PD_2 = Social media use for professional development _ exploitation level 2. Social media use for PD_3 = Social media use for professional development _ exploitation level 3

5. Discussion and Conclusions

The COVID-19 pandemic has undoubtedly left its mark on societies and, at the same time, it also facilitated a significant shift towards online learning (Ratten, 2020). As a consequence, the embedding of remote forms of learning (i.e., online learning) is accelerated and, increasingly, replaces traditional face-to-face educational learning (Williamson et al., 2020). As learning and employability are inseparable from each other (Van der Heijden et al., 2009), the use of social media in the light of employability comes forward. Especially since social media (e.g., LinkedIn) are recognized to be beneficial pedagogical resources and hence, may help to create a sustainable online learning environment (López-Carril et al., 2020). In this study, managing one's knowledge in terms of professional development refers to the general belief that this relates to "unlocking and leveraging the knowledge

of individuals so that this knowledge becomes available as an organizational resource” (Anand & Singh, 2011, p. 932). Furthermore, previous research has indicated that one’s motivation is an important factor in technology-based learning and one’s learning success (Ahmad et al., 2018). LinkedIn comprises the world’s largest professional online network and it shows rich potential to function as a platform for professional development and workers’ employability enhancement (Bridgstock, 2019). Besides, from a scientific perspective, Osgerby and Rush (2015) emphasized the effectiveness of social media as a development tool that has the potential to contribute to individuals’ employability as a topic worth studying.

This longitudinal, quantitative study aimed to contribute to the debate on technology-based professional development, by examining the extent to which a learning intervention affects an individual’s social media use for professional development, the extent to which this relates to self-reported employability and how this relationship is moderated by an individual’s motivation to communicate through social media (LinkedIn). In the next section, the main results of our empirical work are summarized and discussed.

5.1. The Difference in Social Media Use for Professional Development before and after the LinkedIn Intervention

In line with Hypothesis 1, we found that a well-structured learning intervention can enhance the degree of social media use for professional development. Based on this outcome, we may conclude that learning and development, being a key focus point in organizations nowadays (Sun et al., 2020), can be realized by a well-structured learning intervention. Building on social capital theory (Coleman, 1990), an employee’s network ties are important means to gain access to valuable resources. Our research indicates that training employees for using LinkedIn can be beneficial for professional development purposes. Especially in the context of academic careers, Miller et al. (2017) underpinned the importance of social networks and the opportunities to learn from these networks in an informal manner. Networking, being an important form of informal learning, comprises one of the main focal points of LinkedIn. Earlier research has also shown that such informal learning activities appear to contribute to the employability of academic staff members Van der Klink et al. (2014).

5.2. The Direct Relationships between Social Media Use for Professional Development Exploitation Levels and the Employability Dimensions

In line with Whiting and Williams (2013), we have found partial support for the positive relationship between social media use for professional development and employability (see also Martínez-Cerdá et al., 2018; Van der Heijden et al., 2009). This finding is also consistent with the notion underlying social capital theory (Coleman, 1990); getting access to resources through network ties. More specifically, in this scholarly work, we have used the three-layer framework developed by Sigala and Chalkiti (2015) to measure different levels of social media exploitation for professional development, in order to see

how these relate to the five employability dimensions as distinguished by Van der Heijden et al. (2018). In contradiction with our expectations, not all of the three exploitation levels of social media use for professional development were positively related to the five employability dimensions. Only exploitation level 2 (active discussor and user of information) appeared to relate positively to the employability dimension anticipation and optimization. This means that when one goes from being a passive receiver to an active discussor and user of information on LinkedIn, i.e., developing and maintaining interpersonal relations, and for sharing, discussing, and negotiating information with others, one's capability to prepare for and adapt to changes in one's work increases. This outcome is of utmost importance in contemporary working organizations, wherein employees have to enact their jobs and professional lives themselves (Weick, 1996). Obviously, without knowledge about a certain subject matter (i.e., occupational expertise), people cannot proactively prepare for future work demands. However, in order to really develop their capability to anticipate and optimize on all kinds of work-related changes, they have to share and discuss possible strategies and avenues for promising roads to new expertise growth with important stakeholders. Our study indicates that through networking, people are enabled to align these strategies with expectations of surrounding parties, herewith boosting their employability (see also Froehlich et al., 2018).

5.3. The Moderating Role of Motivation in the Relationship between Exploitation Levels of Social Media Use for Professional Development and the Employability Dimensions

Although previous research has found that motivation plays an important factor in technology-based learning and one's learning success (Ahmad et al., 2018), contrary to our expectations, we did not find a significant moderating role of one's motivation to communicate through social media. Motivation comprises an important element in COR theory (Hobfoll, 1989), where it represents the energizing component of competent performance (Spitzberg, 2006). It may well be that our sample of university employees are not particularly charmed by technology-based or, in our case, social media-mediated communication and therefore not so much motivated to use these for learning purposes. Academics are often using technology-based communication in their daily work, and they may rather see it as a further extension of daily operations (Morris et al., 2005). In this case, it is more the learning intervention (LinkedIn) as such that has a positive impact on their professional development, rather than their motivation to communicate through social media.

6. Practical Implications

This study also adds to the debate on the added value of technology-based learning (through social media) and its impact on employability in contemporary societies. First, it has shown the potential of an intervention on learning through social media for professional development. Where employees, nowadays, are more and more responsible for their

own employability, organizations are asked to provide them with access to associated employability-enhancing practices (Peters & Lam, 2015). A structured intervention with requirements such as LinkedIn as social media tool can provide employees with more balanced generic and domain-specific information. Moreover, the facilities that LinkedIn offers and the fact that the learning intervention is evidence-based form a good base to start from. This study also adds to the already existing knowledge on using social media (i.e., LinkedIn) by employees as a platform for learning and employability enhancement (Bridgstock, 2019). From a social perspective, the implication fits seemingly in the Egyptian context, where a rapid rise in social media use has been seen (Kamel, 2014), with great value for social media for learning (Sobaih et al., 2016). Furthermore, the finding that a well-structured learning intervention can enhance the degree of social media use for professional development in the Egyptian context shows the diversity of meanings ascribed to careers in this other economic, cultural and institutional context, overcoming the current dominating WEIRD perspective (Mayrhofer et al., 2016) of career research.

Second, the finding that using social media for professional development partially relates to employability has important implications in terms of sustainable HRM practices that are recommended for organizations. From such a sustainable HRM perspective, it is important that employees are onboard in the changing (technical) environment of social media, especially for the sake of their capability to anticipate to and optimize future changes at work. Social media use for professional development allows employees to work on their employability through innovative and interactive networking in a new type of learning context. For management in working organizations, this study gives evidence-based insights and disputes the thought of blocking social media from the work floor, as it appears to increase the potential to gain a competitive advantage (Hemsley & Mason, 2012). Furthermore, the implementation of social media adapts to the recent trend, wherein social media becomes more and more integrated in the organizational landscape (Nisar et al., 2019), and increases the amount of social interaction, albeit virtual, on the shop floor.

Finally, this study sheds more light on the role of employees' motivation to communicate through social media in the relationship of social media use for professional development and employability (no significant results were found in this regard). All in all, a well-structured intervention that is designed to increase employees' knowledge and confidence to work with and to use social media for professional development is an approach with great potential in modern working life.

7. Limitations and Recommendations for Future Research

Although this longitudinal study has given us some important new insights into the effectiveness of an intervention to foster technology-based learning, and into the relationship between social media use for professional development, motivation and employability, there are also some limitations.

First, the sample used in this empirical work was rather homogenous; all participants were from one university and all had university jobs at middle and higher levels of functioning. This limits the generalizability towards other professions. Especially since other professions may be in contact with social media to lower or higher degrees, this could have influenced our outcomes. Future research could use a more heterogeneous sample to find out more about generalizability.

Second, since the sample originated from one specific university, the demographic characteristics are limited. With an eye to possible cross-cultural and organizational differences and related stages of embedding of social media in the cultural and organizational landscape, more research across countries is necessary. The specific lack of significant results for Hypothesis 3 and the moderating role of motivation might be due to this sampling limitation. More specifically, our participants seem not to be considerably affected by their motivation to communicate through social media, perhaps as technology-based communication is already embedded in their daily work. Future studies may include participants from different countries and/or different organizations, and holding various levels of functioning. Furthermore, future approaches might also take other demographic variables into account.

Third, although the data are interpreted as longitudinal, as done in similar research designs (Griffin et al., 2010), there were only two measurement points in time. Furthermore, there was no control group, meaning that some of the results obtained could have come forward by uncontrolled elements in the research process. Future empirical work could include more measurement points in the longitudinal design (De Lange, 2005). Preferably, a control group would complete this set-up to take away the potential effect of uncontrolled elements in the research process.

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Chapter 4

Study 3: Do you really want to hurt me? The impact of contextual factors on the moderating role of dark leadership in the relationships between learning climate facilitation, employability and turnover intention in the Netherlands and China

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Abstract

Both the Dutch and Chinese labor markets experience severe shortages of skilled personnel and high turnover rates, being distressing socio-economic factors. At the same time, large cross-cultural studies indicate that these national contexts are highly different from a socio-cultural perspective. When considering issues on employee development and retainment, the public debate opens for negative attributes as dark leadership, wondering if employees accept to be hurt. This study contributes to the employability research and, moreover, it contributes to the call for the ability to contextualize theories and to the convergence/divergence debate. We applied Western theories to investigate possible contextual differences in the relationships between learning climate facilitation and turnover intention, and to investigate whether this relationship is mediated by employability, and whether dark leadership is a possible moderator. To test our hypotheses, we collected data from 368 Dutch and 319 Chinese respondents who participate in an executive master's program, which was analyzed using PLS-Structural Equation Modeling. Employees in the Netherlands and China were found to interpret our study variables differently. Separate analyses revealed that, in both contexts, learning climate facilitation was both directly and indirectly, via the balance dimension of employability, negatively related to turnover intention. In addition, in the Dutch sample, dark leadership appeared to weaken the relationship between learning climate facilitation and the corporate sense dimension of employability, but the latter did not seem to be a mediator in the relationship with turnover intention. In the Chinese sample, no moderation effects were found. Our results show that both learning climate facilitation and dark leadership are important factors in the development and retainment of personnel and that particularly focusing on 'balancing group and individual goals' is important to retain personnel, regardless of national context. The latter may indicate the need for convergence of HR practices. At the same time, however, the different interpretations of the study's variables may indicate divergence in the meaning of HR concepts. In the discussion section, we elaborate on the study's implications for HR-researchers and -practitioners in national and global business contexts.

Keywords

learning climate facilitation, dark leadership, employability, turnover intention, cross-national

1. Introduction

Across the globe, the COVID-19 pandemic has had implications for both people's daily (e.g., health conditions, distress, and life satisfaction) and working (e.g., working from home) lives (Zhang et al., 2020). In its aftermath, in both Western and Eastern contexts, people are facing socio-economic challenges, such as dealing with substantial labor-market shortages (Cui et al., 2018; CBS, 2019) that cause difficulties for organizations to attract and retain personnel (De Winne et al., 2019). More specifically, organizations experience challenges and instability, which calls for higher levels of employee agility, curiosity, risk mitigation, learning by exploring, and learning by doing, as these characteristics can enhance organizations' survival chances and competitiveness (Levenson, 2020). In view of this, the importance of a focus on maintaining and enhancing individuals' employability and facilitating learning opportunities (Buheji and Buheji, 2020) is evident. Employability can be defined as "the continuous fulfilling, acquiring or creating of work through the optimal use of competences" (Van der Heijde and Van der Heijden, 2006, p. 453). Enhancing individuals' employability implies that organizations need to develop a learning climate that enables and motivates employees to make use of the learning opportunities offered, such that they can indeed increase their individual capabilities and performance (Van der Heijden and Bakker, 2011). Learning climate can be defined as "employees' perceptions of organizational policies and practices aimed at facilitating, rewarding and supporting employee learning behavior" (Nikolova et al., 2014a, p. 259). This three-dimensional construct refers to facilitation, appreciation, and error avoidance. This study focuses on learning climate facilitation, i.e., organizational efforts to guide, shape and accelerate the learning processes within the organization, since this dimension may help organizations to optimize employees' process of learning at work (Nikolova et al., 2014a). Particularly, it is found that facilitating employees' learning opportunities is essential for employee learning and professional development (Marsick & Watkins, 2003; Nikolova et al., 2014b).

Generally, with employability-enhancing activities, organizations may be able to reduce employees' voluntary turnover intentions (Hom et al., 2012). However, we posit that the relationship between employees' learning opportunities, employability, and turnover intention may be contingent on how employees perceive and interpret their leaders' behaviors. Recently, more attention has been paid to dark leadership, in this study operationalized by abusive supervision (Tepper, 2000), as this can affect employees' motivation to make use of the learning opportunities offered by the organization and, hence, their employability. Dark leadership is defined as "subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact" (Tepper, 2000, p. 178). Moreover, research shows that employees who experience dark leadership are more likely to quit their jobs (Tepper et al., 2009). Perhaps, employees who perceive having options to learn and develop themselves, but perceive dark leadership at the same time, may feel they have less opportunities to make use of, or to benefit from their learning options, which may affect their employability and, in turn, may enhance their turnover intention (Acikgoz et al., 2016; Akkermans et al., 2019; Rodrigues et al., 2020).

How employees perceive and respond to Human Resource (HR) practices and leadership style, however, may be contingent on the national context in which they operate of which culture is an important factor. Context refers to the “set of factors surrounding a phenomenon that exert some direct or indirect influence on it” (Whetten, 2009, p. 31). In this vein, Western and Eastern contexts can be characterized by different socio-cultural characteristics; the Netherlands, for example, can be characterized as individualistic, whereas China can be characterized as collectivistic (House et al., 2004; Hofstede Insights, 2022). In view of the call for more context-sensitive organizational research to be able to contextualize theories (Whetten, 2009; Zhu & Warner, 2019; Xiao & Cooke, 2022), this study taps into the convergence-divergence debate as discussed by Cooke et al. (2021). Essentially, this debate started with scholars arguing for the convergence thesis, based on similarities across nations and cultures (cf. Harbison & Meyers, 1959), being countered by cross-cultural scholars arguing for the divergence thesis, based on differences in (cultural) norms and values (cf. Hofstede, 1991). Addressing the convergence-divergence debate in the Dutch and Chinese contexts gives us reason to question whether employees respond to dark leadership when it comes to the opportunities they take for learning as signaled by their organization’s learning climate and its consequences for employability enhancement and, subsequently, turnover intention. Possibly, in view of the more individualistic context, Dutch employees may notice and respond to dark leadership by altering their investments in their employability and, in turn, their turnover intention. On the contrary, for China, being a country with a more collectivistic character, this reaction of employees may differ due its different contextual characteristics. When considering issues on employee development and retainment, however, such presumed cross-cultural differences are hardly accounted for, neither in HR theory nor in practice, and it can be questioned whether that is an omission in globalizing (labor) markets, as has been discussed in the convergence/divergence debate (cf. Cooke et al., 2021).

This study contributes to the employability research. To the best of our knowledge, no previous research has investigated the relationships between employability and turnover intention, using a competence-based operationalization of employability. In particular, earlier work in the field of turnover intentions and behaviors has conceptualized employability as perceived job chances, both inside and outside one’s current organization (i.e., perceived internal and external employability; De Cuyper et al., 2011a; Nelissen et al., 2017; Baranchenko et al., 2020). Besides, we add to what is already known in the employability literature by investigating the possible moderation effect of dark leadership in the relationship between learning value of the job and employability. Moreover, this study contributes to the call for the ability to contextualize theories and to the convergence/divergence debate. More specifically, this empirical study builds on Western theories and mechanisms to investigate possible contextual differences in the relationships between learning climate facilitation and turnover intention, and whether this relationship is mediated by employability, and whether dark leadership is a possible moderator in this regard. Figure 1 shows the conceptual model that will be tested to address our research question.

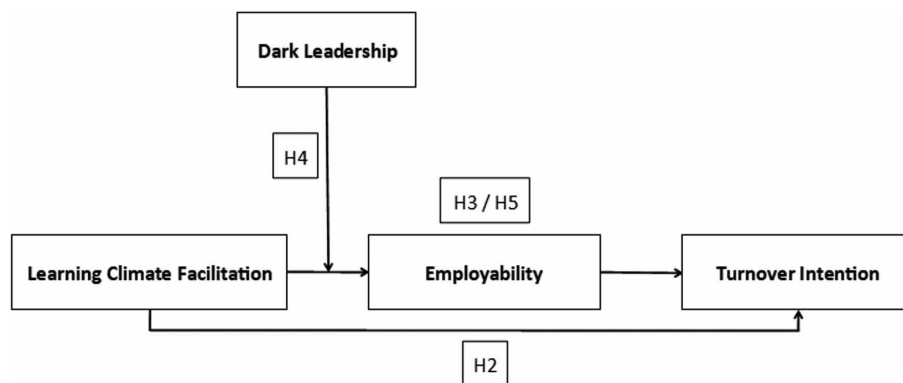


Figure 1. Conceptual Model

2. Conceptual framework

2.1. Perspectives from the Netherlands and China

Marked by globalization, technological developments, and broader socio-economic, geopolitical, and demographic changes, contemporary complex business contexts require organizations to focus on identifying, attracting, recruiting, developing, and retaining talent (Claus, 2019; Reiche et al., 2019). It has been acknowledged, however, that national context, with their own socio-cultural characteristics, may be an influential factor regarding these focus points. According to Hofstede Insights (2022) and the GLOBE project (House et al., 2004), the Netherlands and China differ dramatically in terms of socio-cultural contextual characteristics. According to Hofstede Insights (2022), the Netherlands is characterized as individualistic with low power distance, high uncertainty avoidance, and high indulgence, whereas China is characterized as collectivistic and as having high power distance, low uncertainty avoidance, and low indulgence. Furthermore, the particular focus on leadership in the GLOBE project shows that leaders in the Netherlands are less autonomous (i.e., the degree to which leaders are independent and individualistic) and less self-protective (i.e., the degree to which leaders focus on ensuring the safety and security of the individual and group through status enhancement and face saving) than leaders in China (House et al., 2004). In empirical research in different national contexts, it is important to note that for meaningfully comparing the mean scores of latent factors, the measurement structures underlying the latent factors used in the research (displayed through a specific set of scale items) should be stable, that is ‘invariant’ (Van de Schoot et al., 2015). Obviously, this is not automatically the case, especially since differences may exist in the prevalence of HR practices (e.g., career development-related ones) in the Netherlands and China (cf. Verburg et al., 1999; Van Dierendonck et al., 2016). Also leadership (style) is shown to be deeply rooted in the national contexts’ historical developments (Lin et al., 2018), which makes us believe that leadership behaviors are portrayed differently in the Netherlands and China.

Since socio-cultural characteristics may influence the design and implementation of HR and leadership practices, and their conceptual interpretations (Kim & Wright, 2011), it is crucial to explore the role of socio-cultural characteristics when investigating constructs in different national contexts. Based on the outline given above, we have formulated the following hypothesis:

H1: *Employees in the Netherlands and China differ regarding their conceptual interpretation of the variables in this study (i.e., learning climate facilitation, dark leadership, employability, and turnover intention).*

2.2. Learning climate facilitation and turnover intention

Employees' turnover intentions and their actual quitting behaviors prompt negative organizational outcomes, including financial costs (e.g., recruitment and selection) and loss of highly skilled, talented, and perhaps difficult-to-replace human resources (Lee and Liu, 2007; Hom et al., 2012). High turnover is particularly troublesome for organizations in tight labor markets, given the loss of (firm-specific and general) knowledge and skills, the transfer of that knowledge and skills to a rival organization, and potential deterrence of other employees in the future (Kraimer et al., 2009; Knocke & Schuster, 2017). At the same time, present-day work is changing at an ever-increasing rate and can be constantly restructured in nature (Fugate et al., 2021). This demands of organizations that they have a strong learning climate for their employees that enables them to cope with changing internal and external environments. Even though the construct learning climate by Nikolova et al. (2014a) is three-dimensional (i.e., facilitation, appreciation, and error avoidance), this study focusses on learning climate facilitation only. More specifically, to remain competitive in a fast-changing global economy, an organizational climate that facilitates employees' workplace learning is essential for an organization to survive (Kyndt et al., 2009; Nikolova et al., 2014a). Allen et al. (2003) already found that perceived organizational support, e.g., the facilitation of a learning climate, can reduce employee turnover. Other research also found that a learning climate reduces negative employee outcomes, such as turnover intention (Egan et al., 2004; Govaerts et al., 2011; Lin & Huang, 2021). This is particularly so since providing a high-quality learning environment signals that organizations value their employees (Egan et al., 2004; Joo, 2010). Hence, we have formulated the following hypothesis:

H2: *Learning climate facilitation is negatively related with turnover intentions.*

2.3. The mediating role of employability in the relationship between learning climate facilitation and turnover intention

To survive in contemporary labor markets, protecting and enhancing individuals' employability is essential (De Vos & Van der Heijden, 2017; Van der Heijden & Spurk, 2019; Stoffers et al., 2020). This, however, is not the responsibility of individual employees alone. Rather, it has been widely acknowledged that organizations should support or facilitate

their employees to sustain and enhance their employability (Van Harten et al., 2016; Van der Heijden et al., 2018). Research shows that a learning climate is a precursor to valuable outcomes, such as employees' learning intentions, positive attitudes toward learning, and participation in learning (Govaerts et al., 2011; Hauer et al., 2012). Indeed, employability can be stimulated by developing an organizational learning climate that promotes employee learning, resulting in the acquisition of new knowledge, skills, and abilities (Nikolova et al., 2016), which provide employees with sufficient opportunities to improve their competencies (Osagie et al., 2018), and hence, their employability (Van der Heijde and Van der Heijden, 2006; Van der Heijden et al., 2018; Crans et al., 2021). This is especially important in an environment characterized by organizational change (Nikolova et al., 2016).

However, there is no consensus on the relationship between employability and turnover intention. This knowledge gap is described in the 'traditional' flexibility/commitment paradox (management paradox) (Van der Heijde & Van der Heijden, 2006; De Cuyper & De Witte, 2011). This paradox is defined as "a tension between the contribution of employability to employee well-being and performance, on the one hand, versus its contribution to undesired turnover, on the other hand" (De Cuyper et al., 2011b, p. 1486–1487). In other words, it stresses organizations' fear of a loss of commitment and external mobility among employees with a high career potential (Van der Heijde & Van der Heijden, 2006) resulting from employability investments. Next to the 'traditional' flexibility/commitment paradox, scholars also proposed the notion of the 'inverted' flexibility/commitment paradox (Peters & Lam, 2015), which refers to employability aimed at enhancing the organizations' adaptability, flexibility, effectiveness, and efficiency. In view of this, Human Resource Management (HRM) is aimed at attracting and developing skilled and committed workers who can both easily rotate in their work (i.e., functional flexibility), and who are also focused on external mobility (Peters & Lam, 2015). In this case, the focus is on the idea that HRM's main goal of their employability policy is not to foster employees' internal labor market orientation and long-term commitment but rather to enhance both their (short-term) commitment and their flexibility and labor market mobility.

Indeed, empirical research found mixed results in the (indirect) relationship between employability and turnover intention. So far, to the best of our knowledge, all research dealing with the relationship between employability and turnover intention incorporated measures of employability conceptualizing perceived job chances at the internal and/or external labor markets. For example, Hom et al. (1992) found a positive association between employability and turnover intention and while testing the employability paradox, Nelissen et al. (2017) also found that employability relates positively to turnover intention, however, only in terms of upward career development.

On the other hand, De Cuyper et al. (2011a) found no direct relationship between employability and turnover intention, and Akkermans et al. (2019) reported that perceived investments in HR practices relate positively with organizational commitment. Recently, Rodrigues et al. (2020) found that when an organization invests in employees' career development (and in case the employee is receptive), it has a positive impact on their intention to

stay with the employer, and, moreover, they found a negative association between employability and turnover intention.

Building on these mixed results, we strive to shed more light on the phenomenon by introducing a competence-based operationalization of employability (Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2018) that mediates the negative relationship between learning climate facilitation and turnover intention. Hence, we have formulated the following hypothesis:

H3: *Employability mediates the negative relationship between learning climate facilitation and turnover intention.*

2.4. The moderating role of dark leadership in the relationship between facilitating learning climate and employability

Scholarly work in the field of leadership focuses mainly on constructive leadership styles since leadership behavior that supports and reinforces learning can enhance employability (Stoffers et al., 2019). However, researchers in other fields have also investigated the phenomenon of dark leadership. This has not been done without reason, since research showed that destructive leadership is an enduring problem for organizations due to its adverse and expensive effects on turnover (Tepper et al., 2006). The recent literature review by Mackey et al. (2021) gave an overview of definitions for various styles of destructive leadership. Abusive supervision (Tepper, 2000) has been especially influential in the literature (Mackey et al., 2021). The recent systematic reviews on abusive supervision by Fischer et al. (2021) and Goute et al. (2021) show that Tepper (2000) definition of abusive supervision is widely used in empirical research. The reviews referred to above presented us with a rather uniform picture: abusive supervision is ‘bad news’ (Fischer et al., 2021). Furthermore, another recent meta-analytic review by Landay et al. (2019) indicated a concern regarding the potential prevalence of individuals with psychopathic tendencies in corporate leadership positions and the negative effects they may have on both individuals and their organizations in practice. They found a negative association for psychopathic tendencies and leadership effectiveness amongst others towards employees. The meta-analysis by Schyns and Schilling (2013) also demonstrated negative correlations between dark leadership, on the one hand, and positive follower outcomes and behaviors (e.g., attitudes toward a leader, wellbeing, and individual performance), on the other hand, and, similarly, positive correlations with negative outcomes (e.g., turnover intentions, resistance toward a leader, and counterproductive work behaviors).

To the best of our knowledge, up until now, the phenomenon of dark leadership has not been investigated in relation to workers’ employability. Incorporating the possible role of dark leadership as a moderator in the relationship between facilitating learning climate and employability is crucial given the dual responsibility for employability enhancement, that is both the employee and the supervisor need to invest in these (Van der Heijden, 2005).

Possibly, employees who perceive having options to learn and to develop themselves but who perceive dark leadership at the same time, may feel less motivated due to reduced self-efficacy, and, as such, they perceive to have fewer opportunities to make use of the learning options offered by the organization. The latter may affect their employability and, ultimately, may have consequences for their turnover intention (Acikgoz et al., 2016; Akkermans et al., 2019; Le Blanc et al., 2019; Rodrigues et al., 2020). In other words, in a context in which employees experience dark leadership, employees may be less motivated and more hindered to take advantage of the learning options offered, which may affect their employability, and, indirectly, their turnover intention. Based on the outline given above, we have formulated the following hypotheses:

H4: *Dark leadership moderates the positive relationship between learning climate facilitation and employability, such that this relationship is weaker for employees who experience a higher degree of dark leadership.*

H5: *The interaction effect between dark leadership and learning climate facilitation has an indirect effect through employability on turnover intention.*

3. Methods

3.1. Participants and procedures

To test our hypotheses, we used a quantitative approach with a cross-sectional research design. To comply with the need to conduct more research with higher levels of contextual analysis, we gathered data from the Netherlands and China, as they experience similar socio-economic challenges, such as labor shortages and the COVID-19 pandemic but, at the same time, have different national contexts (Cui et al., 2018; CBS, 2019). China is particularly interesting to incorporate in our study as the opening-up policy and its reforms in 1978 have led to remarkable economic performance, primarily because of its abundance of cheap labor (Cui et al., 2018). Correspondingly, the Chinese labor market has experienced high-speed developments over the past decennia. More specifically, over the last three decades, HRM has emerged as a discipline and research field of interest for (Chinese) scholars (Cooke et al., 2021) making human capital a highly interesting topic to be studied empirically.

In both national contexts, respondents were approached through the research team's personal contacts (i.e., convenience sampling). They were employees at middle and higher management levels, with some years of work experience and were recruited via several part-time master's programs. In return for participating in the research, all respondents received a personalized employability report of their own employability scores set off against a benchmark. The respondents could use this in their personal development component of their master's program. The final sample comprised 382 Dutch and 319 Chinese respondents. In the Dutch sample 46% were male and 54% female, and the average age

was 47.34 years ($SD = 10.13$). Furthermore, 79% of the respondents had a fixed contract, 12% a temporary contract, and 9% were self-employed. In the Chinese sample 59% were male and 41% female with an average age of 37.24 ($SD = 4.58$). In this Chinese sample, 85% had a fixed contract, 9% a temporary contract, and 6% were self-employed.

3.2. Measures

Learning climate facilitation was measured using a validated scale (Nikolova et al., 2014a,b), comprising three items. A sample item was “My organization provides appealing learning opportunities.” Responses were reported using a Likert-type scale that ranged from 1 (not applicable at all) to 5 (fully applicable).

Dark leadership was measured using the abusive supervision scale (Tepper, 2000). Respondents completed Tepper (2000) 15-item measure of abusive leadership. A sample item was: “My boss tells me my thoughts or feelings are stupid.” The items were scored using a Likert-type scale that ranged from 1 (strongly disagree) to 7 (strongly agree). Employability was measured using the thoroughly validated 22-item short form version (Van der Heijden et al., 2018) of the 47-item employability five-factor instrument (Van der Heijde & Van der Heijden, 2006). Tests of the instrument’s reliability and validity, including assessments of convergent, discriminant, and predictive validity (for career success), have yielded satisfactory psychometric results (Van der Heijden et al., 2018). The instrument comprises the following dimensions: occupational expertise (5 items); anticipation and optimization (4 items); personal flexibility (5 items); corporate sense (4 items); and balance (4 items). Sample items for employability include: “I consider myself competent to provide information on my work in a way that is comprehensible” (occupational expertise); “I consciously devote attention to applying my newly acquired knowledge and skills” (anticipation and optimization); “I adapt to developments within my organization” (personal flexibility); “I share my experience and knowledge with others” (corporate sense); and “I achieve a balance in alternating between reaching my own career goals and supporting my colleagues” (balance). All items were scored using a Likert-type scale that ranged from 1 (not at all/never) to 6 (considerable degree/very often), depending on an item’s wording.

Turnover intention was measured using a 3-item scale from Cammann et al. (1979). A sample item was “I often think of leaving the organization.” Items were scored using a Likert-type scale that ranged from 1 (totally disagree) to 5 (totally agree).

3.3. Analyses

We conducted PLS-SEM, using the SmartPLS version 4.0.8.5 (Ringle et al., 2022). For the partial least square algorithm, we used the path weighting scheme, and we set the maximum number of iterations at 300. We used 10^{-5} as our stop criterion and a uniform value of 1 as the initial value for each of the outer weights (Henseler, 2010). The sample size was acceptable using Barclay et al. (1995) rule of thumb, suggesting the use of ten times the maximum number of paths aiming at any construct in the outer and inner models. Items were based on 5-point, 6-point and 7-point Likert-scales and could be interpreted as continuous variables, thus following the fundamental OLS principles.

4. Results

4.1. Model characteristics

For the outer model evaluation, we first examined reliability. All the scales appeared to be reliable (Nunnally, 1978) and no item had to be removed (see Table 1 for all details). Second, we checked for convergent validity using Fornell and Larcker's criterion of an Average Variance Extracted (AVE) for each construct above the 0.5 benchmark (Fornell & Larcker, 1981). In this respect, we also did not have to remove any items to have sufficient convergent validity (see Table 1).

Finally, we checked for discriminant validity, comparing the AVEs of the constructs with the inter-construct correlations determining whether each latent variable shared greater variance with its own measurement variables or with other constructs (Fornell & Larcker, 1981; Chin, 1998). We compared the square root of the AVE for each construct with the correlations with all other constructs in the model (see Table 2). A correlation between constructs exceeding the square roots of their AVEs indicates that they may not be sufficiently discriminable (see Table 2 for all details). For each construct, we found that the absolute correlations did not exceed the square roots of the AVEs. As such, there was support for sufficient reliability and validity of all measurements in our research model.

Table 1. Overview reliability and construct validity scores of the constructs

	N	Theoretical Range	Actual Range	Mean	SD	Cronbach Alfa	AVE
Learning Climate Facilitation	687	1.00 -5.00	1.00 – 5.00	3.24	0.90	0.85	0.77
Dark Leadership	687	1.00 -7.00	1.00 – 7.00	2.12	1.09	0.95	0.62
Occupational Expertise	687	1.00 -7.00	1.40 – 6.00	4.75	0.61	0.8	0.54
Anticipation and Optimization	687	1.00 -7.00	2.00 – 6.00	4.11	0.73	0.74	0.55
Personal Flexibility	687	1.00 -7.00	1.00 – 6.00	4.6	0.6	0.8	0.55
Corporate Sense	687	1.00 -7.00	1.25 – 6.00	4.35	0.78	0.75	0.57
Balance	687	1.00 -7.00	1.50 – 6.00	3.88	0.77	0.75	0.55
Turnover Intention	687	1.00 -5.00	1.00 – 5.00	2.93	0.96	0.8	0.69

Table 2. Correlation table, numbers shown in boldface denote the square root of the Average Variance Extracted

	1	2	3	4	5	6	7	8
Learning Climate Facilitation (1)	0.89							
Dark Leadership (2)	-0.38**	0.7						
Occupational Expertise (3)	0.17	-0.13**	0.73					
Anticipation and Optimization (4)	0.28**	-0.14**	0.40**	0.74				
Personal Flexibility (5)	0.32**	-0.30**	0.50**	0.48**	0.74			
Corporate Sense (6)	0.30**	-0.24**	0.38**	0.60**	0.52**	0.75		
Balance (7)	0.41**	-0.36**	0.22**	0.25**	0.34**	0.30**	0.74	
Turnover Intention (8)	-0.52**	0.39**	-0.06	-0.22**	-0.20**	-0.25**	-0.41**	0.83

Significance correlations: **= $p < 0.01$

4.2. Common-method variance

As this research was conducted using a self-administered survey method, we tested for Common-Method Variance (CMV) to have evidence that there is no systematic bias which might have influenced the collected data (Podsakoff et al., 2003). We used a two-step approach. First, following Podsakoff and Organ (1986), we used Harman (1976) one-factor test. Following this approach, all principal constructs were entered into one principal component factor analysis. Using SPSS Software (SPSS version 27 for MAC OS), the one-factor extraction and non-rotation method was applied. Results showed that only one factor emerged, explaining less than 50 percent of the variance (25.20%), which gives a first indication of no common-method variance. Second, we used Bagozzi's method (Bagozzi et al., 1991) which stresses that CMV occurs when the highest correlation between constructs is more than 0.9. As shown in Table 2, the highest correlation between constructs is 0.60 (correlation between Anticipation and Corporate Sense). Therefore, it appears that there is no CMV in the collected data.

4.3. Differences between the Dutch and Chinese sample

To find out whether the group of Dutch and Chinese respondents interpreted the study's core variables in a similar manner, we used the Measurement Invariance of Composite Models (MICOM) procedure (cf. Hair et al., 2017), which is considered a proper avenue to a group's uniqueness when exploring significant differences between two groups (Sarstedt et al., 2011; Henseler et al., 2016). The first step of the MICOM procedure is to test for configural invariance to examine whether each common factor was associated with identical item sets across the two distinguished groups. Configural invariance means that a latent variable, which has been specified equally, emerges as a unidimensional entity across the two groups (Henseler et al., 2016). As shown in Table 1, and as discussed in the previous section, all constructs showed sufficient reliability and validity for both groups and were used as an input for the next step.

As a second step, the compositional invariance was tested. The results indicate whether the latent variables are formed differently in the two groups (Henseler et al., 2016). In this analysis, the correlation (r) between, on the one hand, the composite scores using the weights obtained from the first group and, on the other hand, the composite scores using the weights obtained from the second group, were compared using a permutation test (Henseler et al., 2016). Henseler et al. (2016) proposed that the correlation r should be equal to one. If the correlation c diverges significantly from 1, no support is found for compositional invariance. To statistically test for compositional invariance, we proposed a two-step procedure. The second step comprises q permutation test over the correlation c (Chin & Dibbern, 2010). The outcomes of the second step in the permutation test yielded insufficient support for compositional invariance (Henseler et al., 2016), given that for multiple variables (i.e., corporate sense and dark leadership) the correlations c between the two distinguished groups were significantly different. As such, no support was found for compositional invariance (see Table 3). Furthermore, in step 3 (cf. Hair et al., 2017), in which the differences between the equal means (see Table 4) and equal variances (see Table 5) are calculated, also significant differences for most of the constructs were found.

Table 3. Step 2 in the MICOM procedure

	Original correlation	Correlation permutation mean	5..00%	Permutation P value
Learning Climate Facilitation	1	1	1	0.66
Dark Leadership	1	1	1	0.04
Occupational Expertise	0.89	0.94	0.84	0.11
Anticipation and Optimization	0.97	0.99	0.97	0.09
Personal Flexibility	0.99	0.99	0.98	0.14
Corporate Sense	0.98	0.99	0.98	0.05
Balance	1	1	0.99	0.43
Turnover Intention	1	1	1	0.80

Table 4. Step 3a in the MICOM Procedure (Mean)

	Original difference	Permutation mean difference	2.5%	97.5%	Permutation P value
Learning Climate Facilitation	-0.34	0.00	-0.14	0.16	0.00
Dark Leadership	0.60	0.00	-0.16	0.15	0.00
Occupational Expertise	-0.07	0.00	-0.15	0.15	0.36
Anticipation and Optimization	-0.35	-0.01	-0.17	0.14	0.00
Personal Flexibility	-0.64	0.00	-0.16	0.15	0.00
Corporate Sense	-0.46	0.00	-0.14	0.14	0.00
Balance	-0.28	0.00	-0.16	0.16	0.00
Turnover Intention	0.06	0.00	-0.14	0.16	0.46

Table 5. Step3b MICOM Procedure (Variances)

	Original difference	Permutation mean difference	2.5%	97.5%	Permutation P value
Learning Climate Facilitation	-0.05	0.00	-0.19	0.18	0.58
Dark Leadership	-0.04	0.00	-0.27	0.26	0.75
Occupational Expertise	0.13	0.00	-0.28	0.30	0.38
Anticipation and Optimization	-0.26	0.00	-0.21	0.22	0.02
Personal Flexibility	0.08	0.00	-0.28	0.27	0.59
Corporate Sense	-0.28	0.00	-0.20	0.19	0.04
Balance	0.23	0.00	-0.24	0.21	0.05
Turnover Intention	-0.34	0.00	-0.19	0.17	0.00

The MICOM analysis demonstrated insufficient measurement invariance for both groups, which indicates that the group of Dutch respondents interpreted the measures in a conceptually different way compared to their Chinese counterparts. This outcome provides support for Hypothesis 1 [Employees in the Netherlands and China differ regarding their conceptual interpretation of the variables in this study (i.e., learning climate facilitation, dark leadership, employability, and turnover intention)], as the constructs of learning climate facilitation, dark leadership, employability, and turnover intention demonstrated significantly different interpretations across the two national contexts.

4.4. Model estimations

Regarding the inner model evaluation and estimates, we analyzed the path coefficients by using bootstrap t-statistics, using 5,000 subsamples, with a bias-corrected bootstrap, testing for a two-tailed significance of 95% (Anderson & Gerbing, 1988). The model showed a good fit to our data: the Standardized Root Mean Square Residual (SRMR) was 0.06, which is in line with Hu and Bentler (1998) criterion of a lower value than 0.08. As the MICOM procedure demonstrated that the groups were different, we tested Hypotheses 2, 3, 4 and 5 for the Dutch and Chinese groups of respondents separately.

To test the hypotheses, we used a two-step approach. First, we calculated the direct effects for the paths in the model (see Tables 6a, 7a). Second, we calculated the indirect effects for the paths in the model (see Tables 6b, 7b). Last, we tested the predicting power using f^2 effect size of Cohen (1988) in the direct effects to indicate whether each construct had a weak, average, or strong effect on each of the related constructs (see Tables 6a, 7a).

Table 6a. Direct effects Dutch respondents

	<i>γ</i>	Standard deviation	T statistics	f ² values	P values
Learning Climate Facilitation → Occupational Expertise	0.16	0.09	1.79	0.02	0.07
Learning Climate Facilitation → Anticipation and Optimization	0.25	0.05	4.62	0.06	0.00
Learning Climate Facilitation → Personal Flexibility	0.19	0.05	3.48	0.03	0.00
Learning Climate Facilitation → Corporate Sense	0.21	0.06	3.68	0.04	0.00
Learning Climate Facilitation → Balance	0.28	0.05	5.77	0.08	0.00
Learning Climate Facilitation → Turnover Intention	-0.43	0.04	9.80	0.25	0.00
Dark Leadership x Learning Climate Facilitation → Occupational Expertise	0.07	0.08	0.85	0.00	0.40
Dark Leadership x Learning Climate Facilitation → Anticipation and Optimization	0.01	0.05	0.24	0.00	0.81
Dark Leadership x Learning Climate Facilitation → Personal Flexibility	0.00	0.05	0.04	0.01	0.97
Dark Leadership x Learning Climate Facilitation → Corporate Sense	-0.14	0.06	2.46	0.01	0.01
Dark Leadership x Learning Climate Facilitation → Balance	0.06	0.06	1.03	0.03	0.30
Dark Leadership → Occupational Expertise	-0.06	0.08	0.69	0.00	0.49
Dark Leadership → Anticipation and Optimization	-0.02	0.07	0.23	0.00	0.82
Dark Leadership → Personal Flexibility	-0.14	0.07	2.11	0.01	0.04
Dark Leadership → Corporate Sense	-0.13	0.07	1.90	0.01	0.06
Dark Leadership → Balance	-0.19	0.07	2.98	0.03	0.00
Occupational Expertise → Turnover Intention	0.10	0.07	1.52	0.01	0.13
Anticipation and Optimization → Turnover Intention	-0.10	0.05	1.92	0.01	0.06
Personal Flexibility → Turnover Intention	0.04	0.06	0.80	0.00	0.42
Corporate Sense → Turnover Intention	-0.07	0.05	1.45	0.00	0.15
Balance → Turnover Intention	-0.26	0.05	5.03	0.09	0.00

Table 6b. Indirect effects Dutch sample

	<i>γ</i>	Standard deviation	T statistics	P values
Learning Climate Facilitation → Occupational Expertise → Turnover Intention	0.02	0.01	1.09	0.28
Learning Climate Facilitation → Anticipation and Optimization → Turnover Intention	-0.03	0.01	1.79	0.07
Learning Climate Facilitation → Personal Flexibility → Turnover Intention	0.01	0.01	0.73	0.46
Learning Climate Facilitation → Corporate Sense → Turnover Intention	-0.02	0.01	1.29	0.20
Learning Climate Facilitation → Balance → Turnover Intention	-0.07	0.02	3.77	0.00
Dark Leadership x Learning Climate Facilitation → Occupational Expertise → Turnover Intention	0.01	0.01	0.74	0.46
Dark Leadership x Learning Climate Facilitation → Anticipation and Optimization → Turnover Intention	0.00	0.01	0.22	0.83
Dark Leadership x Learning Climate Facilitation → Personal Flexibility → Turnover Intention	0.00	0.00	0.02	0.98
Dark Leadership x Learning Climate Facilitation → Corporate Sense → Turnover Intention	0.01	0.01	1.19	0.24
Dark Leadership x Learning Climate Facilitation → Balance → Turnover Intention	-0.02	0.02	1.00	0.32
Dark Leadership → Occupational Expertise → Turnover Intention	-0.01	0.01	0.54	0.59
Dark Leadership → Anticipation and Optimization → Turnover Intention	0.00	0.01	0.21	0.84
Dark Leadership → Personal Flexibility → Turnover Intention	-0.01	0.01	0.70	0.49
Dark Leadership → Corporate Sense → Turnover Intention	0.01	0.01	0.95	0.34
Dark Leadership → Balance → Turnover Intention	0.05	0.02	2.60	0.01

Table 7a. Direct effects Chinese respondents

	<i>γ</i>	Standard deviation	T statistics	f ² values	P values
Learning Climate Facilitation → Occupational Expertise	0.14	0.08	1.69	0.02	0.09
Learning Climate Facilitation → Anticipation and Optimization	0.31	0.06	5.14	0.10	0.00
Learning Climate Facilitation → Personal Flexibility	0.32	0.06	5.53	0.11	0.00
Learning Climate Facilitation → Corporate Sense	0.29	0.06	5.32	0.09	0.00
Learning Climate Facilitation → Balance	0.35	0.05	6.91	0.15	0.00
Learning Climate Facilitation → Turnover Intention	-0.36	0.05	6.93	0.15	0.00
Dark Leadership x Learning Climate Facilitation → Occupational Expertise	-0.10	0.07	1.54	0.01	0.13
Dark Leadership x Learning Climate Facilitation → Anticipation and Optimization	-0.08	0.06	1.25	0.01	0.21
Dark Leadership x Learning Climate Facilitation → Personal Flexibility	-0.10	0.06	1.55	0.01	0.12
Dark Leadership x Learning Climate Facilitation → Corporate Sense	-0.06	0.06	1.03	0.00	0.30
Dark Leadership x Learning Climate Facilitation → Balance	-0.05	0.06	0.95	0.00	0.34
Dark Leadership → Occupational Expertise	-0.14	0.08	1.62	0.02	0.11
Dark Leadership → Anticipation and Optimization	0.01	0.08	0.13	0.00	0.90
Dark Leadership → Personal Flexibility	-0.20	0.07	2.99	0.04	0.00
Dark Leadership → Corporate Sense	-0.19	0.07	2.72	0.04	0.01
Dark Leadership → Balance	-0.26	0.06	4.59	0.07	0.00
Occupational Expertise → Turnover Intention	0.12	0.06	1.90	0.01	0.06
Anticipation and Optimization → Turnover Intention	0.02	0.07	0.30	0.00	0.76
Personal Flexibility → Turnover Intention	-0.06	0.06	0.88	0.00	0.38
Corporate Sense → Turnover Intention	-0.13	0.07	1.98	0.01	0.05
Balance → Turnover Intention	-0.23	0.06	4.22	0.06	0.00

Table 7b. Indirect effects Chinese respondents

	Y	Standard deviation	T statistics	P values
Learning Climate Facilitation → Occupational Expertise → Turnover Intention	0.02	0.01	1.17	0.24
Learning Climate Facilitation → Anticipation and Optimization → Turnover Intention	0.01	0.02	0.30	0.77
Learning Climate Facilitation → Personal Flexibility → Turnover Intention	-0.02	0.02	0.85	0.40
Learning Climate Facilitation → Corporate Sense → Turnover Intention	-0.04	0.02	1.84	0.07
Learning Climate Facilitation → Balance → Turnover Intention	-0.08	0.02	3.92	0.00
Dark Leadership x Learning Climate Facilitation → Occupational Expertise → Turnover Intention	-0.01	0.01	1.11	0.27
Dark Leadership x Learning Climate Facilitation → Anticipation and Optimization → Turnover Intention	0.00	0.01	0.23	0.82
Dark Leadership x Learning Climate Facilitation → Personal Flexibility → Turnover Intention	0.01	0.01	0.70	0.49
Dark Leadership x Learning Climate Facilitation → Corporate Sense → Turnover Intention	0.01	0.01	0.83	0.41
Dark Leadership x Learning Climate Facilitation → Balance → Turnover Intention	0.01	0.01	0.89	0.37
Dark Leadership → Occupational Expertise → Turnover Intention	-0.02	0.01	1.33	0.18
Dark Leadership → Anticipation and Optimization → Turnover Intention	0.00	0.01	0.04	0.97
Dark Leadership → Personal Flexibility → Turnover Intention	0.01	0.01	0.78	0.44
Dark Leadership → Corporate Sense → Turnover Intention	0.03	0.02	1.38	0.17
Dark Leadership → Balance → Turnover Intention	0.06	0.02	2.76	0.01

Hypothesis 2 (Learning climate facilitation is negatively related with turnover intentions) was supported for both groups with our data. For the Dutch respondents, learning climate facilitation had a significant negative relationship with turnover intention ($\gamma = -0.43$, $p < 0.00$, $R^2 = 0.37$) with a strong predictive power ($f^2 = 0.25$). For the Chinese respondents, learning climate also facilitation had a significant negative relationship with turnover intention ($\gamma = -0.36$, $p < 0.00$, $R^2 = 0.33$) with an average predictive power ($f^2 = 0.15$).

Hypothesis 3 (Employability mediates the negative relationship between learning climate facilitation and turnover intention) was partly supported for both groups. For the Dutch respondents, learning climate facilitation had a significant negative relationship with turnover intention via balance ($\gamma = -0.07$, $p < 0.000$, $R^2 = 0.37$). For the Chinese respondents, learning climate facilitation also had a significant negative relationship with turnover intention via balance ($\gamma = -0.08$, $p < 0.00$, $R^2 = 0.33$). Indirect paths with the other components of employability as mediator demonstrated to be non-significant.

Hypothesis 4 (Dark leadership moderates the positive relationship between learning climate facilitation and employability, such that this relationship is weaker for employees who experience a higher degree of dark leadership) was partially supported for the Dutch respondents; a significant moderation effect between dark leadership and learning climate facilitation was found on corporate sense ($\gamma = -0.14$, $p < 0.01$, $R^2 = 0.37$). However, for the Chinese respondents, no significant relationship was found for the moderation between dark leadership and learning climate facilitation on each of the components of employability.

Hypothesis 5 (The interaction effect between dark leadership and learning climate facilitation has an indirect effect through employability on turnover intention) was neither supported for the Dutch nor for the Chinese group of respondents, as no significant indirect relationship was found of the moderation between dark leadership and learning climate facilitation and turnover intention via each of the components of employability.

5. Discussion and conclusion

In view of the call for the ability to contextualize theories (Whetten, 2009) and to contribute to the convergence/divergence debate, this empirical study applied Western theories to investigate possible contextual differences in the relationships between learning climate facilitation and turnover intention, and to examine whether this relationship is mediated by employability, and the possible role of dark leadership as a moderator in our research model. To test our hypotheses, we collected data from 319 Chinese and 368 Dutch respondents, which were analyzed using PLS-Structural Equation Modeling. Below, we summarize our results and reflect on them in the light of our theoretical lens. We conclude by discussing the study's implications for HR researchers and – practitioners in national and global business contexts.

In line with our expectations, employees in the Netherlands and China were shown to interpret our study variables differently. More specifically, our results indicated that

learning climate facilitation, dark leadership, employability, and turnover intention are significantly differently interpreted across the two national contexts studied. More generally, this would argue for the divergence thesis as brought forward by cross-cultural scholars when it comes down to the interpretation of our Western concepts related to HRM and leadership in China.

Our separate analyses revealed a significant negative relationship between learning climate facilitation and turnover intention in both the Netherlands and China. Although not directly comparable with each other (see Hypothesis 1), we found a negative relationship between the two constructs in both contexts. Since employees in both contexts can be expected to have lower turnover intentions when they perceive a learning climate facilitation within their organization, this supports the convergence thesis. This finding is also in line with recent research by Lin and Huang (2021) that a learning climate reduces turnover intention. Although this was not hypothesized, in both samples, we found that learning climate facilitation also had a positive direct relationship with employability (anticipation and optimization, personal flexibility, corporate sense, and balance) (see Tables 6a, 7a). This means that in both the Netherlands and China, efforts of an organization to facilitate a learning climate are beneficial to the employability development of their employees.

Another notable result is that, in both contexts, learning climate facilitation had a significant negative relationship with turnover intention via the competence based employability dimension of balance. In this empirical work, balance refers to the capability to align one's current job versus career goals, employers' versus employees' interests, and employees' opposing work, career, and private interests (Van der Heijde and Van der Heijden, 2006). Considering the lack of consensus on the relationship between employability and turnover intention in empirical research, this study shows, in line with the 'inverted' flexibility/commitment paradox (Peters and Lam, 2015), that employees would have lower intentions to leave the organization when they experience the balance between organizational goals and individual goals to be right. A possible explanation for this outcome may be that employees (in our sample those who participate in an executive master's program) who believe to have more learning opportunities, experience a higher form of balance (in this case by experiencing that their employer's and their own interests are taken care of), resulting into lower turnover intentions. We find a similar relationship between both contexts, which also supports the convergence thesis. Interestingly, this is in line with recent research (Burmeister et al., 2018) that also found that the effects of HR practices do not significantly differ when comparing collectivist and individualist countries.

Furthermore, in this empirical study it was found that in the Dutch context, dark leadership moderates the relationship between learning climate facilitation and the employability dimension of corporate sense, meaning that the positive relationship between learning climate facilitation and corporate sense [e.g., networking skills, actual participation in different types of working groups, and sharing responsibilities, expertise, successes et cetera (Van der Heijde and Van der Heijden, 2006)] is weakened by the experience of dark leadership. In other words, the positive contribution of learning climate facilitation to corporate sense is hindered by dark leadership.

In contrast to the Dutch respondents, there is no significant result in the Chinese context for a moderation of dark leadership in our model. This supports the divergence thesis, stressing contextual differences in HR practices and leadership style. It may well be that the historical developments of leadership (Lin et al., 2018) and employees in the Netherlands and China make for actual differences in current times. Where Chinese leaders are more autonomous and more self-protective compared to leaders in the Netherlands and Chinese employees are more collectivistic (House et al., 2004), it may well be that Chinese employees are not affected by dark leadership and do not experience it as a hinderance in the relationship between learning climate facilitation and employability.

Finally, no significant relationship was found for the moderation of dark leadership in the relationship between learning climate facilitation and turnover intention running via the employability dimensions. In contrast to our expectations, experienced dark leadership does not indirectly affect employees' turnover intention via employability in either the Dutch or the Chinese context. Yet, we did find a direct negative relationship of dark leadership with employability in the Netherlands (personal flexibility and balance) and China (personal flexibility, corporate sense, and balance), implying that employees who experience dark leadership perceive lower levels on selected dimensions of employability. Overall, our finding is in line with the rather uniform picture presented by Fischer et al. (2021) indicating that abusive supervision is 'bad news'.

Based on our study, on the one hand, it can be concluded that both learning climate facilitation and dark leadership are important factors in the development and retainment of personnel and that particularly focusing on 'balancing employer and individual goals' can be considered as particularly important to retain personnel, regardless of the national context being the Netherlands or China. To some extent, this may indicate the need for convergence of HR practices regarding learning climate facilitation.

On the other hand, however, the different interpretations of our study's variables may indicate divergence in the meaning of HR concepts in the two national contexts studied. In line with the call for more context-sensitive organizational research to be able to contextualize theories (Whetten, 2009; Zhu & Warner, 2019; Xiao & Cooke, 2022), our study contributes to the understanding of contextual differences, while using Western theories. More specifically, our study contributes to the extant literature on learning climate facilitation, dark leadership, employability, and turnover intention, by providing insights on contextual similarities and differences.

5.1. Limitations and future research

Like other studies, this study also has some limitations. First, data was collected using surveys, and thus response set consistencies and common-method biases may be a potential concern (Doty & Glick, 1998). However, in the study's design, we reduced common-method variance by using brief questionnaires and a combination of response formats and labeling (Podsakoff et al., 2012).

Second, this study exclusively used self-ratings, and thus more research is needed to assess how this might have affected results. Future research can also use a qualitative interpretation to increase the understanding of the results.

Third, concerning measures of our mediation variable, extant studies suggested that other-ratings of employability are less differentiated and result in less variance between the employability sub-dimensions distinguished (Van der Heijden et al., 2016). Self-ratings of employability were thus justified to obtain nuanced findings. However, future research could use multi-source data to further enhance our understanding of the influence of learning climate facilitation on employees' turnover intentions.

Fourth, related to the previous limitation, a multi-wave approach would have provided more data on the stability and change of variables in the model, and longitudinal, cross-lagged relationships compared with the current cross-sectional design (Boker & Nesselrode, 2002). Future studies could assess reciprocal relationships, such as cross-lagged effects between antecedents and outcomes (Kwok & Fang, 2021). For example, employees with higher turnover intention who focus on external collaboration and networks might become more employable over time as well, thereby suggesting positive reciprocal relationships between the study's variables.

Finally, our sample was limited to employees who were allowed by their employer to participate in an executive master's program limited to two countries, i.e., the Netherlands and China. This may have diminished the generalizability of our study, as it is likely that employees who at the same time are participating in such an educational program, may have a more positive impression of their learning opportunities in comparison with those who do not. The latter possibly implies that they have a rosier image of their leader, which may have led to an underrepresentation of employees who have given higher ratings for dark leadership. Future research may focus on other employees not being in educational programs yet to be better able to address generalizability of our outcomes.

5.2. Practical implications

Based on the results of this study, it is recommended that HR-practices are aligned with the particular context they operate in. It is important to address socio-economic and socio-cultural aspects of the context which may alter relationships that have been found, for example, in previous empirical research in other contexts. Specifically, this study shows that employees in the Netherlands and China interpret learning climate facilitation, dark leadership, employability, and turnover intention differently.

However, in both the socio-cultural national contexts studied (the Netherlands and China), our study showed that learning climate facilitation has a significant negative relationship with turnover intention. This suggests that HRM practices promoting learning climate facilitation can lower managers' anxiety to lose employees. Especially in times of labor market shortages, the investment in learning climate facilitation may help to keep employees within the organization. This can provide organizations with a competitive advantages as they will not lose out on (firm-specific and general) knowledge and skills, or

risk transferring knowledge and skills to a rival organization or potentially deterring other employees in the future.

In combination with globalization and its associated increased demands on productivity, creativity, flexibility, and accelerated developments (e.g., new production concepts and technologies), employees are required to renew their competencies across their working lives (Messmann et al., 2017; Stoffers et al., 2019, 2020). This study shows that employability and consequently dark leadership are highly relevant constructs, with highly qualified, flexible, committed employees who are focused on personal development becoming increasingly important to a firm (Atatsi et al., 2019, 2022). This new employee has lower turnover intentions through increased balance where he or she, e.g., can balance their own career goals whilst supporting their colleagues. Finally, in the Netherlands, HRM practitioners should identify dark leadership within the organization since dark leadership lowers an employee's corporate sense even though the organization facilitates a learning climate, diminishing the positive effect of the organizational efforts.

Overall, this study showed contextual differences from the Netherlands and China, which indicates that it is important for HR-practitioners to be aware of the influence context has on the interpretation and results of HR policies and practices.

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Chapter 5

Study 4: Learning to Succeed: How Learning Value of the Job Fosters Employability and Subjective Career Success – A Sequential Mixed Methods Study on the Mediating Role of Employability and the Moderating Role of Occupational Future Time Perspective

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Abstract

Employment trends indicate that careers are becoming increasingly longer and less predictable, resulting in volatile conditions for today's workforce. To survive in today's labor market, subjective experiences of career success form a main component. Building on Person-Environment Fit Theory, and adopting the lens of Socioemotional Selectivity Theory, this paper investigates the relationship between learning value of the job and subjective career success. In addition, we examine the possible mediating role of employability and the moderating role of an individual's occupational future time perspective (i.e., perception of remaining opportunities and remaining time at work) in our hypothesized model.

We utilized an explanatory sequential mixed-method research design comprising a quantitative data collection from a sample of 417 professionals who were enrolled in an executive master's program. To further elucidate our quantitative findings, qualitative data from multiple focus groups was collected.

The outcomes of the quantitative study showed that learning value of the job is positively related to most dimensions of employability. In turn, employability appeared to play a partially mediating role in the relationship between learning value of the job and subjective career success. Notably, occupational future time perspective (i.e., perceived remaining opportunities and remaining time at work) did not significantly moderate the relationships examined. The outcomes of the qualitative focus groups supported the importance of learning value of the job for employability and, in turn, for subjective career success, while also uncovering nuanced individual differences in how employees interpreted remaining opportunities and remaining time at work. Both theoretical and practical implications of our scholarly work, and its limitations and recommendations for future work are discussed.

Keywords

Learning value of the job, Employability, Subjective career success, Occupational future time perspective.

1. Introduction

With an increasingly complex labor market, gaining more insight into the determinants of employees' career success is growing in importance (see Spurk et al., 2019). Earlier research showed that particularly protecting, and ideally further enhancing, one's subjective career success is a main component for employees to survive in today's labor market (Van der Heijden et al., 2022a). In contrast to objective career success with traditional markers (e.g., hierarchical promotions), subjective career success captures an individual's personal sense of achievement, reflects diverse career paths, and does justice to idiosyncratic differences (Van der Heijden & De Vos, 2015). Employment trends show that careers are becoming increasingly longer and less predictable (De Vos & Van der Heijden, 2017), entailing volatile conditions for the current workforce. To achieve sustainable career success (De Vos et al., 2020), individuals need to be able to function well within the labor market. In other words, their arsenal of domain-specific knowledge and skills (i.e., occupational expertise; Van der Heijde & Van der Heijden, 2006) should be fostered. However, given current labor market demands, an individual employee should also need to demonstrate proactive and adaptive capacities. Therefore, in addition to occupational expertise, the conceptualization of competence-based employability by Van der Heijde and Van der Heijden (2006) includes personal flexibility, anticipation and optimization, balance, and corporate sense capturing how individuals adapt to evolving work environments, prepare for change, manage work-life dynamics, and align with organizational goals. Based on this comprehensive view, we adopt the short-form version of Van der Heijden and Van der Heijden's (2006) competence-based employability model (Van der Heijden et al., 2018) as the mediating construct in our research.

The responsibility for maintaining and fostering individuals' employability is increasingly considered to be a shared responsibility of employees and employers (Van der Heijden & De Vos, 2015). While employees are expected to take personal agency in their career development (De Vos et al., 2020), organizations, through their line managers, play a crucial role in creating rich learning environments (Van der Heijden & Bakker, 2011; Dordoni et al., 2017). One key organizational factor that facilitates this development is the learning value of one's job. Prior research (Van der Heijden & Spurk, 2019) has shown that jobs offering a high learning value contribute to the ongoing development of employability.

Building on this empirical basis, we propose that employability mediates the relationship between learning value of the job and subjective career success (see Figure 1). To better understand this mechanism, we draw on the principles of person-environment (P-E) fit theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013), which suggest that when individual competencies align with job characteristics, this fit fosters positive work and career outcomes. P-E fit theory is a broadly used guiding framework for scholars that can help to understand employees' emotions, attitudes, and behaviors in the workplace (Van Vuuren et al., 2023). In this study, employability and subjective career success represent the person (P) perspective, while learning value of the job represents the environment (E) perspective. Specifically, we investigate how synergy between these person- and environment-related elements contributes to employees' career development.

In addition to this interaction, employees' career-related decisions are also influenced by how they perceive their occupational future. When considering their career, individuals differ in how they assess their remaining opportunities and time they envision to have left in their working life. How different employees perceive their remaining opportunities and remaining time at work can be understood from the concept of occupational future time perspective (hereafter, OFTP) (Rudolph et al., 2018). OFTP builds on the theoretical foundations of Socioemotional Selectivity Theory (SST) (Carstensen, 1999), which states that individuals can be expected to select and pursue those work and career goals that align with their working life's time horizon. In other words, as individuals' OFTP influence their labor market behaviors and, arguably, their intention to actively invest in their employability, we propose OFTP as a moderator in our research model. In particular, we posit that OFTP can influence the impact of the learning value of their job on their employability competencies (Zacher, 2013).

Professionals enrolled in an advanced lifelong learning program are a highly interesting group to examine in this scholarly work. After all, in nowadays' volatile labor market conditions, professionals need to engage in continuous human capital maintenance and development (Fleuren et al., 2020). Specifically, their dual engagement in both professional work and in an advanced education program positions them at the forefront of navigating employability challenges. In doing so, they are actively involved in seizing learning opportunities and reflecting on their remaining opportunities and time at work.

This study aims to contribute to the debate on employability and career success and how they can be achieved through the interplay between organizational involvement and individual agency. Specifically, this study adds to the employability literature by addressing the combined roles of learning value of the job and competence-based employability in shaping subjective career success. Although some progress has been made in understanding the determinants of career success (e.g., De Vos et al., 2011; Van der Heijden et al., 2022a), research that explicitly investigates the relationship between workplace learning opportunities, employability, and future time perspective (i.e., OFTP) has, to the best of our knowledge, been absent so far. Therefore, we propose a model wherein these factors are considered, using an explanatory sequential mixed-method design. The inherent methodological pluralism not only enriches our understanding of determinants of subjective career success but also highlights the critical role of qualitative inquiry in capturing contextualized and nuanced insights (Bansal et al., 2024), for instance related to the moderator in our hypothesized model.

In line with Spurk et al. (2019), who called for more explicit theoretical grounding when examining the antecedents of subjective career success, the first contribution of this study builds on P-E Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013) and highlights the importance of considering both personal and environmental factors as predictors of employees' career perceptions and outcomes. A second contribution of this study lies in the incorporation of both dimensions of OFTP (Zacher & Frese, 2009), namely remaining opportunities at work and remaining time at work, as potential moderators in the relationship between learning value of the job and employability. While OFTP has been previously applied in career and aging research (Zacher, 2013), "most studies have operationalized

either only one of the two OFTP dimensions” (Rudolph et al., 2018, p. 230). By incorporating both dimensions, this study adopts a SST lens (Carstensen, 1999), hereby offering a more nuanced understanding of how employees’ future orientations may shape the way they capitalize on their learning opportunities to enhance their employability and, through this, their subjective career success.

Figure 1 portrays all hypothesized relationships between the variables under study.

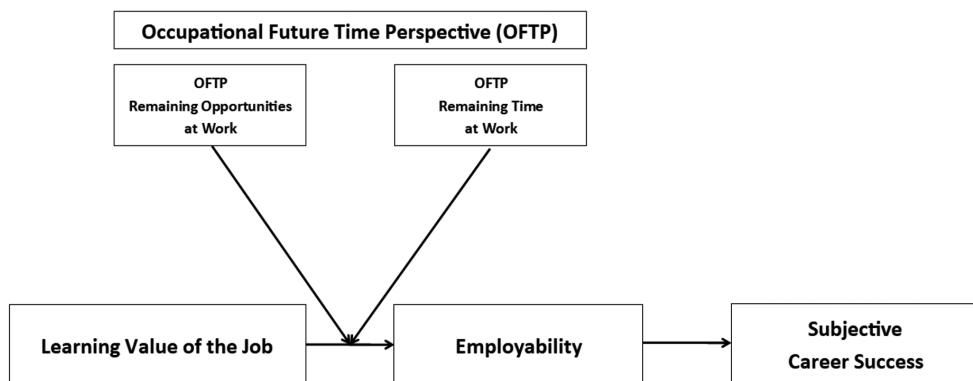


Figure 1. Conceptual Model

In the following section, we provide an overview of the literature on the variables under study and their interrelationships, leading to the formulation of our research hypotheses. Next, we outline our explanatory sequential mixed-method research design. To test our hypothesized moderated mediation model, we apply variance-based structural equation modeling (PLS-SEM). Subsequently, we explain the procedure of our multiple focus groups that were conducted to provide insights that can help to explain and complement our quantitative findings. This is followed by the results and finally, we discuss the theoretical and practical implications, limitations and future research directions.

2. Theoretical Framework and Hypotheses

2.1. Subjective Career Success

Since the 1970's, career success has been a central research topic in management and applied psychology (Spurk et al., 2019). Career success is often conceptualized as either objective or subjective career success. In essence, the difference between “real” versus “perceived” achievements is the basis for making a distinction between “objective” and “subjective” career success (Abele et al., 2011). Hughes (1937) already defined objective career success as directly observable, measurable, and verifiable by an impartial third party. Subjective career success, on the other hand, was defined by an individual's reactions to their unfolding career experiences.

More recently, Spurk et al. (2019) further defined subjective career success as “a focal career actor’s evaluation and experience of achieving personally meaningful career outcomes” (p. 41). Analogously, scholars concerned with careers focused more and more on the personal meaning of career success (i.e., subjective career success) (Van der Heijden et al., 2022a; Van der Heijden et al., 2022b). Therefore, in this study, subjective career success is operationalized by means of an attitudinal scale (Gattiker & Larwood, 1986; Greenhaus et al., 1990).

2.2. The Relationship between Employability and Subjective Career Success

In today’s work environment, the ability to continuously learn and adapt is not just beneficial but essential for self-perceived career success. There is growing, though still limited, evidence of a positive relationship between employability and subjective career success (Bozionelos et al., 2016; Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2009a). Employability is often conceptualized as an indicator of “career potential” (Van der Heijde & Van der Heijden, 2006), suggesting that individuals who perceive themselves as more employable are likely to experience greater satisfaction with their professional achievements and career progression. Within the context of contemporary career environments, employability is increasingly recognized as a critical determinant of career success (Fugate et al., 2004; Hall, 2002; Van der Heijde & Van der Heijden, 2006). Besides, as careers become more fluid and self-directed, the ability to further enhance one’s employability, through continuous skills development, adaptability, and networking, is essential for individuals to subjectively perceive their careers as successful over time (Arthur et al., 2005).

2.3. Learning Value of the Job

Traditionally, professional development primarily took place in formal, classroom-based settings. The last decades, the range of learning opportunities has expanded to also include informal learning activities within the workplace, hereby complementing more formal methods. To remain competitive in today’s labor market, individuals must not only possess theoretical knowledge, but also practical skills and strong social connections developed through work experiences (Cheetham & Chivers, 2001; Evers et al., 2011; Siivonen & Isopahkala-Bouret, 2016). Thus, in contemporary organizations, the significance of learning opportunities that are embedded in daily work tasks (i.e., learning value of the job) (Van der Heijden & Bakker, 2011) is increasingly recognized (Stoffers & Van der Heijden, 2020). These opportunities are largely influenced by factors such as the quality and challenge level of job assignments, and the potential growth opportunities they offer (Le Blanc et al., 2019; Marzec & Austen, 2021).

2.4. The Relationship between Learning Value of the Job and Employability

The learning value of one’s job facilitates an employee’s learning process by providing them with opportunities to further develop or renew their competences, which in turn, prepares

them for future challenges and opportunities within and beyond their current roles (Van der Heijden & Bakker, 2011). Furthermore, learning value of one's job may contribute to an employee's further career growth (Janssen et al., 2021). Specifically, it refers to the extent to which occupational knowledge and skills can be used and expanded in one's job and serve as a nutrient for the employee's further professional development (Boerlijst et al., 1993; Van der Heijden & Bakker, 2011).

We posit that enhancement of employability can be achieved when workers are immersed in rich learning experiences that allow them to exercise and expand their abilities (Habets et al., 2021; Stoffers et al., 2019). Moreover, these experiences help them to maintain, nurture, and further develop essential competences and qualifications (Stoffers et al., 2020; Van der Heijden et al., 2016). We assert that it is critically important for a job to provide high learning opportunities, implying that it should be sufficiently challenging, encompassing a wide and complex range of tasks and responsibilities, and promote novelty, autonomy and an opportunity to explore new strategies and solutions (Amabile et al., 1996; Habets et al., 2023; Hoedemakers et al., 2023). Consequently, a job with a high learning value is deemed to be a catalyst for the cultivation of new knowledge, skills, expertise, and competencies (Van der Heijden & Bakker, 2011; Van der Heijden & Spurk, 2019). We therefore suggest that the employability of workers can be improved by engaging them in such challenging learning experiences and jobs that encourage exploration of new concepts (cf. De Cuyper et al., 2011), and that a constant updating of one's knowledge and skills is pivotal in this regard (Stoffers & Van der Heijden, 2018). Past research has indeed demonstrated that jobs with a high learning value can contribute to employee growth and positively impact their employability (Dordoni et al., 2017; Van der Heijden et al., 2009b).

Therefore, we propose the following hypotheses:

H1: *Learning value of the job is positively related to employability.*

H2: *Employability is positively related to subjective career success.*

2.5. Occupational Future Time Perspective as a Moderator

Future time perspective (FTP) is a crucial element within SST (Carstensen, 2006), and we know from earlier research that FTP diminishes with age, thereby influencing the importance individuals place on their social, work and career goals. Specifically, older adults often exhibit a more constrained FTP, leading them to prioritize meaningful and positive goals in the present, such as mentoring and engaging in intense social interactions. Conversely, younger individuals, who typically possess a broader FTP, tend to focus on knowledge-related and instrumental goals (e.g., networking for career advancement) that aid in securing future advantages (Rudolph et al., 2018).

Zacher and Frese (2009) modified the concept of FTP and made it applicable to the workplace context, coining the term 'Occupational Future Time Perspective' (OFTP). The construct of OFTP is grounded in lifespan developmental research on FTP (Rudolph et al., 2018), which conceptualizes time perspective as context-independent, that is, not tied to specific life domains such as work. In contrast, OFTP refers specifically to individ-

uals' perceptions of their future within the workplace context (Rudolph & Zacher, 2024). In their work, Zacher and Frese (2009) identified two interrelated dimensions of OFTP and assessed them using an adapted version of Carstensen and Lang's (1996) FTP scale. The first dimension, 'Perceived Remaining Opportunities at Work', encompasses individuals' perceptions of emerging work-related goals, possibilities, and opportunities anticipated in the future. The second dimension, 'Perceived Remaining Time at Work', refers to individuals' estimates of the duration they expect to remain in the workforce. The amount of research on OFTP is still largely limited in the sense that most studies in this domain continue to operationalize only one dimension (Rudolph et al., 2018). However, recently, scholars have increasingly recognized the importance of considering both dimensions simultaneously to provide a more comprehensive understanding of how individuals perceive their occupational future (e.g., Oliveira, 2021; Weikamp & Göritz, 2015).

With regard to remaining opportunities at work, being the first dimension of OFTP, Ko et al. (2020) found that employees who perceive more opportunities are more likely to be engaged in proactive career behaviors. Specifically, employees with abundant perceived opportunities are more strategic in their career development, strengthening their active search for learning experiences that enhance employability. Besides, Froelich et al. (2015) found that employees who perceive more opportunities are more adaptable and eager to learn. Based on the outline given above, we assume that a focus on opportunities fosters a growth mindset and plays a moderating role in our research model, hereby encouraging continuous learning and skill development, which strengthens the relationship between learning value and employability.

Concerning remaining time at work, which represents the second dimension of OFTP, Kooij et al. (2013) already found that employees who perceive a more open time perspective are more willing to invest in long-term developmental activities, making the anticipated return on investment in learning activities higher. Building on their work, we contend that OFTP can also be expected to strengthen the relationship between the learning value of one's job and employability. On the contrary, employees with a shorter amount of perceived remaining time focus less on growth-oriented activities (Henry et al., 2017). Similarly, Wang et al. (2013) reported that employees perceiving less remaining time are less likely to see the added value of engaging in learning as they do not believe it will pay off in the immediate future. That is to say, their perceived shorter time horizon reduces the attractiveness of investing in learning activities, hereby weakening the impact of learning value of one's job on employability.

Building on these insights, we propose that OFTP moderates the relationship between learning value of the job and employability. That is, the degree to which employees translate job-based learning opportunities into employability-enhancing outcomes may depend on how they perceive their remaining opportunities and remaining time at work. Specifically, employees with a more open OFTP, i.e., those who perceive many remaining opportunities at work and a substantial amount of remaining time at work, are expected to be more inclined to capitalize on learning-rich environments to enhance their employability. Conversely, when employees perceive fewer remaining opportunities and less remaining

time in their occupational future, the positive impact of job-based learning on employability may be less pronounced. In line with this reasoning, we do not assume a direct relationship between OFTP and employability per se, but rather a moderation effect, whereby higher levels of remaining opportunities and remaining time at work strengthen the positive impact of learning value of the job on employability.

While the previous section focused on how OFTP moderates the impact of learning value on employability, we now turn to the role of OFTP in shaping the broader relationship between learning value of the job and subjective career success through employability. We contend that for further professional development and self-perceived subjective career success, the learning value of one's job may not only be seen as an opportunity but even as a necessity (cf. Van der Heijden & Spurk, 2019). Although job characteristics have proven to be important for attaining career goals (Hall & Las Heras, 2010), so far, there is limited research on the impact of job design on career outcomes (Parker et al., 2017). To fill this gap, drawing on Person–Environment (P-E) fit theory, scholarly work on contemporary careers and the role of personal (in our case employability and subjective career success), and contextual (i.e., organizational factors: in our case the learning value of one's job), has gained importance (De Vos et al., 2020). Hence, we posit that OFTP not only shapes how individuals engage with learning opportunities but also influences how they translate employability into subjective career success over time. Indeed prior studies have shown that employability can function as a key psychological mechanism through which job-related resources, such as learning value, impact employees' perceptions of career success (e.g., Spurk et al., 2019; Van der Heijden et al., 2022b). In line with this, we conceptualize employability as a mediating variable that translates learning-rich work contexts into higher levels of subjective career success. Therefore, the indirect effect of learning value on career success via employability is expected to be stronger for individuals with a more open OFTP.

Based on the outlines given above, we propose the following hypotheses:

- H3:** *Occupational Future Time Perspective moderates the relationship between Learning Value of the Job and Employability, such that this relationship is stronger when Occupational Future Time Perspective is more open.*
- H4:** *Occupational Future Time Perspective moderates the indirect effect of Learning Value of the Job on Subjective Career Success via Employability, such that this indirect effect is stronger when Occupational Future Time Perspective is more open.*

3. Methods

We employed an explanatory sequential mixed-methods approach, combining qualitative and quantitative methods to explain and contextualize our quantitative findings (Creswell & Plano Clark, 2017). While both significant and non-significant results offer insights, we focused our qualitative follow-up specifically on the non-significant relationships

from our quantitative work. These unexpected findings warrant deeper exploration, as they may reflect context-dependent mechanisms or theoretical gaps that are not readily captured through survey data (Bakker et al., 2012; Hunter & Schmidt, 1990; Ivankova et al., 2006). This targeted approach enables a more nuanced interpretation of our hypothesized research model. Specific details about our data collection, analysis, and results for each phase are presented below.

3.1. Phase I: Quantitative Data Collection and Analysis

3.1.1. Participants and Procedures (Phase I)

Our sample consisted of 417 working professionals enrolled in an executive master's program in various educational institutions across the Netherlands. The respondents, aged 21–68 years ($M = 44$ years, and $SD = 10.12$ years), represented diverse industries and professional backgrounds. Approximately 47% of our sample is male, and we used self-ratings for all model variables as we were interested in the self-perceptions of the professionals on the variables under interest.

3.1.2. Measures (Phase I)

Learning value of the job was measured using the thoroughly validated scale by Van der Heijden et al. (2005) (see also Van der Heijden & Bakker, 2011), comprising six items. This scale has proven to have a good factor structure and related psychometric qualities. Earlier scholarly work on its impact on employability (e.g., Van der Heijden et al., 2009a; Van der Heijden et al., 2016; Van der Heijden & Spurk, 2019) supports the predictive validity of the construct. A sample item was: “My job enables me to further develop my talents”. Responses were reported using a Likert-type scale that ranged from 1 (strongly disagree) to 6 (strongly agree).

OFTP was measured using the six-item scale developed by Zacher and Frese (2009). This scale has two dimensions, i.e., perceived remaining opportunities and remaining time at work. Sample items included: “My career is filled with opportunities” (perceived remaining opportunities at work) and “My occupational future seems infinite to me” (perceived remaining time at work). The items were scored using a Likert-type scale that ranged from 1 (absolutely not) to 7 (absolutely).

Employability was measured using the thoroughly validated 22-item short-form version (Van der Heijden et al., 2018) of the 47-item employability five-factor instrument (Van der Heijde & Van der Heijden, 2006). Tests of the instrument's reliability and validity, including assessments of convergent, discriminant, and predictive validity (e.g., for career success), have yielded satisfactory psychometric results (Van der Heijden et al., 2018). The instrument comprises the following dimensions: occupational expertise; personal flexibility; anticipation and optimization; balance and corporate sense. Sample items for employability included: “I consider myself competent to provide information on my work in a way that is comprehensible” (occupational expertise); “I adapt to developments within my organization” (personal flexibility); “I consciously devote attention to applying my newly acquired

knowledge and skills” (anticipation and optimization); “I achieve a balance in alternating between reaching my own career goals and supporting my colleagues” (balance) and “I share my experience and knowledge with others” (corporate sense). All items were scored using a Likert-type scale that ranged from 1 (not at all/never) to 6 (considerable degree/very often), depending on a certain item’s wording.

Subjective career success was measured using the measurement scales from Gattiker and Larwood (1986). These scales consist of an organizational (job satisfaction, interpersonal success, hierarchical success, financial success) and a non-organizational (life satisfaction) component. A sample item was: “I am drawing a high income compared to my peers”. Items were scored using a Likert-type scale that ranged from 1 (does not apply at all) to 5 (applies a great deal).

3.1.3. Data Analysis (Phase I)

We conducted variance-based structural equation modeling (PLS-SEM) (Henseler, 2017), which allows to estimate predictive power of complex structured equation models (Henseler et al., 2016). According to Hair et al. (2017), variance-based SEM is preferred over co-variance-based SEM (Rigdon et al., 2017) when the primary goal is prediction and theory development, as it imposes fewer distributional assumptions and performs well with smaller sample sizes.. Moreover, among variance-based SEM, PLS-SEM path modeling is the most fully developed system (Hair et al., 2017) and has been the subject of various reviews, discussions and serious examinations (cf. Henseler et al., 2016). This has led to substantial contributions and more robustness of PLS-SEM algorithms, including bootstrap-based tests of the overall model fit and consistent PLS-SEM to estimate factor models (for an overview see Henseler, 2017).

For estimating the predicting power of the used constructs, we used SMART-PLS version 4.0.9.6 (Ringle et al., 2024) to analyze our hypothesized model. For the partial least square algorithm, we used the path weighting scheme and set the maximum number of iterations at 300, using 10^{-5} as our stop criterion. Moreover, we used a uniform value of 1 as the initial value for each of the outer weights (Henseler, 2010). In view of the rule of thumb provided by Barclay et al. (1995), suggesting the use of 10 times the maximum number of paths aiming at any construct in the outer and inner models, the sample size was considered acceptable. The items of the scales could be interpreted as continuous variables, following the fundamental OLS principles.

3.2. Phase II: Qualitative Data Collection and Analysis

3.2.1. Participants and Procedures (Phase II)

Multiple focus groups were conducted to provide explanations and supplementary insights for our quantitative findings, aiming to examine the complexities of the role of remaining opportunities and time at work in the relationship between learning value of the job, employability and the professionals’ subjective career success. Criterion sampling was employed to select participants for the focus groups. In phenomenological studies, the

criterion is that participants must have experienced the phenomena being studied (Miles & Huberman, 1994). Of the 417 respondents, twelve individuals (P1–P12) participated in two focus groups, with six members in each group. The group sessions concentrated on participants' lived experiences regarding the variables under study, using a narrative approach to capture how they construct meaning around their career development (Van Manen, 1990). The sessions commenced with a conscious stream of thought (Coppola et al., 2022; Dainton, 2002), being a method for exploring participants' experiences, thoughts, and feelings, by tapping into their unfiltered and spontaneous thoughts. This approach is rooted in the phenomenological tradition and focuses on understanding how individuals perceive their experiences in real time.

As explained in the Introduction section of this article, we adopted a sequential mixed-methods design to deepen our understanding of the relationships between the variables under study. The qualitative phase (Phase II) followed the quantitative phase and was designed in response to its outcomes. Accordingly, specific research questions were developed after the results of Phase I were interpreted.

3.2.2. Data Analysis (Phase II)

Both focus group sessions were fully recorded, and complete transcriptions were produced. We coded the transcripts following Saldana's (2021) established two-cycle process: descriptive coding (identifying what is being talked about) (Wicks, 2017) in the first cycle, followed by pattern coding in the second cycle allowing us to uncover themes. This approach is well-regarded in qualitative methodology (e.g., Wicks, 2017). Following this process, we performed thematic mapping to analyze how these elements were related to our research questions. Using the themes being identified through descriptive coding, pattern coding, and thematic mapping, we constructed multiple results' tables to illustrate the complexities of the impact of remaining opportunities and remaining time at work in the relationship between learning value of the job, employability, and subjective career success.

4. Results

4.1. Phase I: Quantitative Results

4.1.1. Model Characteristics

For the outer model evaluation, we first examined the scale reliabilities, using the Composite rho-c test (Werts et al., 1974). Unlike the often-used Cronbach's Alpha (Nunnally, 1978), this reliability test takes into account that indicators have different loadings. All scale reliabilities, using rho-c, were above 0.70 and seemed to be reliable. Second, we checked for convergent validity, using Fornell and Larcker's (1981) criterion of an average variance extracted (AVE) for each construct above the 0.5 benchmark. After removing one item of the occupational expertise subscale of employability and removing three items of the

subjective career success scale, the model demonstrated sufficient convergent validity, with AVE scores for all constructs being above 0.5 (see Table 1). Third, we examined indicator reliability and found all factor loadings to be above 0.6 and, therefore, acceptable (cf. Hair et al., 2017). Fourth and finally, we checked for discriminant validity by comparing the AVE scores of the constructs with the inter-construct correlations to determine whether each single latent variable shared greater variance with its own measurement variable or with other constructs (cf. Chin, 1998; Fornell & Larcker, 1981). Moreover, we compared the square root of the AVE scores for each single construct with the correlations with all other constructs in the model. A correlation between constructs exceeding the square roots of their AVE scores indicates that they may not be sufficiently discriminable (see the outcomes in Table 2). For each single construct, we found that the absolute correlations did not exceed the square roots of the AVE scores. This implies that for all constructs, the psychometric qualities, i.e., reliability and validity, were sufficient.

4.1.2. Model Estimations

Regarding the inner model evaluation and estimates, we analyzed the path coefficients by using bootstrap t-statistics for testing their significance (Anderson & Gerbing, 1988). For this PLS consistent bootstrapping, we used 5,000 subsamples, with a bias-corrected bootstrap, using a two-tailed significance of 95%. The model showed a sufficient fit, with the standardized root mean square residual (SRMR) being 0.08, which is in line with Hu and Bentler's (1998) criterion of a value lower than or equal to 0.08. To test our hypotheses, we used a three-step approach. First, we calculated the direct effects for the differentiated paths in the model (see Table 3). Second, we calculated the indirect effects for the differentiated paths (see Table 4).

Table 1. Overview reliability (Composite rho-c) and convergent validity (AVE) scores

	M	SD	Composite r-c	AVE
Subjective Career Success	4.03	0.80	0.81	0.53
Employability Occupational Expertise	4.68	0.63	0.81	0.52
Employability Personal Flexibility	4.81	0.59	0.85	0.54
Employability Anticipation and Optimization	4.24	0.76	0.83	0.55
Employability Balance	3.97	0.73	0.80	0.50
Employability Corporate Sense	4.51	0.81	0.82	0.54
Learning Value of the Job	4.30	1.15	0.94	0.73
OFTP_Remaining Opportunities at Work	3.96	0.65	0.86	0.68
OFTP_Remaining Time at Work	3.33	0.84	0.81	0.60

Table 2. Correlation table with square root AVEs in bold

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
[1] Subjective Career Success	0.72								
[2] Employability Occupational Expertise	0.21**	0.72							
[3] Employability Personal Flexibility	0.28**	0.45**	0.73						
[4] Employability Anticipation and Optimization	0.30**	0.35**	0.39**	0.74**					
[5] Employability Balance	0.46**	0.23**	0.26**	0.18**	0.70				
[6] Employability Corporate Sense	0.37**	0.38**	0.44**	0.50**	0.19**	0.74			
[7] Learning Value of the Job	0.75**	0.06	0.17**	0.32**	0.27**	0.25**	0.85		
[8] OFTP_Remaining Opportunities at Work	0.13*	0.21**	0.27**	0.33**	0.12**	0.17**	0.14**	0.82	
[9] OFTP_Remaining Time at Work	0.13*	0.15**	0.21**	0.24**	0.10**	0.13*	0.13*	0.57**	0.77

Table 3. Overview direct effects

	Gamma	SD	T statistics	P-values
Employability Occupational Expertise → Subjective Career Success	0.07	0.04	1.90	0.06
Employability Personal Flexibility → Subjective Career Success	0.05	0.04	1.31	0.19
Employability Anticipation and Optimization → Subjective Career Success	-0.05	0.04	1.19	0.24
Employability Balance → Subjective Career Success	0.17	0.04	4.90	0.00
Employability Corporate Sense → Subjective Career Success	0.15	0.05	3.26	0.00
Learning Value of the Job → Employability Occupational Expertise	0.05	0.07	0.63	0.53
Learning Value of the Job → Employability Personal Flexibility	0.13	0.06	2.27	0.02
Learning Value of the Job → Employability Anticipation and Optimization	0.28	0.05	5.50	0.00
Learning Value of the Job → Employability Balance	0.37	0.05	7.90	0.00
Learning Value of the Job → Employability Corporate Sense	0.24	0.06	4.11	0.00
OFTP_Remaining Opportunities at Work x Learning Value of the Job → Employability Occupational Expertise	-0.10	0.06	1.65	0.10
OFTP_Remaining Opportunities at Work x Learning Value of the Job → Employability Personal Flexibility	-0.02	0.06	0.25	0.80
OFTP_Remaining Opportunities at Work x Learning Value of the Job → Employability Anticipation and Optimization	-0.01	0.05	0.15	0.88
OFTP_Remaining Opportunities at Work x Learning Value of the Job → Employability Balance	-0.08	0.06	1.25	0.21
OFTP_Remaining Opportunities at Work x Learning Value of the Job → Employability Corporate Sense	-0.06	0.07	0.83	0.41
OFTP_Remaining Time at Work x Learning Value of the Job → Employability Occupational Expertise	0.00	0.06	0.07	0.95
OFTP_Remaining Time at Work x Learning Value of the Job → Employability Personal Flexibility	0.02	0.07	0.23	0.82
OFTP_Remaining Time at Work x Learning Value of the Job → Employability Anticipation and Optimization	0.05	0.05	1.02	0.31
OFTP_Remaining Time at Work x Learning Value of the Job → Employability Balance	-0.02	0.06	0.27	0.79
OFTP_Remaining Time at Work x Learning Value of the Job → Employability Corporate Sense	0.03	0.06	0.45	0.65

Table 4. Overview indirect effects

	Gamma	SD	T statistics	P values
OFTP_ Remaining Opportunities at Work x Learning Value of the Job → Employability Occupational Expertise → Subjective Career Success	0.00	0.01	0.07	0.94
OFTP_ Remaining Time at Work x Learning Value of the Job → Employability Occupational Expertise → Subjective Career Success	0.00	0.00	0.01	0.99
OFTP_ Remaining Opportunities at Work x Learning Value of the Job → Employability Personal Flexibility → Subjective Career Success	0.00	0.01	0.17	0.87
OFTP_ Remaining Time at Work x Learning Value of the Job → Employability Personal Flexibility → Subjective Career Success	0.00	0.01	0.13	0.90
OFTP_ Remaining Opportunities at Work x Learning Value of the Job → Employability Anticipation and Optimization → Subjective Career Success	0.00	0.00	0.12	0.90
OFTP_ Remaining Time at Work x Learning Value of the Job → Employability Anticipation and Optimization → Subjective Career Success	0.00	0.01	0.60	0.55
OFTP_ Remaining Opportunities at Work x Learning Value of the Job → Employability Balance → Subjective Career Success	0.03	0.02	1.21	0.23
OFTP_ Remaining Time at Work x Learning Value of the Job → Employability Balance → Subjective Career Success	-0.01	0.03	0.26	0.79
OFTP_ Remaining Opportunities at Work x Learning Value of the Job → Employability Corporate Sense → Subjective Career Success	0.14	0.02	0.77	0.44
OFTP_ Remaining Time at Work x Learning Value of the Job → Employability Corporate Sense → Subjective Career Success	0.01	0.02	0.38	0.70

4.1.3. Hypotheses' Testing

Hypothesis 1 was partly supported with our data as learning value of the job appeared to have a positive relationship with the personal flexibility dimension of employability ($\gamma = 0.13$, $p = 0.02$, $R^2 = 0.01$), with anticipation and optimization ($\gamma = 0.28$, $p = 0.00$, $R^2 = 0.19$), with balance ($\gamma = 0.37$, $p = 0.00$, $R^2 = 0.15$), and with corporate sense ($\gamma = 0.24$, $p = 0.00$, $R^2 = 0.09$), but not with the dimension of occupational expertise ($\gamma = 0.05$, $p = 0.53$, $R^2 = 0.06$). Hypothesis 2 was partly supported as well, as the employability dimensions of balance ($\gamma = 0.17$, $p = 0.00$, $R^2 = 0.63$) and corporate sense ($\gamma = 0.15$, $p = 0.00$, $R^2 = 0.63$) had a positive relationship with subjective career success. The dimensions of occupational expertise ($\gamma = 0.07$, $p = 0.06$, $R^2 = 0.06$), personal flexibility ($\gamma = 0.05$, $p = 0.19$, $R^2 = 0.63$), and anticipation and optimization ($\gamma = -0.05$, $p = 0.24$, $R^2 = 0.63$) had no significant relationship with subjective career success. Hypothesis 3 was not supported with our data as the interaction effect between learning value of the job and OFTP had no significant relationship with any of the dimensions of employability (see Table 3). In addition, Hypothesis 4 was not supported with our data, as the interaction effect between learning value of the job and OFTP had no significant relationship with the indirect effect of learning value of the job on subjective career success via employability (see Table 4). Given that not all hypothesized relationships were supported by the quantitative results in our scholarly work, Phase II of the study focused specifically on the non-significant findings to gain a deeper understanding of the underlying dynamics.

4.2. Phase II: Qualitative Research Questions and Results

Based on the quantitative findings, we developed targeted research questions that guided the design of the qualitative phase of our study. In line with the principles of an explanatory sequential mixed methods design (Creswell & Plano Clark, 2017), this second phase specifically aimed to further explore and explain the non-significant quantitative results. Focusing on these unexpected findings allows for a richer interpretation of potentially context-dependent or nuanced mechanisms that may not be captured through survey data alone. Hence, we developed the following research question:

RQ1a: *How do participants reflect on the finding from our quantitative analysis showing that the learning value of the job was not significantly related to (more) occupational expertise (one of the dimensions of employability)?*

RQ1b: *How do participants reflect on the finding from our quantitative analysis showing that occupational expertise, personal flexibility, anticipation and optimization (all being dimensions of employability) were not significantly related to (more) subjective career success?*

RQ2: *How do participants reflect on the moderating role of OFTP (remaining opportunities and remaining time at work) in shaping the relationship between learning value of the job and subjective career success, via employability?*

4.2.1. *The Relationship between Learning Value of the Job and Employability*

One of the themes that emerged from our analysis aimed at better understanding the lack of significance of the relationship between learning value of the job and employability (RQ1a) was the notion of ‘wisdom’ (see Table 5). This theme was derived from participants’ reflections that job-based learning often results in deeper, experience-based insight rather than in the development of new skills or formal competencies. Participants noted that having opportunities for learning and growth in their work can have added value in the periphery of their work as noted “After the training, I’m wiser and faster at my job but not technically stronger” (P11) or “ You learn to see things differently, it makes me wiser, not smarter” (P2). These types of insights are difficult to capture in standardized employability frameworks that focus on observable or measurable skills.

The other theme that emerged is ‘Radical vs. Incremental’ (see Table 5). Participants explained that renewal in occupational expertise is often experienced as gradual and diffuse (c.f. Frie et al., 2019), rather than dramatic or clearly noticeable. As one participant noted: “We just take small steps every time, it is hardly noticeable” (P6). Learning at work was frequently described as incremental, with subtle improvements accumulating over time, and too minor, perhaps, to register in quantitative assessments. For instance, although participants acknowledged the benefits of training, the perceived outcomes were modest: “I would hardly call it an increase in occupational expertise” (P12). Therefore, while jobs may still provide learning value (Van der Heijden & Bakker, 2011), this value may not translate directly into higher ratings on competence-based employability indicators (Van der Heijden et al., 2009b), particularly occupational expertise.

Table 5. Themes and exemplary quotes related to participants’ experiences of impact of learning value of their job on occupational expertise (RQ1a).

Themes	Exemplary Quotes
Wisdom	“I’ve seen so many things come by now; it’s old wine in new bottles” (P9) “I can perform my work more easily now and adapt to organizational dynamics and social interactions” (P4)
Radical vs. Incremental	“I didn’t even notice the change until a colleague pointed it out to me” (P1) “Looking back over a long period, I do see that my work has definitely changed” (P10)

4.2.2. *The Relationship between Employability and Subjective Career Success*

Our quantitative findings revealed no significant relationship between several employability dimensions, namely occupational expertise, personal flexibility, anticipation and optimization, on the one hand, and subjective career success, on the other hand. The qualitative focus group discussions provided richer insight into why these well-developed competencies may not necessarily translate into a stronger sense of career success (RQ1b).

A prominent theme that emerged was the importance of ‘external recognition’ (see Table 6). Participants expressed that despite their high amount of employability, they

often did not feel their competencies were noticed or rewarded by relevant others. “No one noticed my achievements, and I started to doubt myself” (P9). Even though these competencies may be essential for navigating the labor market, their value appears to be taken for granted within organizational settings. As one participant noted, “You’re expected to be flexible, it’s just the minimum” (P2). This sentiment suggests that employability has become a norm, rather than a differentiator, making it less likely to evoke a personal sense of accomplishment or success.

Another theme was ‘*mismatch*’ (see Table 6). Participants described a disconnect between their own employability and the success criteria valued by their organizations. “The organization said: but no longer for us” (P1). This mismatch may stem from limited opportunities to deploy their competencies or from unrealistic performance benchmarks set by the organization or internalized by the individual. “I also think it depends on someone’s character, especially when you’re more modest” (P11).

Together, these themes highlight a paradox: while employability is necessary, it is not sufficient for experiencing subjective career success. Recognition by others and alignment with contextual success criteria are equally critical. Therefore, even highly employable professionals may not perceive themselves as successful unless their efforts are acknowledged and resonate with both personal and external expectations, that is from their surrounding stakeholders [cf. the systemic or multiple-stakeholder approach (Colakoglu et al., 2006) in the process model of sustainable careers (De Vos et al., 2020)].

Table 6. Themes and exemplary quotes related to participants’ experiences of the impact of their employability on subjective career success (RQ1b).

Themes	Exemplary Quotes
External recognition	<p>“I do need validation from others to be able to experience success” (P6)</p> <p>“My side of the family was impressed, but my in-laws (successful entrepreneurs) did not take my achievements seriously” (P4)</p>
Mismatch	<p>“Personally, I have different success factors than my organization” (P2)</p> <p>“You also see that people often set their own bar way too high” (P12)</p>

4.2.3. The Moderating Role of Occupational Future Time Perspective

Our qualitative findings indicate that employees’ ‘intrinsic motivation’ (see Table 7) may be more influential than their perceived occupational future time perspective (OFTP) when translating learning opportunities into employability, and ultimately subjective career success (RQ2). Participants emphasized the importance of personal responsibility and internal drive for self-development regardless of their remaining time or opportunities. As one participant stated: “I also believe that you have a degree of personal responsibility in that. What are you willing to do to develop yourself?” (P4). This reflects a form of autonomous motivation, suggesting that even when OFTP is constrained, some employees remain engaged in developmental behavior because they value it personally. Another participant added: “I don’t want to limit myself” (P1), highlighting that perceived constraints in remaining opportunities or time at work do not necessarily demotivate them. Hence, OFTP may not moderate the indirect relationship as strongly for those professionals that are high in intrinsic motivation.

The second theme centered on participants' recognition that their 'stage of life' (see Table 7), rather than perceived remaining opportunities or time at work, shapes how and when they choose to invest in their development. One participant shared: "I believe people carefully consider when learning fits best into their private lives" (P7), suggesting that caregiving roles or family demands influence decisions around employability investment more than OFTP itself. Others reflected on the temporal relativity of opportunities, such as "opportunities and time take a different meaning in stages of life" (P5). This indicates that subjective assessments of OFTP are often filtered through life-stage-specific responsibilities and capacities, making it less of a consistent moderator across individuals.

Lastly the theme 'altruism' (see Table 7) emerged. Participants expressed that their development was not solely motivated by personal advancement but also by a desire to contribute to the broader organization or society. As one participant explained: "I focus on which contribution I can make to the overall picture" (P8). This altruistic orientation implies that some employees pursue learning and development, yet not to enhance career outcomes per se, but to benefit others. In such cases, OFTP may have limited relevance as individuals are driven by values beyond their own career timeline. Their sense of success may therefore stem from the desire to make a meaningful contribution rather than from their wish for vertical advancement or recognition. Collectively, these themes could account for the further weakening of the moderating role of OFTP (Rudolph et al., 2018), in shaping the path from learning value to career success (Spurk et al., 2019).

Table 7. Themes and exemplary quotes related to participants' experiences of their OFPT, and its role in the relationship between learning value of their job and their employability (RQ2).

Themes	Exemplary Quotes
Intrinsic motivation	<p>"Starting from intrinsic motivation and curiosity, I want to keep learning and remain employable" (P3)</p> <p>"I don't want to be dependent on possible time or opportunities" (P8)</p> <p>"I seek out the options myself, one way or another" (P12)</p> <p>"I want to stay interesting" (P5)</p>
Stage of life	<p>"I think the phase of life you are in determines which learning challenges you take on" (P11)</p> <p>"At the moment, I am stuck in caregiving" (P2)</p> <p>"Children, whenever you have them, greatly influence this process" (P6)</p>
Altruism	<p>"I, myself, am no longer my top priority" (P10)</p> <p>"To be meaningful to others in the organization or society" (P7)</p> <p>"I am mainly focused on trying to inspire other people" (P3)</p>

5. Discussion and Integration of Qualitative and Quantitative Findings

In today's dynamic work environment, professionals may continuously learn and develop, yet, still, the question is whether they are truly succeeding in their careers. Our findings suggest complex and context-dependent relationships between our model's variables. Through a sequential mixed-methods approach, we revealed when and why the learning

value of the job does or does not, translate into employability, and, in turn, experienced career success, with particular attention to the influence of individuals' OFTP in the associations under study.

5.1. Theoretical Contributions

5.1.1. *Learning Value of the Job and Employability*

Building on the principles of P-E Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013), in this study employability represent the person (P) perspective, while the learning value of the job represents the environment (E) perspective. Our findings reinforce the critical role of job design in enhancing employability as the learning value embedded in daily work tasks appears to have predictive value for all employability dimensions, with the exception of occupational expertise. We found that employees who perceive high learning value in their jobs are more likely to develop competences that align with workplace demands, confirming that a strong P-E Fit is indeed important for one's employability enhancement. This outcome is in line with earlier research demonstrating that learning-rich work environments facilitate career adaptability and skill development (Janssen et al., 2021; Van der Heijden & Bakker, 2011). It also supports the notion that employability is not a static trait, but a dynamic and lifelong process shaped by experiences at work (Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2018).

Our qualitative findings further explained the non-significant result for occupational expertise, as participants often experience their learning at work as subtle and evolving slowly over time. Specifically, rather than resulting in visible increases in technical skills or role advancement, participants described a shift in perception, what they referred to as growing "wisdom". Moreover, renewal in occupational expertise tend to be incremental rather than radical (Frie et al., 2019), making them less noticeable and harder for employees to reflect on. In sum, while learning value clearly supports a broad range of employability competences, our empirical work shows that the development of occupational expertise may follow a more incremental, subjective path, one that is harder to detect through quantitative methods, yet the qualitative part of our work enabled us to shed more light on this.

5.1.2. *Employability and Subjective Career Success*

Within the P-E Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013), both employability and subjective career success represent person-related (P) factors. The dimensions of employability were expected to play a significant role in shaping employees' perceived subjective career success (Bozionelos et al., 2016; Van der Heijde & Van der Heijden, 2006; Van der Heijden et al., 2009b). In line with expectations, our quantitative analysis showed that the employability dimensions balance and corporate sense showed a positive relationship with subjective career success, whereas the other dimensions, being occupational expertise, personal flexibility, and anticipation and optimization, did not. The qualitative phase offered further explanatory insight into these non-significant results, revealing that they may stem from a lack of external recognition, which in turn undermines individ-

uals' sense of perceived career success. Even when employees invest in developing their employability, they may not experience success unless their efforts are acknowledged and valued by relevant others, such as supervisors or peers, a process captured in the concept of social recognition (Van der Heijden, 2000). Furthermore, according to our participants, a mismatch between personal and organizational objectives decreases the chances for experiencing career success. These results highlight the importance of both social recognition (i.e., external) (Van der Heijden, 2000) and goal congruence (Madhavan et al., 2023) between employers and employees in career development.

In line with a call of Spurk et al. (2019) for more explicit theoretical grounding when examining the antecedents of subjective career success, this study contributes to the scholarly work in this domain by showing how employees' perceptions of career success are not only shaped by their own capabilities, but also by the recognition and alignment they experience in their work environment, a perspective consistent with P-E Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013). As such, this study highlights the importance of considering both personal and environmental factors in understanding employees' career perceptions and outcomes. In particular, these insights contribute to existing literature by further exploring the relationship between the learning value of the job, employability, and subjective career success. By doing so, this study provides a unique perspective through which to examine how individuals in interaction with their environment shape career outcomes, which is crucial especially as careers become increasingly longer and less predictable (De Vos & Van der Heijden, 2017).

5.1.3. *The Moderating Role of Occupational Future Time Perspective*

Employees are increasingly involved in making deliberate internal decisions about how to navigate their remaining career time and where to direct their focus regarding professional opportunities (Gati & Kulcsár, 2021). Individuals' perceptions of their remaining opportunities and time at work can be meaningfully understood within the broader employment context. Building on SST (Carstensen et al., 1999), we used a two-dimensional operationalization of OFTP (i.e., remaining opportunities and remaining time) (Zacher & Frese, 2009), to examine its possible moderating effects in the relationship between the learning value of the job and employability. From the quantitative analysis it became clear that our assumption could not be confirmed. To better understand these outcomes, we looked into our explanatory qualitative data which revealed that participants reported that factors such as intrinsic motivation, life stage, and altruistic orientation were more central to how they approached development at work. These themes resonate with insights by Akkermans et al. (2016), who argued that intrinsic goals become increasingly salient across the career lifespan. For example, taking care of one's family (Demerouti et al., 2012) is a disrupter for following up on learning and developing needs. This suggests that the impact of shifting time perspectives may be more complex than previously thought, offering additional insights into the meta-analysis by Rudolph et al. (2018). By integrating SST within the concept of OFTP our study advances the theoretical understanding of how individuals' cognitive orientation toward their remaining opportunities and remaining time at work

influences career-related attitudes, learning behaviors, and developmental efforts, and its outcomes.

Altogether, our scholarly work contributes to the existing employability and career success literature by demonstrating that personal agency, environmental, and career stage-specific contextual factors play a critical role in shaping career outcomes. In doing so, this study extends the theoretical scope of both P-E Fit theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013) and SST (Carstensen et al., 1999), offering new insights into how employees manage learning and career development in increasingly complex and unpredictable labor markets. Our findings also resonate with the sustainable career perspective, which emphasizes the dynamic interplay between individual agency, contextual opportunities, and time in shaping careers over the long term (De Vos et al., 2020; Van der Heijden & De Vos, 2015).

5.2. Practical Implications

This study shows that employees play an active role in shaping their employability, yet their efforts are facilitated by a supportive work environment that provides substantial learning value. Consistent with Van der Heijde and Van der Heijden's (2006) competence-based approach to employability, employees are encouraged to actively seek out work tasks that stretch their competences. Whereas employability is increasingly considered to be a shared responsibility of employees and employers (Van der Heijden & De Vos, 2015), management plays a critical role in facilitating learning efforts to enhance the learning value of the job (Van der Heijden & Bakker, 2011). Hence, they should consciously design work assignments that allow for skill enhancement and competence expansion. Furthermore, our study suggests that supervisors should focus on enhancing the learning value of employees' jobs to strengthen their occupational expertise. Renewal in occupational expertise is often experienced as gradual and diffuse (c.f. Frie et al., 2019), rather than dramatic or clearly noticeable, as explained by participants. Systematic development dialogues can help to make incremental gains explicit, increasing employees' awareness of their competence development over time. Such tailored dialogues foster P-E fit (Kristof, 1996; Kristof-Brown & Billsberry, 2013), reinforcing the connection between individual's personal, job and career goals, on the one hand, and organizational objectives on the other hand.

Employees engage more deeply in their developmental activities in order to make the most out of their learning opportunities, thereby avoiding possible negative self-reinforcing beliefs (Adam-Troian, 2019). In turn, it should enhance their perceptions of subjective career success. This transparency not only reinforces a sense of progress but also fosters a greater alignment between employees' day-to-day tasks and their long-term career goals. By embedding dialogues into existing performance management cycles, organizations can create a culture where ongoing development is both recognized and rewarded.

Furthermore, the assumed or perceived constraints of employees' remaining opportunities and time at work should not be viewed as barriers to continuously generating and facilitating workplaces with possibilities for personal growth. At the HRM level, policies

aimed at embedding employability as a core organizational value are essential (Van der Heijden et al., 2018). This includes not only facilitating structured learning opportunities but also developing life stage-specific (i.e., tailor-made) career programs that are attuned to the variety of OFTP employees experience over time (Zacher & Frese, 2009). By doing so, organizations can create a more adaptable, skilled, and engaged workforce that is better equipped to navigate the complexities of the modern labor market.

5.3. Limitations and Suggestions for Future Research

Despite the contributions of this study, several limitations should be acknowledged. First, as our sample consisted solely of professionals enrolled in a Dutch executive master's program, generalizability to broader populations and cultural contexts needs to be further investigated. Variations in industry, demographics, and economic conditions could further influence the perceived relationships among the constructs studied, consistent with research highlighting the role of contextual career resources in shaping career outcomes (Haenggli & Hirschi, 2020). Additionally, exploring the roles of demographic characteristics and external variables, such as economic fluctuations, can provide significant insights into how these factors intersect with individual perspectives on career success and along the life span.

Furthermore, the cross-sectional design of the quantitative phase of our study, limits insights to causal relationships and may not fully capture the dynamic nature of employability and career success. Future research should employ longitudinal designs to clarify causality and examine how changes in work and personal circumstances affect perceived career success over time (De Vos et al., 2020).

Finally, the study relied on self-reported data, which, while valuable for capturing subjective employability perceptions, is vulnerable to social desirability bias. Incorporating multi-source data, such as supervisor assessments or objective performance metrics, is suggested for future studies as well.

5.4. Conclusion

This study used an explanatory sequential mixed-method to study the relationships between learning value of the job, employability, subjective career success and OFTP. This study shows that the learning value of one's job is a powerful lever for enhancing employability which in turn enhances subjective career success. Contradictory to our expectations, OFTP did not significantly moderate the relationship between learning value of the job and subjective career success via employability in our sample. This suggests that, regardless of how individuals perceive their remaining time or focus on opportunities, it is the perceived relevance of emerging development opportunities across contexts that encourages investment in learning. Such investment, when made, in turn supports an employable life.

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Chapter 6

Conclusions, Discussion, and Recommendations

Navigating employability, this dissertation explores employability as a continuous and dynamic process, shaped by the interaction between individual efforts, organizational conditions, and broader institutional and cultural contexts. This is done by empirically testing how the employability mediation model relates to individual determinants (21st century skills, social media use for professional development, learning climate facilitation and learning value of the job), work outcomes (turnover intention and subjective career success) and contextual factors (motivation, dark leadership and, occupational future time perspective), including their interactions in an employable life?

This chapter first summarizes and discusses the main findings of the dissertation in relation to the research questions, and it subsequently links these with findings which concern the variables and relationships that were examined. By studying these findings more closely, it was possible to reflect on the decisions which were made during the research process and the implications they might have on the conceptual and methodological levels. Finally, this chapter concludes with a discussion of the theoretical and practical relevance of these findings. In conclusion, several challenges are addressed for future research studies.

The main research question that forms the basis of this dissertation:

What is the predictive validity of the distinguished determinants in this study for employability and, through this, to the included work outcomes and which role do the moderators play in the model relationships?

The main research question is divided into the following sub-questions:

1. How do 21st century skills (e.g., collaboration, communication, problem-solving, and critical thinking) influence students' perceptions on the alignment between their education and future labor market fit?
2. To what extent does a technology-based learning intervention influence employees' professional use of a social media platform on employability?
3. In what way does motivation to communicate through social media affect the relationship between professional social media usage and employability?
4. How does facilitating a learning climate impact employees' turnover intention mediated by employability in different cultural contexts?
5. In what way does dark leadership affect the relationship between facilitating a learning climate and employability in different cultural contexts?

6. How does learning value of the job impact employees' subjective career success mediated by employability?
7. In what ways do perceptions of occupational future time perspective affect the relationship between learning value of the job and employability?

1. Summary of Conclusions

The first research question was addressed in the first study (chapter 2). The findings showed that students' perceptions of how well their education prepares them for the future labor market are positively influenced by the development of 21st century skills, such as collaboration, communication, problem-solving, and critical thinking. Students who perceive themselves as proficient in these competences feel more confident that their educational programs align with future labor market demands. These skills are seen as essential for navigating complex, dynamic work environments, enhancing students' sense of preparedness. Moreover, more recent cohorts reported a significant improvement in their self-perceived 21st century skills, reflecting increased attention to these competences in educational programs. Overall, the study highlights that strengthening 21st century skills contributes directly to students' perceived education-labor market fit, reinforcing the importance of embedding these skills into higher education curricula.

The second and third research question were addressed in study two (chapter 3). The findings suggest that social media use for professional development was significantly higher after the technology-based learning intervention than before, fostering increased engagement in online networking and professional development activities. Furthermore, partially in line with the expectations, social media use for professional development was positively related with the employability dimension anticipation and optimization. This study underscores that targeted training interventions can effectively equip individuals with the competences needed to leverage social media for lifelong professional development, making social media use a valuable tool in sustaining employability across one's employable life. However, motivation to communicate through social media did not have a moderating role in the relationship between social media use for professional development and employability. In this case, it is more the technology-based learning intervention as such that has a positive impact on the professional development, rather than the motivation to communicate through social media.

The fourth and fifth research questions were addressed in study three (chapter 4). Facilitating a learning climate, where employees perceive that their organization supports and encourages learning and development were negatively related to turnover intention, with this relationship being partially mediated by employability via the balance dimension. In both the Dutch and Chinese contexts, learning climate facilitation contributed to higher employability perceptions, which in turn lowered employees' intention to leave the organization. However, the study also highlights cultural differences, with Dutch employees responding more strongly to learning climate facilitation, likely due to the individualistic

culture emphasizing personal career development, while Chinese employees, operating in a collectivistic culture, showed weaker, though still present, effects. In addition, in the Dutch sample, dark leadership appeared to weaken the relationship between learning climate facilitation and the corporate sense dimension of employability, but employability did not seem to be a mediator in the relationship with turnover intention. When employees experience dark leadership, they are less likely to fully benefit from organizational learning opportunities. In the Chinese sample, no moderation effect of dark leadership was found.

The final two research questions, question six and seven were addressed in study four (chapter 5). The findings show that learning value of the job has a significant positive relationship with most dimensions of employability being personal flexibility, anticipation and optimization, balance and employability corporate sense. When individuals perceive their job as a source of learning, they are more likely to expand their knowledge, skills, and abilities, reinforcing their sense of being employable. In turn, employability (balance and corporate sense) demonstrated a partially significant positive relationship with subjective career success. This heightened that employability contributes to greater personal satisfaction with their career progress, particularly when employees feel their current work supports their long-term professional growth and adaptability. Perceptions of occupational future time perspective—how much time individuals believe they have left in their working life and the opportunities they still perceive—did not significantly moderate the relationship between learning value of the job and employability in within this specific sample. Contrary to expectations, both individuals with expansive and limited future time horizons benefited equally from learning-rich work environments for professional development.

2. Reflections on concepts

The concepts of 21st century skills and the influence of students' perceptions on the alignment between their education and future labor market fit.

This study questioned whether higher educational programs keep up with the current labor market requirements—in particular, the demand for 21st century skills (i.e., collaboration, communication, problem-solving, and critical thinking) (Voogt & Pareja Roblin, 2012) by investigating how the 21st century skills affect students' perceived education-future labor market fit (Fit Hypothesis); how the acquired skills levels across four cohorts of students having attended higher educational programs have developed over time (Change Hypothesis); and, finally, how students perceive these skills to have accumulated throughout their educational careers (Learning Hypothesis).

First (Fit Hypothesis), In line with the expectations, the results showed that 21st century skills positively relate to students' perceived education-future labor market fit. This outcome underlines the importance of acquiring these indispensable skills in light of the changes in the world of work, which has considerable impact on today's graduates entering the workforce (Autor et al., 2003). Moreover, in line with Warn and Tranter (2001),

who state that it is important to focus on these skills to prepare students for the labor market—that is, enhancing their employability—is a priority for higher education.

Second (Change Hypothesis), 21st century skills need to be further implemented in the curricula of educational systems (Voogt & Pareja Roblin, 2012). In general, the results imply that the required focus in educational systems on quality education (United Nations General Assembly, 2015), enabling a sustainable entry to the labor market, is acknowledged, and that the landscape for learning has transformed to curricula (in higher education or even before) with increasing 21st century skills (Binkley et al., 2012).

Third (Learning Hypothesis), using longitudinal data, there was no significant difference found between the scores on the variable “21st century skills”, comparing students in their first year with those in their fourth year.

The concepts of social media use for professional development on employability, moderated by motivation.

For the second study it was noted that the COVID-19 pandemic has undoubtedly left its mark on societies but, at the same time, it also facilitated a significant shift towards online learning (Sobaih et al., 2020). In this study, managing one’s knowledge in terms of professional development refers to the general belief that this relates to “unlocking and leveraging the knowledge of individuals so that this knowledge becomes available as an organizational resource” (Ferguson et al., 2010, p. 932). Osgerby and Rush (2015) emphasized the effectiveness of social media as a development tool that has the potential to contribute to individuals’ employability as a topic worth studying.

It was found that learning and development, being a key focus point in organizations nowadays (Van der Heijde & Van der Heijden, 2006), can be realized by a well-structured learning intervention. Furthermore, it was found partial support for the positive relationship between social media use for professional development and employability. Although previous research has found that motivation plays an important factor in technology-based learning and one’s learning success (Deci & Ryan, 1985), contrary to the expectations, no significant moderating role was found of one’s motivation (based on the computer-mediated communication (CMC) competence measure for motivation by Spitzberg (2006)) to communicate through social media.

The concepts of dark leadership and its moderating effect on the relationship between learning climate facilitation and employability with turnover intention as outcome of employability.

The concepts in the third study were investigated in line with the call for the ability to contextualize theories (Whetten, 2009) and to contribute to the debate on the Convergence-Divergence Perspective (Cooke et al., 2020). Based on the study, it shows that both learning climate facilitation and dark leadership are important factors in the development and retainment of personnel. Yet, in the study on the one hand the different interpretations of the study’s variables may indicate divergence in the meaning of human resource management (HRM) concepts in the two national contexts studied. On the other hand, separate analyses revealed a significant negative relationship between learning climate facilitation and turnover intention, in line with Lin and Huang (2021), in both the Nether-

lands and China supporting the convergence thesis. Interestingly, this is in line with recent research (Burmeister et al., 2018) that also found that the effects of HRM practices do not significantly differ when comparing collectivist and individualist countries. Furthermore, the lack of consensus on the relationship between employability and turnover intention in empirical research, this study shows, in line with the “inverted” flexibility/commitment paradox (Peters & Lam, 2015), that employees would have lower intention to leave the organization when they experience balance, as dimension of employability.

Finally, dark leadership in the Dutch context, negatively moderates the relationship between learning climate facilitation and the employability dimension of corporate sense, meaning that the positive relationship between learning climate facilitation and corporate sense is weakened by the experience of dark leadership. In contrast to the Dutch respondents, there is no significant result in the Chinese context for a moderation of dark leadership in the model. Furthermore, no significant relationship was found for the moderation of dark leadership in the relationship between learning climate facilitation and turnover intention running via the employability dimensions in both context. Yet, there was no direct negative relationship of dark leadership with employability found in the Netherlands (personal flexibility and balance) and China (personal flexibility, corporate sense, and balance), implying that dark leadership manifests itself as a predictor of employability. Overall, the finding is in line with the rather uniform picture presented by Fischer et al. (2021) indicating that abusive supervision is “bad news”.

The concepts of occupational future time perspective and its moderating effect on the relationship between learning value of the job and employability, with subjective career success as outcome of employability

Study 4 showed that individuals can leverage learning value of their jobs to replenish their personal resources by enhancing their employability (all dimensions except occupational expertise). The non-significant employability dimension occupational expertise was reasoned to increase at an incremental rate rather than a radical rate making it hard to observe and report for individuals.

Employability in terms of balance and corporate sense does play a significant role in positively shaping perceived career success. The non-significant findings for occupational expertise, anticipation and optimization, and personal flexibility suggest that these more instrumental and skill-based dimensions of employability may be less directly connected to how individuals feel about their career success.

Finally, occupational future time perspective as operationalized by Zacher and Frese (2009) as “Perceived Remaining Time” and “Focus on Opportunities” did not moderate the relationship between learning value of the job and employability nor the indirect effect of learning value of the job on subjective career success via employability. This suggests that the impact of shifting time perspectives may be more complex than previously thought, adding insights to the work by Rudolph et al. (2018).

3. Reflection on the Methodology

This section reflects on the decisions made in regard to the methodology which were used during the research process. First, the research approach that was employed is reviewed, and second a reflection is given on the objectivity of the data that was obtained and third a reflection on the analysis is presented. The section concludes with several remarks concerning the generalizability of the findings.

3.1. Research Approach

In this dissertation, I gathered empirical data using different research approaches and unique datasets. Each approach was tailored to address specific research questions, ensuring methodological rigor and contextual relevance.

To address research question one (chapter 2), a quantitative deductive approach was chosen, utilizing both cross-sectional and longitudinal survey designs. Data were collected through a survey conducted at a university of applied sciences that offers a diverse range of higher education programs. The data were derived from multiple annual waves (2014–2017) of the National Student Survey (NSE) in the Netherlands. The NSE measures students' perceptions of their higher education programs, providing valuable insights into their academic experiences. Two subsets of the data were created for analysis. The first dataset comprised responses from 4,670 fourth-year students collected over four years (Cohorts 2014–2017). The second dataset consisted of a cohort of 83 students who were followed longitudinally from their first year (2014) to their fourth year (2017). These datasets enabled a comprehensive analysis of students' experiences and the factors influencing their academic trajectories.

To address sub-research questions two and three (chapter 3), a two-wave longitudinal design was implemented (c.f. De Lange, 2005). This study incorporated a learning intervention using LinkedIn, which was introduced between the first measurement (T1) and the second measurement (T2). All participants in this intervention were university employees from an Egyptian university located in Cairo. These employees held various middle- and senior-level job positions across different faculties. The study generated 101 matched samples by linking the T1 and T2 data for individual participants. The primary goal of the learning intervention was to enhance university staff members' use of LinkedIn for professional development. In the intervention T1 served as the baseline and after a three-month period, data collection for T2 was completed. LinkedIn was selected as the social media tool due to its strong alignment with professional networking and career development compared to other social media platforms. A key feature of the intervention was its evidence-based design, incorporating scientifically validated learning techniques. Specifically, the intervention was amongst other adapted from a widely used LinkedIn training program designed for students and professionals, with a focus on enhancing users' learning experiences on the platform.

To address sub-research questions four and five (chapter 4), a quantitative deductive approach was applied using a cross-sectional research design (Reyes, 2004). Recognizing

the importance of contextual analysis, data were collected from both the Netherlands and China. These countries face similar socio-economic challenges, such as labor shortages and the impact of the COVID-19 pandemic, yet differ in their national contexts (Cui et al., 2018; CBS, 2025). Over the past three decades, HRM has emerged as a significant field of study in China, making human capital an essential topic for empirical investigation (Cooke et al., 2020). Participants in both national contexts were recruited using convenience sampling, leveraging the research team's professional networks. The respondents were employees at middle and senior management levels with substantial work experience and were enrolled in part-time master's programs. As an incentive for participation, respondents received personalized employability reports comparing their scores to a benchmark, which they could use for their professional development. The final sample consisted of 382 Dutch and 319 Chinese respondents.

To address sub-research questions six and seven (chapter 5), a sequential explanatory mixed methods approach was employed (Creswell & Clark, 2010). This approach combines quantitative and qualitative methods to provide deeper insights and explanations for the quantitative findings. Integrating qualitative research is particularly useful when quantitative results yield non-significant findings, as qualitative insights can help refine theoretical frameworks and clarify unexpected outcomes (Bakker et al., 2012; Hunter & Schmidt, 1990). The mixed methods approach allowed for a structured analysis of quantitative data [variance-based structural equation modeling (PLS-SEM) (Henseler, 2017)] and qualitative data [conscious stream of thought (Dainton, 2000; Coppola et al., 2022)]. In particular, qualitative findings were used to explain and contextualize quantitative results, and qualitative insights were leveraged to address gaps in quantitative findings (Ivankova et al., 2006). Overall, the integration of qualitative research enriched the study by providing a more nuanced understanding of the complex phenomena under investigation.

3.2. Objectivity

Ensuring the objectivity of this dissertation was a priority throughout the research process. To minimize researcher bias, standardized procedures were employed in data collection, analysis, and interpretation. Quantitative data were gathered from reliable sources, such as the National Student Survey and validated measurement instruments, reducing the likelihood of subjective influence. Additionally, the use of cross-sectional and longitudinal designs provided a robust framework for identifying patterns (over time). For qualitative data, systematic coding techniques were applied to ensure consistency and transparency in analysis. Triangulation of methods and data sources further enhanced objectivity by cross-verifying findings from different approaches. Moreover, all methodological decisions, including sampling strategies and intervention designs, were based on established theoretical and empirical frameworks, ensuring that conclusions were drawn from a rigorous and unbiased perspective.

3.3. Analysis

In this section, an explanation is given regarding the analysis used in this dissertation. Each of the four studies had its own approach to analyze the data.

To address the first research question, Study 1 (Chapter 2) applied Structural Equation Modeling (SEM). SEM, as defined by Ullman (1996), “allows examination of a set of relationships between one or more independent variables, either continuous or discrete, and one or more dependent variables, either continuous or discrete” (pp. 709). Specifically, Mplus, a covariance-based SEM, was used, and a CFA using SEM was conducted to test psychometric qualities of latent variables and paths between these two distinguished latent variables. For testing the differences among fourth-year students from various cohorts, a cohort analysis using ANOVA was conducted. For testing the longitudinal development of scores on the 21st century skills’ variable a one-way repeated measures ANOVA was conducted. To check the quality of the data, the assumptions for multivariate analysis were tested (Field, 2013; Hayes, 2017). As no violations of the assumptions were found, all analyses were conducted as planned.

To address research question 2 and 3, study 2 (chapter 3) employed SPSS version 25 in combination with the PROCESS macro by Hayes (2017). For testing the effect of the intervention between T1 and T2 a dependent sample t-test with bootstrapping was used. The analysis of the relation between social media use for professional development and employability was done by five different series of multiple linear regression analyses, one for each of the five employability dimensions. Finally, to test the moderation, Model 1 in PROCESS (Hayes, 2017) was used, and to better interpret the results, all continuous predictor variables were centred. Also in this analysis the quality of the data and the corresponding assumptions for multivariate analysis was tested (Field, 2013; Hayes, 2017). As no violations of the assumptions were found, the analysis proceeded.

For the following research questions (four till seven) variance-based structural equation modeling (SEM) (Henseler, 2017), which allows to estimate predicting power of complex structured equation models (Henseler et al., 2016) was used. According to Hair et al. (2017), co-variance-based SEM is suitable to test predicting power within the context of the model. Among variance-based SEM, PLS-SEM path modeling is the most fully developed system (Hair et al., 2017) and has been the subject of various reviews, discussions and serious examinations (cf. Henseler et al., 2016). This has led to substantial contributions and more robustness of PLS-SEM algorithms, including bootstrap-based tests of the overall model-fit and consistent PLS-SEM to estimate factor models (for an overview see Henseler, 2017). As such, PLS-SEM has become an important avenue in a diversity of disciplines.

To address research question four and five, study three (chapter 4) applied PLS-SEM, using SmartPLS (Ringle et al., 2022). For the partial least square algorithm, the path weighting scheme was used, and the maximum number of iterations was set at 300. 10^{-5} was used as the stop criterion and a uniform value of 1 as the initial value for each of the outer weights (Henseler, 2010). The sample size was acceptable for the analysis using Barclay et al. (1995) rule of thumb, suggesting the use of ten times the maximum number of paths aiming at any construct in the outer and inner models. Following the fundamentals

of OLS principles, items were based on 5-point, 6-point and 7-point Likert-scales and could be interpreted as continuous variables.

Finally, to address research question six and seven, study four (chapter 5) applied both a quantitative and qualitative analysis. For the first phase, the quantitative analyses were also done via SMART-PLS (Ringle et al., 2022) as explorative analysis is specifically aimed at estimating the predicting power of the used constructs, to analyze the hypothesized model. For the partial least square algorithm, the path weighting scheme was used and the maximum number of iterations was set at 300, using 10^{-5} as the stop criterion. Moreover, the uniform value of 1 as the initial value for each of the outer weights (Henseler, 2010) was used. In view of the rule of thumb provided by Barclay et al. (1995), suggesting the use of 10 times the maximum number of paths aiming at any construct in the outer and inner models, also this sample size was considered acceptable. The items of the scales used were based on a 5-point Likert-scale (subjective career success), 6-point Likert-scales (learning value of the job and employability) and a 7-point Likert-scale (occupational future time perspective) and could be interpreted as continuous variables, following the fundamental OLS principles.

For the second phase, the qualitative analysis, the focus group sessions were initially recorded and complete transcriptions were produced. Descriptive coding was applied to categorize and arrange data relevant to the variables in the research. Subsequently, pattern coding was applied to group statements and segments from the interviews based on these descriptive codes, allowing themes, explanations, and relationships among the variables to be uncovered. Following this process, mapping was performed to analyze how these elements are related to the research questions. With the themes identified through descriptive coding, pattern coding and mapping multiple tables were constructed to illustrate the complexities of remaining time and focus on opportunities related to possibilities for learning in jobs, employability and perceived career success.

3.4 Generalizability

External validity refers to the generalization of research findings, either from a sample to a larger population or to settings and populations other than those studied (Lucas, 2003). It might refer to whether the results of a study can be legitimately generalized to some specified broader population (McTavish & Loether, 2002, p. 133), and it might concern the extent to which causal inferences can be generalized to other times, settings, or groups of people (Monette et al., 2002, p. 236). Generalizability of findings can be anticipated on during the design stage of the study, as well as in the analysis of results (Drummond et al., 2005).

For the sake of generalizability of the findings, study one used a large sample of 4,670 students who participated in the National Student Survey (NSE) in the Netherlands from various higher educational programs. All data were collected from one higher education institution, limiting the generalizability of the findings. Study two used longitudinal data, strengthening the generalizability, though the convenience sample from a single Egyptian university also limited generalizability. Study three used cross-national data, though both samples were acquired through convenience sampling. Similar characteristics of the

sample make for a higher level of generalizability. However, the group sizes relative to their broader populations warrant caution when generalizing the findings. Finally, study four used a mixed methods approach which strengthens the robustness of the findings by combining quantitative qualitative data. While the qualitative component does not enhance statistical generalizability, it enriches the analytical generalizability by offering contextual insights into how participants interpret the variables under study.

4. Reflection on relevance

This section reflects on the contribution (scientific and practical) I made in this dissertation and include ideas for future research.

4.1. Scientific Relevance

In addressing research question one, study one (chapter 2) contributes to the scholarly discourse on employability and 21st century skills by empirically examining the relationship between students' self-reported 21st century skills and their perceived alignment between higher education curricula and future labor market requirements. This study fills a significant gap in the literature by utilizing both cross-sectional and longitudinal data, positioning it as one of the few studies to systematically assess the development of these skills over time. The findings affirm the critical role of 21st century skills—such as collaboration, communication, problem-solving, and critical thinking (Voogt et al., 2013)—in shaping students' perceptions of their preparedness for the labor market, thereby supporting the broader conversation on the role of education in fostering employability. Furthermore, the study advances existing theories of employability by incorporating the concept of 21st century skills into the education-to-work transition framework. By building upon and empirically testing Assignment Theory (Grosemans et al., 2017) — which posits that mismatches between education and the labor market lead to competency gaps—the study demonstrates that students who report higher levels of 21st century skills perceive a more favorable alignment between their education and labor market demands. Additionally, the study provides empirical support for the theoretical assertion that higher education plays a pivotal role in the development of employability skills, offering new insights into the perceived evolution of these competencies over time and raising critical questions about the effectiveness of current educational programs in fostering these skills.

In addressing research questions two and three, study two (chapter 3) contributes to the scholarly debate on employability and technology-enhanced professional development by investigating the impact of a LinkedIn learning intervention on the use of social media for professional growth and its relationship with employability. This study extends discussions on sustainable HRM by demonstrating that technology-facilitated learning can serve as a viable strategy for professional development within academic contexts. Moreover, by utilizing a non-Western (Egyptian) sample, the study challenges the prevailing WEIRD

(Western, Educated, Industrialized, Rich, and Democratic) perspective (Mayrhofer et al., 2016) in career research, offering new insights into the functioning of digital professional networking across diverse socio-cultural contexts. Grounded in Social Capital Theory (Coleman, 1990), the study underscores the significance of network ties established through social media as a means of accessing valuable resources, thereby reinforcing the role of social connections in enhancing employability. It empirically substantiates the proposition that active engagement with professional networks (exploitation level two of LinkedIn use) strengthens an individual's ability to anticipate and optimize future labor market demands. This supports the argument that professional learning via social media transcends the acquisition of explicit knowledge, extending to the development of relational capital for career advancement. From the perspective of Conservation of Resources (COR) Theory (Hobfoll, 1989), which posits that individuals seek to acquire and protect valuable resources, the study initially hypothesized that motivation to communicate via social media would moderate the relationship between LinkedIn use and employability. However, the results revealed no significant moderating effect, suggesting that social media-based learning interventions may be more influential in enhancing employability than intrinsic motivation alone. These findings challenge traditional applications of COR Theory (Hobfoll, 1989) and suggest that structured interventions can serve as an effective HRM strategy for employability enhancement, regardless of variations in individual motivation levels.

In addressing research questions four and five, Study 3 (Chapter 4) makes a significant scientific and scholarly contribution by advancing the contextualization of Western HRM and leadership theories within cross-national settings, specifically in the Netherlands and China. By engaging with the ongoing debate on the Convergence-Divergence Perspective (Cooke et al., 2020; Whetten, 2009), this study enhances the understanding of how national context, shaped by socio-cultural differences, influences the interpretation and outcomes of key HRM concepts, including learning climate facilitation, employability, turnover intention, and dark leadership. The findings demonstrate that while learning climate facilitation consistently reduces turnover intention in both countries—providing evidence in support of the convergence thesis—the substantially different interpretations of the study's core variables by Dutch and Chinese respondents lend support to the divergence thesis, underscoring the critical importance of context-sensitive research. Moreover, this study enriches the literature on dark leadership by illustrating how dark leadership moderates the relationship between learning climate facilitation and corporate sense in the Dutch context, whereas no such effect is observed in the Chinese context. This divergence highlights the influence of cultural differences in shaping how leadership behaviors are perceived and responded to across national contexts. Ultimately, the study contributes to theoretical advancement by questioning the universal applicability of Western HRM concepts and emphasizing the need for more nuanced, contextually grounded organizational research.

Finally, in addressing research questions six and seven, study four (Chapter 5) contributes to the scholarly debate by offering a comprehensive examination of the complex interrelationships between learning value of the job, employability, and subjective career

success, while incorporating the moderating role of occupational future time perspective. To investigate these relationships between the employee (in terms of their perceived career success and employability) and the organization (in terms of the provision of learning value within the job), this study employs the well-established theoretical lens of Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013). This study contributes to ongoing scholarly discourse on the role of workplace learning opportunities in enhancing employability and fostering subjective career success. By integrating Socioemotional Selectivity Theory (SST) (Carstensen et al., 1999) alongside the concept of occupational future time perspective (Rudolph et al., 2018), the study advances the understanding of how individuals' cognitive orientation towards their remaining career time and anticipated future opportunities influences their career-related attitudes, learning behavior, and development efforts. Notably, the findings challenge the prevailing assumption that OFTP significantly moderates these relationships, instead underscoring the paramount importance of intrinsic motivation, life stage, and altruistic orientation in shaping employees' engagement in learning and their employability enhancement. This refined perspective enriches existing employability and career success literature by demonstrating that personal agency and career stage-specific contextual factors play a crucial role, thereby extending the applicability of both Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013) and Socioemotional Selectivity Theory (Carstensen, 1999) within the evolving context of increasingly complex and unpredictable labor markets.

Together, these studies provide novel insights into the dynamic interplay between employability, technology, and education, contributing to theoretical advancements within the contemporary labor market.

4.2. Practical relevance

Resulting from research question one, study one (chapter 2) 21st century skills as collaboration, communication, problem-solving and critical thinking skills (Binkley, et al., 2012) and these should have a focal place in the curricula in order to enhance the students' fit for the labor market. Nonetheless, in practice it should be taken into account that not all students start with the same skills or learn the 21st century skills at the same pace (Kolb & Kolb, 2009). Especially when including 21st century skills in an educational curriculum, this point-of-attention should be taken into account and tailor-made. Extra-curricular activities are a way to introduce this to e.g. those students who are behind on particular 21st century skills.

Furthermore, for the most recent cohort of fourth-year students in comparison with their counterparts from earlier cohorts, a higher perception of 21st century skills exists. This focus, may it be in higher education or already earlier on, on further development of 21st century skills should be retained and expanded. In the longitudinal data the average score of 21st century skills has not increased during the time of the students' educational careers in higher education. In particular, although non-significant, there was even a slight negative trend. This could be explained by the "phases in learning" where students may only have reached the "conscious incompetent" phase later onwards in their study. Hence, a more conscious development of students' own skills, in other words meta-cognition, is of

utmost importance, in order for the students to take charge of their own learning (Nelson, 1996). Therefore, from a practical point of view, it is crucial to raise students' awareness of their learning curve by stressing the need for continuous self-evaluations.

Resulting from research question two and three, study two (chapter 3), the intervention of learning through social media for professional development has shown its potential for practice. Where employees, nowadays, are more and more re-sponsible for their own employability, organizations are asked to provide them with access to associated employability-enhancing practices (Peters & Lam, 2015). A structured, evidence-based intervention can provide employees with more balanced generic and domain-specific information. HRM practices can benefit from the findings as it is important that employees are onboard in the changing (technical) environment of social media, especially for the sake of their capability to anticipate to and optimize future changes at work. Social media use for professional development allows employees to work on their employability through innovative and interactive networking in a new type of learning context. For management in working organizations, the evidence-based insights and disputes the thought of blocking social media from the work floor, as it appears to increase the potential to gain a competitive advantage (Hemsley & Mason, 2012). Furthermore, the implementation of social media adapts to the recent trend, wherein social media becomes more and more integrated in the organizational landscape (Nisar et al., 2019) and increases the amount of social interaction, albeit virtual, on the shop floor.

Resulting from research question four and five, study three (chapter 4), it is recommended that HR-practices are aligned with the particular socio-economic and socio-cultural aspects of the context. Special care should be taken when using results for practice in previous empirical research that has been conducted in another context than one own's. Especially since the study shows that employees in the Netherlands and China interpret the variables under research (learning climate facilitation, dark leadership, employability, and turnover intention) differently. Nonetheless, in both the socio-cultural national contexts studied (the Netherlands and China), HRM practices promoting learning climate facilitation can lower managers' anxiety to lose employees. Especially in times of labor market shortages, the investment in learning climate facilitation may help to keep employees within the organization. This can provide organizations with a competitive advantages as they will not lose out on (firm-specific and general) knowledge and skills, or risk transferring knowledge and skills to a rival organization or potentially deterring other employees in the future. Finally the study finds that in the Netherlands, HRM practitioners should try to identify dark leadership within the organization since dark leadership lowers an employee's corporate sense even though the organization facilitates a learning climate, diminishing the positive effect of the organizational efforts.

Resulting from research question six and seven, study four (chapter 5), the findings of this research underscore the imperative for organizations to cultivate rich learning environments that prioritize employee development and skill enhancement. By fostering continuous learning in the organization, employers can enhance curiosity and an exploratory attitude among employees. This open-minded approach encourages individuals to engage more deeply in their activities and experience opportunities to learn, thereby avoiding possible negative self-reinforcing beliefs (Adam-Troian, 2019). Furthermore, the

assumed or perceived constraints of employees' time and focus on opportunities should not be viewed as barriers to continuously generating and facilitating workplaces with possibilities for personal growth. Organizations should consider implementing tailored HRM policies that address the varying career aspirations and needs of employees at different life stages. By doing so, employers can create a more adaptable, skilled, and engaged workforce that is better equipped to navigate the complexities of the modern labor market.

To strengthen employability and foster subjective career success, organizations should prioritize the design of jobs that offer high learning value. This includes incorporating challenging assignments, opportunities for experimentation, and space for ongoing skill development. Employees, in turn, are encouraged to take proactive responsibility for their own employability by seeking out learning opportunities and reflecting on their future career trajectories. Supervisors play a critical role by facilitating meaningful career dialogues, assigning stretch tasks, and supporting internal mobility. Human Resource Management (HRM) should adopt a life-span perspective by aligning development initiatives with distinct career phases—early, mid, and late career—and embedding learning and employability goals into performance management systems. A coordinated, multi-level strategy that integrates individual agency, managerial support, and HRM policy will contribute to a resilient, future-ready workforce where continuous development is embedded in organizational culture.

5. Future research

From research question one, study one (chapter 2) the following suggestions for future research have come forward. The study collected longitudinal data but due to the difficulty of collecting a vast amount of longitudinal data, future large-scale research could employ vast longitudinal designs across multiple higher education institutions and study programs to assess the generalizability of findings and explore disciplinary differences in how 21st century skills contribute to education-labor market fit. Expanding the scope of 21st century skills assessed—such as digital literacy, creativity, and global citizenship—could provide a more comprehensive understanding of students' preparedness for the future workforce. Methodologically, future research could incorporate multi-source data collection, including faculty and employer evaluations, to mitigate self-report bias and enhance the validity of findings. Additionally, a mixed-methods approach combining quantitative and qualitative data could offer richer insights into how students perceive and develop these skills throughout their education. Finally, future studies could investigate the impact of external factors, such as technological advancements and labor market shifts, on students' career readiness, providing a more dynamic perspective on sustainable employability.

From research question two and three, study two (chapter 3) the following suggestions for future research have come forward. Future research could benefit from a more extensive longitudinal design by incorporating additional measurement points to track long-term effects and control for potential unobserved influences (De Lange, 2005). Implementing a control group could further enhance the robustness of findings by isolating the effect of

social media interventions on employability outcomes. Future studies may also explore a more heterogeneous sample, including participants from diverse industries, countries, and organizational levels, to strengthen the generalizability of results. Additionally, investigating the role of demographic factors (e.g., age, education, career stage) could provide deeper insights into how individual characteristics shape the impact of social media on professional development. Expanding the methodological approach by integrating qualitative methods could further enrich understanding by capturing nuanced experiences and motivations related to technology-based career development.

From research question four and five, study three (chapter 4) the following suggestions for future research have come forward. Future research could employ qualitative methodologies to provide deeper contextual insights into the mechanisms through which learning climate facilitation influences turnover intention. Additionally, future studies could use multi-source data collection (e.g., combining employee self-reports with supervisor or HRM assessments) to enhance the validity of results and reduce potential biases. Future research could also apply a multi-wave, longitudinal design to examine reciprocal relationships, such as potential cross-lagged effects between learning climate facilitation, employability, and turnover intention (Kwok & Fang, 2021). Moreover, future studies could explore alternative moderating variables, such as organizational culture or national policy differences, to capture contextual influences on the learning-employability-turnover relationship across China and the Netherlands. Expanding the sample beyond employees enrolled in educational programs could also strengthen generalizability, ensuring applicability to a broader workforce across diverse industries and career stages.

Finally, from research question six and seven, study four (chapter 5) the following suggestions for future research have come forward. Future research could employ longitudinal designs to clarify causality and examine how changes in work experiences, labor market conditions, and personal circumstances shape perceived career success over time (Taris et al., 2003). Additionally, future studies could explore the role of demographic characteristics (e.g., age, gender, career stage) and external macro-level factors (e.g., economic fluctuations, industry-specific trends) to understand how these variables interact with career success perceptions. Investigating cross-cultural differences could further deepen insights into how occupational future time perspective and learning value of the job operate in different labor market contexts. Moreover, future research could adopt a mixed-methods approach, integrating qualitative data to capture the subjective and evolving nature of career aspirations and employability trajectories. These directions would provide a more nuanced, dynamic, and generalizable understanding of the career development process.

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Chapter 7

Summary

1. Navigating employability – Exploring determinants, outcomes, and contextual factors

Lifetime employment in the same organization is diminishing (Lo Presti & Pulviano, 2015), and for employees finding their place in the labor market, it has been known for several decades that “lifetime employability instead of lifetime employment is the way to protect oneself in the labor market” (Forrier & Sels, 2003, p. 102). In the current study, employability is defined as “the continuously fulfilling, acquiring or creating of work through the optimal use of competences” (Van der Heijde & Van der Heijden, 2006, p. 453). In order to facilitate this “lifetime employability”, determinants, expected (mediated) effects of employability on work outcomes, and contextual factors, including their interactions (Duggal et al., 2024; Van der Heijde & Van der Heijden, 2014) are researched.

To illustrate and explore the employable life, I draw from data collected from diverse groups of respondents. Across four studies, students preparing for their entry into the labor market and professionals actively engaged in lifelong learning to sustain and enhance their employability were included. Using diverse samples, I highlight that employability is not a static attribute, but rather a dynamic quality that requires continuous development and adjustment as individuals move through their employable life.

This approach acknowledges that factors that influence employability throughout individuals’ employable lives, are shaped by ongoing development and continuous interactions among personal agency, organizational conditions, and broader institutional and societal contexts.

The inclusion of professionals from both Western and non-Western contexts allowed broad and context-sensitive exploration of how individual and contextual determinants shape employability over time. An employable life is thus examined not only as an individual responsibility, but also as the product of ongoing interactions among personal agency, organizational practices, and broader institutional and cultural environments.

More specifically, this research will focus on four determinants of employability. First is 21st-century skills as social and cognitive skills (Deming, 2017; Voogt & Pareja Roblin, 2012), and second is social media use for professional development, based on the three exploitation levels from Sigala and Chalkiti (2015). Third is learning climate facilitation, in which employees’ perceptions of organizational policies and practices that facilitate, reward, and support employee learning behavior are paramount (Nikolova et al., 2014). Fourth is the learning value of the job as being the extent to which tasks and responsibilities allow employees to elaborate on existing occupational knowledge and skills

(Van der Heijden & Bakker, 2011). In this dissertation, education Education-future labor market fit, based on insights from Kay and Greenhill's (2011) conceptualization, forms Study 1's operationalization of employability. For the outcome variables turnover intention, a measure about the thoughts of leaving the organization (Cammann et al., 1979) and subjective career success, an individual's reactions to his or her unfolding career experiences (Hughes 1937; Spurk et al., 2019) were used. For the contextual factors, motivation, referring to computer-mediated communication (CMC) competence measure for motivation by Spitzberg (2006), was used. Furthermore, Dark leadership, or abusive supervision (Tepper, 2000), a leadership style in which supervisors humiliate, belittle, or otherwise treat subordinates derisively, was included. Finally, Occupational future time perspective, based on Zacher and Frese's (2009) operationalization, which comprises both remaining time and focus on opportunities, was also included.

Besides the callIn addition to calls for research on employability determinants, calls have also been made for cross-cultural employability research (Duggal et al., 2024; Wittekind et al., 2010). An organization's ability to perform optimally in global markets depends on workers' employability (Van der Heijden & Bakker, 2011), and thus the current study uses data from Egyptian and Chinese professionals.

Given the aforementioned research imperatives, the adoption of a nuanced and contextually grounded methodological approach is essential. In particular, the field of employability research increasingly emphasizes the importance of utilizing longitudinal data, mixed methods, and cross-national data to gain a more comprehensive understanding of employability dynamics across different contexts and over time. In response to these calls, I collect in this dissertation samples of both longitudinal and cross-national data, integrating mixed methods to provide a robust analysis. Moreover, qualitative methods (i.e. focus groups) are combined with quantitative techniques, including surveys and statistical analysis, to capture a nuanced understanding of employability. This methodological approach allows for an in-depth exploration of how employability manifests itself in an employable life.

The conceptual model (see Figure 1) includes the determinants, the expected (mediated) effects of employability on work outcomes and contextual factors including their interactions. More specifically, the model states that 21st century skills, social media use for professional development, learning climate facilitation and learning value of the job are all associated with employability, and employability, in its turn, is associated with turnover intention and subjective career success. What is more, the model indicates that employability might be a construct mediating the relationship between the determinants, on the one hand, and the outcomes, on the other hand. It also states that motivation, dark leadership and occupational future time perspective might moderate the relationship between determinants and employability.

Overall these, insights and research ideas have led to the following conceptual model:

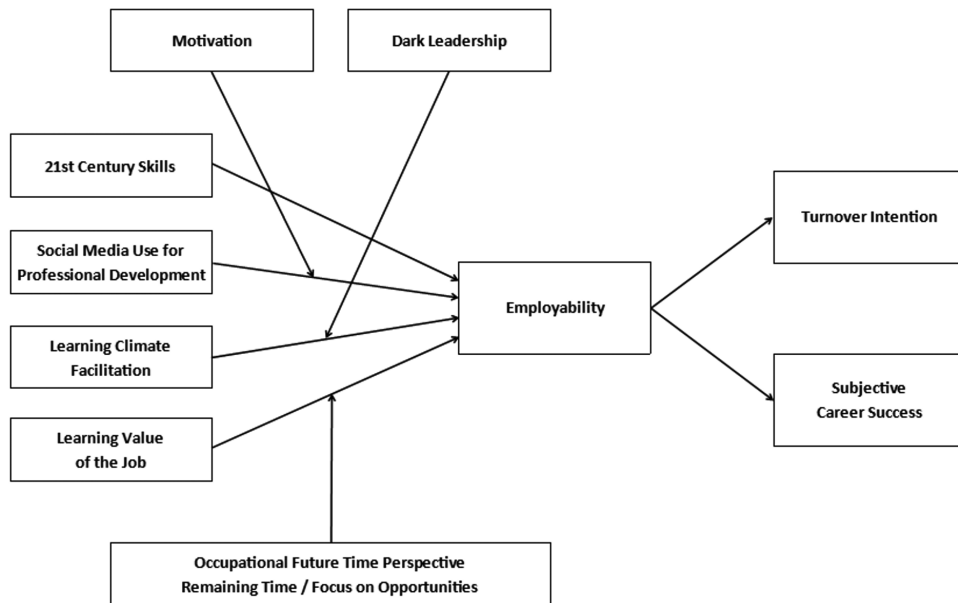


Figure 1. Conceptual Model

The main research question that forms the basis of this dissertation:

What is the predictive validity of the distinguished determinants in this study for employability and, through this, to the included work outcomes, and which role do the moderators play in the model relationships?

The main research question is divided into the following sub-questions:

1. How do 21st century skills (e.g., collaboration, communication, problem-solving, and critical thinking) influence students' perceptions on the alignment between their education and future labor market fit?
2. To what extent does a technology-based learning intervention influence employees' professional use of a social media platform on employability?
3. In what way does motivation to communicate through social media affect the relationship between professional social media usage and employability?
4. How does facilitating a learning climate impact employees' turnover intention mediated by employability in different cultural contexts?
5. In what way does dark leadership affect the relationship between facilitating a learning climate and employability in different cultural contexts?
6. How does learning value of the job impact employees' subjective career success mediated by employability?
7. In what ways do perceptions of occupational future time perspective affect the relationship between learning value of the job and employability?

2. Methodology

In this dissertation, empirical data were gathered using different research approaches and unique datasets. Each approach was tailored to address specific research questions, ensuring methodological rigor and contextual relevance.

To address sub-research questions one (chapter 2) data were collected through a survey conducted at a university of applied sciences resulting in 4,670 cross sectional response and 83 longitudinal response.

To address sub-research questions two and three (chapter 3), a two-wave longitudinal design was implemented (c.f. De Lange, 2005) resulting in 101 matched samples by linking the T1 and T2 data for individual participants. A key feature in the methodology of this study was an intervention which had an evidence-based design, incorporating scientifically validated learning techniques.

To address sub-research questions four and five (chapter 4), a quantitative deductive approach was applied using a cross-sectional research design (Reyes, 2004). Recognizing the importance of contextual analysis, the two surveys resulted in 382 Dutch and 319 Chinese respondents. As an incentive for participation, respondents received personalized employability reports comparing their scores to a benchmark, which they could use for their professional development.

To address sub-research questions six and seven (chapter 5), a sequential explanatory mixed methods approach was employed (Creswell & Clark, 2010). This study resulted in 417 respondents to the survey and a total of 12 participants in multiple focus groups which started with the conscious stream of thought (Dainton, 2000; Coppola et al., 2022).

Objectivity was ensured through standardized data collection, analysis, and interpretation procedures, using reliable sources and validated instruments. Triangulation of methods and data sources further enhanced objectivity by cross-verifying findings from different approaches. All methodological decisions were grounded in established theoretical and empirical frameworks to minimize researcher bias and enhance credibility.

3. Studies

In this dissertation, four studies are presented which each elaborate and investigate aspects of the research questions. In the sections that will follow, a summary of the different studies will be given which reflect on the central aim of this dissertation which is to empirically test how the employability mediation model relates to individual determinants, work outcomes and contextual factors, including their interactions in an employable life?

Study 1. Am I fit for tomorrow's labor market? The effect of graduates' skills development during higher education for the 21st century's labor market (Chapter 2)

Study one, sub-research questions one (chapter 2) addressed the ongoing debate on the development of 21st century skills and their contribution to students' employability as they prepared to enter increasingly dynamic labor markets. Specifically, it investigated how students' self-assessed cognitive and social skills — such as collaboration, communication, problem-solving, and critical thinking — related to their perceived fit between the competences developed during their education and those expected in their anticipated future labor market. The study employed Structural Equation Modeling (SEM) to examine the relationships between self-perceived 21st century skills and perceived education-labor market fit. In addition to SEM, cohort analyses using ANOVA were conducted to assess differences between successive student cohorts, capturing changes in perceived skill levels over time. To evaluate the development of these competences throughout students' educational careers, a one-way repeated measures ANOVA was applied, enabling a longitudinal perspective on skill progression. The findings indicated that higher levels of self-perceived 21st century skills were positively associated with stronger perceptions of education-future labor market fit, highlighting the importance of embedding these skills in curricula to ensure graduates' readiness for sustainable careers. The study also revealed that more recent student cohorts reported significantly higher self-perceived competence levels, reflecting a growing emphasis on these skills in educational programs. Overall, this study underscored the need for continuous, structured development of 21st century skills throughout the educational pipeline to foster career adaptability and sustainable employability in graduates.

Study 2. Employable through social media: An intervention study (Chapter 3)

Study two, sub-research questions two and three (chapter 3) contributed to the ongoing debate on technology-based professional development by investigating how a social media learning intervention influenced employees' use of social media for professional development and how this, in turn, related to their self-reported employability. In addition, the study explored whether motivation to communicate through social media moderated this relationship. To test the hypothesized relationships, the study applied a two-wave longitudinal design combined with pre- and post-intervention comparisons. Dependent samples t-tests with bootstrapping were used to evaluate changes in social media use following the intervention, while the relationships between social media use and employability were analyzed using multiple linear regression analyses for each employability dimension. To examine the moderating role of motivation to communicate through social media, moderation analysis using PROCESS macro (Model 1) was conducted, with continuous predictors centered to facilitate interpretation. The findings showed that social media use for professional development significantly increased following the intervention, confirming the intervention's effectiveness in stimulating technology-based professional learning. Social

media use was also found to be positively related to the employability dimension of anticipation and optimization, indicating that employees who actively engaged in professional social media use were better able to foresee and prepare for future career opportunities. However, the study found no significant moderating effect of motivation to communicate through social media, suggesting that the intervention itself, rather than individual motivation, was the key driver in enhancing social media-based professional development. Overall, the study highlighted that structured learning interventions can effectively foster technology-enhanced professional development, offering a sustainable HRM practice that supports lifelong learning and enhances employability in line with the human capital agenda.

Study 3. Do you really want to hurt me? The impact of contextual factors on the moderating role of dark leadership in the relationships between learning climate facilitation, employability and turnover intention in the Netherlands and China (Chapter 4)

Study three, sub-research questions four and five (chapter 4) contributed to employability research and the broader debate on contextualizing theories, specifically within the framework of the Convergence-Divergence Perspective. The study examined how learning climate facilitation related to turnover intention in two culturally distinct labor markets, the Netherlands and China. In addition, it investigated whether this relationship was mediated by employability and whether dark leadership moderated these associations. The analysis applied Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the hypothesized relationships, providing insights into direct, indirect (mediated), and moderated effects across the two cultural contexts. For both countries, learning climate facilitation demonstrated a direct negative relationship with turnover intention —providing evidence in support of the convergence thesis—, confirming that employees who perceived strong organizational support for learning were less inclined to consider leaving their employer. However, the substantially different interpretations of the study's core variables by Dutch and Chinese respondents lend support to the divergence thesis, underscoring the critical importance of context-sensitive research. The above mentioned direct effect was partially mediated by the balance dimension of employability, indicating that perceptions of personal and organizational goal alignment played a role in reducing turnover intention.

In the Dutch context, dark leadership weakened the relationship between learning climate facilitation and the corporate sense dimension of employability, suggesting that abusive supervision eroded the sense of belonging and connection to the organization, despite a supportive learning climate. However, corporate sense itself did not mediate the relationship with turnover intention, indicating that other mechanisms may drive employees' decisions to stay or leave. In the Chinese context, no significant moderating effects of dark leadership were found, underlining the importance of cultural and contextual factors when examining leadership effects. Overall, the study underscored the critical role of learning climate facilitation in fostering employability and retention, while also

demonstrating that dark leadership can undermine these positive effects. The findings emphasized the need for context-sensitive HRM approaches, as the interpretation and impact of key HRM concepts may differ between cultural settings, reflecting both convergence and divergence patterns across national contexts.

Study 4. What's going on? Occupational future time perspective in the relationship between learning value of the job, employability and career success, a moderated mediation model (Chapter 5)

Study four, sub-research questions six and seven (chapter 5) examined the relationships between learning value of the job, employability, and subjective career success, while also exploring whether occupational future time perspective moderated the relationship with employability. The study applied an explanatory sequential mixed-method design, combining quantitative analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) with qualitative focus group analysis to enrich and contextualize the quantitative findings. The quantitative results demonstrated that learning value of the job was positively related to most employability dimensions, confirming that jobs offering opportunities for learning and development contributed to employees' sense of employability. In turn, employability—particularly the balance and corporate sense dimensions—was partially positively related to subjective career success, highlighting that employees who experienced alignment between personal and organizational goals tended to perceive their careers more positively. Contrary to expectations, occupational future time perspective did not significantly moderate any of the proposed relationships, suggesting that perceptions of remaining time and future opportunities played a less prominent role than anticipated. The qualitative focus groups supported the importance of learning value for employability, while also uncovering nuanced individual differences in how employees interpreted remaining time and future opportunities. Overall, the study reinforced the relevance of Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013), showing that mutual investment in learning and development fosters positive career outcomes. The absence of significant moderation effects, however, suggested that the role of future time perspectives may be more complex than previously theorized.

4. Scientific Relevance

In this dissertation I contribute to the scholarly discourse on employability by integrating multiple theoretical frameworks to examine how individual, organizational, and contextual factors interact to shape an employable life.

Study one, discussing sub-research questions one (chapter 2) applied Assignment Theory (Grosemans et al., 2017) to empirically demonstrate how 21st century skills—collaboration, communication, problem-solving, and critical thinking—enhance students' perceived education-future labor market fit. By incorporating both cross-sectional and

longitudinal data, this study filled a gap in the literature by systematically capturing how these competences evolve over time, reinforcing the critical role of higher education in fostering employability.

Study two, discussing sub-research questions two and three (chapter 3) extended Social Capital Theory (Coleman, 1990) and Conservation of Resources Theory (Hobfoll, 1989) to explore how a technology-based learning intervention enhanced social media use for professional development and employability. The study highlighted that social media use for professional development was positively related with the employability dimension anticipation and optimization. The assumption that intrinsic motivation to communicate is essential for social media-based professional learning in relation to employability was challenged however not confirmed.

Study three, discussing sub-research questions four and five (chapter 4) engaged with the Convergence-Divergence Perspective (Whetten, 2009; Cooke et al., 2020), examining how learning climate facilitation influenced turnover intention through employability in the Netherlands and China. The findings provided evidence for both convergence (a learning climate reduces turnover intention) and divergence (culturally distinct interpretations of HRM concepts). Dark leadership further weakened these processes in the Dutch however not in the Chinese context, highlighting the importance of context-sensitive research.

Finally, study four, discussing sub-research questions six and seven (chapter 5) applied Person-Environment Fit Theory (Kristof, 1996; Kristof-Brown & Billsberry, 2013) and Socioemotional Selectivity Theory (Carstensen, 1999) to examine the relationships between learning value of the job, employability, and subjective career success, while assessing the moderating role of occupational future time perspective. This study reinforced the value of learning opportunities but challenged the assumption that occupational future time perspective shapes employability-related facilitation.

Together, these studies advance employability theory by integrating individual, organizational, and cross-cultural insights, offering an understanding of an employable life.

5. Practical Relevance

In this dissertation I provides valuable practical insights for educational institutions, employers, HR professionals, and policymakers seeking to foster employability in a rapidly changing labor market. Across the four studies, practical implications emerge at the individual, organizational, and policy levels, emphasizing the need for continuous development, tailored HR interventions, and culturally sensitive strategies to enhance employability throughout the employable life course.

Study one, discussing sub-research questions one (chapter 2) highlights the importance of embedding 21st century skills—collaboration, communication, problem-solving, and critical thinking—into educational curricula to prepare students for sustainable labor market entry. Educational institutions should actively monitor and adjust their curricula to ensure alignment between graduate competences and evolving labor market demands.

The finding that perceived 21st century skills improved across successive student cohorts underscores that sustained policy attention to competence development is effective. However, the absence of longitudinal skill growth within individual students' educational careers calls for greater emphasis on self-reflection, metacognition, and personal development planning, enabling students to actively shape their own employability trajectories.

Study two, discussing sub-research questions two and three (chapter 3) provides actionable insights for HR professionals and organizational learning specialists, demonstrating that a technology-based learning intervention can increase employees' professional use of online networking platforms such as LinkedIn and enhance their employability. This supports the integration of social media for professional development training into learning and development strategies, encouraging employees to leverage digital platforms for knowledge sharing and networking. Importantly, the study shows that well-designed interventions can foster employability-enhancing behaviors, even in the absence of intrinsic motivation to communicate. This underscores the critical role of organizational support in ensuring that employees develop future-proof digital skills.

Study three, discussing sub-research questions four and five (chapter 4) emphasizes the importance of context-sensitive HR practices that align with the socio-economic and socio-cultural conditions in which organizations operate. The findings demonstrated that learning climate facilitation consistently reduced turnover intention in both the Netherlands and China, underscoring the value of fostering supportive learning environments to retain employees and preserve organizational knowledge—particularly in tight labor markets. At the same time, the study highlighted that employees in the Netherlands and China interpret key HR constructs—learning climate facilitation, employability, turnover intention, and dark leadership—differently, requiring tailored approaches across cultural contexts. In the Netherlands, particular attention should be given to identifying and addressing dark leadership, as abusive supervision erodes employees' corporate sense even within supportive learning climates, undermining organizational efforts to enhance employability. Overall, the study stresses that global HRM strategies must account for cultural nuances.

Finally study four, discussing sub-research questions six and seven (chapter 5) emphasizes the importance of creating rich learning environments that prioritize employee development and ongoing skill enhancement. By fostering a culture of continuous learning, organizations can stimulate curiosity and an exploratory mindset among employees, encouraging deeper engagement with work tasks and increasing the likelihood of recognizing new learning opportunities. This proactive approach helps employees avoid negative self-reinforcing beliefs that could hinder their development (Adam-Troian, 2019). The study further highlights that perceived time constraints and limited future opportunities should not deter organizations from continuously investing in learning environments. Instead, tailored HR policies should be implemented to align learning opportunities with employees' varying career aspirations and needs across life stages. By addressing development needs at different career phases, organizations can cultivate a more adaptable, skilled, and engaged workforce, better equipped to navigate the complexities and uncertainties of today's dynamic labor market.

Taken together, these practical insights emphasize that employability enhancement is a shared responsibility between individuals, organizations, educational institutions, and policymakers. By integrating lifelong learning, fostering positive work environments, embracing digital transformation, and tailoring HR practices to cultural and individual differences, all actors can contribute to sustainable employability in increasingly volatile, uncertain, complex, and ambiguous labor markets.

6. Limitations and Future Research

Across all four studies, a common limitation was the reliance on self-report data to measure variables such as perceived 21st century skills, employability, social media use, and turnover intention. This reliance increases the potential for common method bias and social desirability bias, which could have influenced the observed relationships. Future research could enhance data validity by combining self-reports with objective measures or multi-source data collection.

In Study 1, which examined how 21st century skills related to perceived education-future labor market fit, the findings were limited by the focus on a single higher education institution in the Netherlands. This institutional scope constrains the generalizability of the findings to other educational study programs and institutions. Furthermore, although a longitudinal component was included, only a small subset of students was followed across time, limiting the ability to draw robust conclusions about skill development over students' full educational careers. Future research could address this by conducting large-scale longitudinal studies across multiple study programs and institutions. Additionally, expanding the set of 21st century skills could offer a more comprehensive picture of students' readiness for future labor markets.

Study 2, which investigated the effects of a technology-based learning intervention on social media use for professional development and employability, was limited by its focus on employees from a single Egyptian university. This restricted sectoral and cultural focus limits the applicability of findings to other professional settings, industries, and national contexts. Additionally, the two-wave longitudinal design only captured short-term effects, meaning the long-term sustainability of the technology-based learning intervention gains could not be assessed. The absence of a control group further limits the ability to fully isolate intervention effects. Future research could enhance robustness by implementing longer-term longitudinal designs with control groups, as well as exploring more diverse and heterogeneous samples across sectors, industries, and countries. Combining quantitative and qualitative data would also enrich understanding by capturing participants' experiences and motivations for technology-based professional development.

Study 3, which examined learning climate facilitation, employability, turnover intention, and dark leadership in the Netherlands and China, was limited by its convenience sampling from professionals in master's programs while working, resulting in a sample skewed toward highly educated professionals. This limits generalizability to less-educated

employees or those outside partially structured learning environments. Furthermore, the cross-sectional design precludes conclusions about causal relationships between learning climate facilitation, employability, turnover intention, and dark leadership. Future research could apply multi-wave longitudinal designs to investigate how learning climate facilitation, dark leadership and employability evolve over time and influence turnover intention. Expanding the sample to include diverse employee populations would enhance generalizability.

Study 4, which focused on the relationships between learning value of the job, employability, and subjective career success, was similarly limited by its sample of master's students while working, reducing generalizability to employees in different roles and education levels. Additionally, although the study included occupational future time perspective (OFTP) as a moderating variable, the quantitative results did not yield statistically significant effects. This raises the possibility that other individual or contextual factors may exert a greater influence in shaping the relationship between job-related learning and career success perceptions. To build on these findings, future research would benefit from broader and more diverse samples, as well as longitudinal designs capable of capturing how personal circumstances, work environments, and labor market dynamics interact over time to influence employability and career outcomes.

Together, addressing these limitations would enhance the theoretical depth, practical relevance, and contextual sensitivity of future research across diverse educational, professional, and cultural contexts with regard to an employable life.

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About the Author



Omar Theo Elmer Habets was born on 20 January 1988 in Geleen, the Netherlands. He studied International Business at Zuyd University of Applied Sciences and subsequently obtained three master's degrees, in International Business – Strategic Marketing and Management of Learning from Maastricht University, and in Management – Implementation and Change from the Open University of the Netherlands.

Omar works at Zuyd University of Applied Sciences as a senior lecturer and researcher at the Research Centre for Employability. His work combines research, education, and educational development, with a particular interest in employability, human resource management, lifelong learning, leadership, and the changing nature of work. He is also involved in curriculum development and academic quality assurance within higher education and has served as coordinator of Zuyd's Knowledge Centre for Future-Proof Business. He furthermore serves as a member of Zuyd University of Applied Sciences' institutional Research Ethics Committee. Beyond his work at Zuyd, he is affiliated with NEIMED, where he contributes to research on socioeconomic developments and broad prosperity.

His PhD research was conducted at the Institute for Management Research of Radboud University under the supervision of Prof. Dr. Beatrice van der Heijden, Prof. Dr. Jol Stoffers, and Prof. Dr. Pascale Peters. In his dissertation, *Navigating Employability: Exploring Determinants, Outcomes and Contextual Factors*, Omar examines employability as a dynamic process throughout an individual's working life. Across four empirical studies, he investigates determinants and outcomes of employability, as well as the contextual factors that shape these relationships. His research addresses topics including 21st-century skills, technology-based professional development, learning climate, leadership, the learning value of work, and career-related outcomes, while considering the role of motivational and future-oriented factors. His work draws on longitudinal, cross-national, and mixed-method research approaches. At the time of writing, three of the four studies included in his dissertation have been published in international peer-reviewed academic journals.

During his PhD trajectory, Omar developed an international research network through collaborative research, research visits, and participation in international academic conferences. His research involved collaboration with academics affiliated with universities in, among others, Cairo (Egypt) and Wuhan (China). He also spent research periods at Cardiff University (United Kingdom) and the Athens University of Economics and Business

(Greece), where he worked on his dissertation and engaged with international scholars and PhD communities. In addition, he presented and discussed his work at international academic conferences in various cities in the Netherlands, Seville and Cádiz (Spain).

Alongside his academic research, Omar has a strong interest in translating research into education and professional practice. He teaches in undergraduate and master's programs and contributes to curriculum development and educational innovation. His recent applied research increasingly addresses technological change, artificial intelligence, broad prosperity, and the future of work. Through practice-oriented publications, professional events, and collaborative initiatives, he aims to disseminate research beyond academia and contribute to how individuals and organizations can remain employable and future-ready in a changing labor market.

