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Beyond Traditional Pairing: A Systematic Approach to Mentoring in the Software Industry

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Master in Applied Management

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BUSINESS
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Department of Marketing, Operations and General Management

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Ao meu Avô, cujo exemplo me ensinou que o saber só é útil quando o passamos a alguém.

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Resumo

A mentoria assume relevância ímpar em sectores intensivos em conhecimento, como a indústria do software, onde a inovação acelerada exige estratégias sistemáticas de desenvolvimento de talento e transferência de conhecimento. Esta dissertação investiga o emparelhamento sistemático de mentores e mentorandos, propondo um modelo de implementação e avaliação de um programa estruturado num Hub tecnológico português. Utilizando uma metodologia mista (literatura, conceção algorítmica e inquéritos empíricos), o estudo avalia implicações teóricas e impactos organizacionais (JEL: M12, M53, J24, O15, O32, M54). Os resultados evidenciam que a similaridade profunda, incluindo valores, estilos comunicacionais e consciência cultural, é determinante na qualidade, satisfação e eficácia dos programas, superando o impacto residual das semelhanças meramente demográficas. O processo tecnológico, e baseado em critérios, fomenta o desenvolvimento de competências, a integração e uma cultura organizacional voltada para a aprendizagem. Conclui-se que a conjugação de ferramentas algorítmicas com práticas de gestão centradas nas pessoas potencia a difusão de conhecimento, a atualização estratégica de competências e a retenção de talento. Este modelo orientado pela evidência apresenta-se como referência replicável para gestão de talento e desenvolvimento organizacional em ambientes dinâmicos. As conclusões orientam profissionais de recursos humanos e decisores na superação do défice digital e na elevação adaptativa da força de trabalho. Ao articular fundamentação conceptual e metodologia aplicada, esta dissertação contribui para o debate sobre desenvolvimento sistemático de talento e aprendizagem organizacional na indústria do software.

Palavras-chave:

mentoria, emparelhamento sistemático, indústria do software, aprendizagem organizacional, capital humano

Códigos JEL:

M12, M53, J24, O15, O32, M54

Abstract

Mentoring is increasingly critical for knowledge-intensive sectors such as the software industry, where accelerated innovation heightens the need for systematic talent development and effective knowledge transfer. This dissertation addresses the systematic matching of mentors and mentees, proposing an implementation and evaluation model for a structured mentoring programme within a Portuguese technological hub. Relying on a mixed-methods approach (combining literature review, algorithmic programme design, and empirical surveys), the research assesses both theoretical implications and organisational impact (JEL: M12, M53, J24, O15, O32, M54). Results reveal that deep-level similarity, encompassing values, communication preferences, and cultural awareness, significantly drives relationship quality, satisfaction, and programme effectiveness, surpassing the limited impact of superficial demographic matching. The technological, and criteria-based, pairing process supports individual skills development, onboarding, and an organisational culture of learning. Outcomes suggest that integrating algorithmic tools with human-centred management fosters robust knowledge diffusion, strategic upskilling, and higher retention rates. This evidence-based model presents a replicable framework for talent management and organisational development in fast-paced environments. Implications include guidance for HR professionals and policymakers on bridging digital skills gaps and enhancing workforce adaptability. By advancing both conceptual understanding and practical methodology for mentoring, this work contributes to the discourse on systematic talent management and continuous organisational learning, providing a blueprint for future initiatives in the software domain.

Keywords:

Mentoring, Systematic Matching, Software Industry, Organisational Learning, Human Capital

JEL Codes:

M12, M53, J24, O15, O32, M54

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1. Introduction

1.1 Contextualization

Mentoring has emerged as a strategic pillar in contemporary organisational development, particularly within technology-intensive environments such as software engineering. The growing complexity of digital ecosystems, accelerated innovation cycles, and acute talent shortages have heightened the relevance of structured approaches to knowledge transfer and professional integration. This introductory chapter establishes the conceptual and organisational relevance of the study, detailing the research problem, its practical and theoretical significance, and the rationale underpinning the investigation. Furthermore, it delineates the research objectives—both general and specific—and presents the methodological orientation adopted. The final section provides a synopsis of the dissertation's structure, outlining the logical progression of chapters that inform and support the development, implementation, and evaluation of a systematic mentoring model tailored to the software industry.

The increasing complexity of technical environments, rapid innovation cycles, and the need for continuous upskilling have made effective knowledge transfer and social integration critical for both individual and organizational success (Nuis et al., 2023; Gagliardi et al., 2014). Mentoring programmes are widely recognized for their role in supporting onboarding, skill acquisition, and career advancement, organizational commitment and a culture of continuous learning (Gershenfeld, 2014; Gagliardi et al., 2014).

The European Union's information and communication technology (ICT) sector has shown steady growth in recent years, with software development and engineering roles representing a significant share of employment within the digital economy. According to Eurostat (2025), ICT specialists made up over 5% of total employment in European Union in 2024 (representing more than 10 million people), with software engineering being one of the most dynamic segments.

In Portugal, the information and communication technologies (ICT) sector, which encompasses software engineering, has experienced sustained growth, particularly evident in the increasing prevalence of ICT specialists within organisations. According to the Instituto Nacional de Estatística (INE), approximately 20% of Portuguese companies employed ICT specialists in 2024, underscoring the sector's expanding significance within the national economy. The number of enterprises with ICT professionals has continued to rise, a trend driven by ongoing investments in digital transformation, innovation, and the proliferation of technology startups. These developments are further supported by public policies and European funding programmes aimed at enhancing digital skills and fostering

technological innovation (Instituto Nacional de Estatística, 2024a; Instituto Nacional de Estatística, 2024b).

Recent labour market analyses confirm that Portugal continues to face a significant talent gap in the information and communication technologies (ICT) sector, particularly in software engineering. According to the OECD, Portugal exhibits a markedly higher shortage of ICT professionals compared to the average for all occupations: there are, on average, 288% more vacancies per employed person in ICT roles than in other sectors. This figure is well above the OECD average and is especially acute in certain regions of the country, highlighting persistent challenges in attracting and retaining highly skilled software engineers. These shortages are attributed to the rapid pace of digital transformation, the expansion of technology-driven businesses, and the growing demand for advanced digital skills within the national and European economies (OECD, 2024).

This structural talent gap is further reinforced by European Commission analyses, which indicate that over 70% of businesses across Europe identify the lack of staff with adequate digital skills as a key obstacle to investment and growth. The European Union's 2024 State of the Digital Decade report also notes that the number of ICT specialists in the EU remains well below the targets set for 2030, underscoring the urgency for systematic talent development strategies, including structured mentoring programmes, to support professional development and knowledge transfer in the software industry (European Commission, 2024a; European Commission, 2024b).

In the context of software development hubs, the challenges of integrating new professionals, promoting cross-functional learning, and maintaining high levels of collaboration are particularly acute (Feng et al., 2024). The dynamic nature of software teams – characterized by diverse skills, backgrounds and project-based work – demands mentoring relationships that are both effective and adaptable. Numerous studies have shown that structured mentoring can improve not only technical competence, but also social integration, job satisfaction, and talent retention (Nuis et al., 2023; Gershenfeld, 2014; Gagliardi et al., 2014).

However, the success of mentoring programmes is highly dependent on the quality of the mentor-mentee relationship (Tuma & Dolan, 2024). Traditional matching approaches, often based on superficial criteria such as department or availability, are increasingly seen as inadequate for fostering high-quality mentoring relationships (Nuis et al., 2023). Recent research highlights the importance of "deep-level" similarity – shared values, attitudes, and perspectives – over the surface-level characteristics for predicting relationship quality and positive mentoring outcoming (Tuma & Dolan, 2024). These insights are particularly relevant in technical environments, where alignment of goals, communication styles, and professional aspirations can significantly influence the effectiveness of mentoring (Tan & Leong, 2025).

The emergence of systematic, criteria-based matching processes, often supported by digital platforms or algorithmic tools, has transformed mentoring programme design (Chun, Sosik, & Yun, 2012; Feng et al., 2024). These approaches leverage structured data to optimize mentor-mentee pairings, considering factors such as skills, experience, goals, and communication styles (Chun, Sosik, & Yun, 2012; Tan & Leong, 2025). Empirical studies demonstrate that algorithmic and data-driven matching can enhance satisfaction, increase the likelihood of successful relationships, and improve programme scalability (Chun, Sosik, & Yun, 2012; Feng et al., 2024). Nevertheless, the optimal combination of matching parameters and their operationalization in real-world settings remain active areas of research (Nuis et al., 2023; Chun, Sosik, & Yun, 2012).

Despite the growing adoption of systematic matching, barriers such as administrative burden, lack of clear criteria, and insufficient evaluation persist (Gagliardi et al., 2014; Tan & Leong, 2025). Addressing these challenges requires a rigorous, evidence-based approach to the design, implementation, and assessment of mentoring programmes, particularly in fast-paced and technically complex environments.

In the context of software hubs, the academic literature tends to prioritise the examination of mentoring effects (such as integration and retention), yet there remains a notable deficit of research offering comparative analyses regarding which specific pairing criteria account for satisfaction and efficacy, as well as how such criteria might be operationalised within actual programme frameworks.

1.2 Research Question

Given the increasing importance of systematic approaches to mentoring in technology-driven organizations, the present study addresses what are the most relevant parameters for the systematic matching in mentoring programmes within a software development hub, and how can these parameters be operationalized to maximize participant satisfaction and programme effectiveness.

This research question responds both to the practical imperative for scalable and effective mentoring models and to a notable theoretical gap in the literature concerning pairing criteria; the question is as follows:

Which pairing parameters are deemed most relevant within the context of mentoring programmes in a software development hub, and through what means might these be operationalised so as to maximise both satisfaction and perceived efficacy among participants?

Furthermore, the specific objectives of this research are the following: (i) systematic review of pairing factors and methods (Chapter 2); (ii) data collection to inform method design (Chapter 3); (iii) collected data discussion (Chapter 4); (iv) programme proposal design and implementation guidelines (Chapter 5); (v) conclusion, encompassing future work and limitations (Chapter 6).

1.3 Motivation

The primary purpose of this study is to identify, operationalize, and evaluate the key parameters that underpin effective systematic matching in mentoring programmes, focusing on a software development hub context. By synthesizing insights from the academic literature with empirical data from a real-word setting, the study aims to contribute to both scholarly understanding and practical improvements on Software Development Hubs context, by creating a mentoring initiative with systematic pairing.

1.4 Methodology Overview

To address the research question and objectives, this study adopts a mixed-methods approach, integrating both qualitative and quantitative, and direct and indirect data collection and analysis. The research design consists of four main phases, each informed by best practices in mentoring programme evaluation (Gagliardi et al., 2014; Gershenfeld, 2014).

First, a systematic literature review is conducted to identify key parameters and best practices for mentor-mentee matching, drawing in peer-reviewed studies from high-education, professional development, and technology sectors (Nuis et al., 2023; Gagliardi et al., 2014; Tan & Leong, 2025). Second, a mentoring pairing preferences survey is conducted (including respondents from different geographies, roles and levels of experience), evaluating the perceived weight of matching criteria such as skills, experience, goals, communication styles, and diversity factors, on successful mentoring experiences (Chun, Sosik, & Yun, 2012; Feng et al., 2024). Quantitative data (e.g., Liker-sclase based replies) and qualitative data (e.g., open-ended feedback) are triangulated to provide a comprehensive evaluation of factors associated with successful mentoring relationships (Tuma & Dolan, 2024; Gershenfeld, 2014). Third, a programme proposal is designed, including the basic devices (such as commitment letters, enrolment forms, pulse and end-of-programme feedback survey forms) and policies (programme architecture, timeline and milestones, matching criteria and operationalisation, KPIs and mitigation measures) that should compose it (Gagliardi et al., 2014). Ethical considerations, including informed consent, confidentiality, and data protection, are rigorously observed throughout the research process, in accordance with the institutional guidelines and best practices (Gagliardi et al., 2014).

1.5 Dissertation Structure

The structure of this dissertation has been designed to ensure a logical and integrated progression toward answering the central research question, with each chapter building upon the previous and contributing directly to the overall argument and findings. The introductory chapter establishes the

context, motivation, research question, and methodological orientation of the study, while also outlining the organisation of the dissertation to guide the reader.

The literature review follows, critically examining academic contributions on mentoring, systematic matching, and programme evaluation, with a particular focus on technology and software development contexts. This chapter provides the theoretical foundation and directly informs the identification of relevant matching criteria, which are essential for the subsequent design of the mentoring programme.

The methodology chapter details the empirical approach, including the rationale for the chosen research design, data collection methods, analytical techniques, and ethical considerations. This ensures methodological rigour and sets the stage for the empirical investigation.

Next, the information presentation and analysis chapter systematically discusses the data collected, identifying key patterns and insights. These findings are interpreted considering the theoretical framework established earlier, and they play a crucial role in shaping the practical development of the systematic mentoring programme.

Building on this analytical foundation, the programme design and evaluation proposal chapter describes how the identified criteria are operationalised and applied in practice, detailing the processes for pairing mentors and mentees within the organisational context, along with the relevant tools and policies. This chapter demonstrates the translation of theoretical and empirical insights into actionable practice.

Finally, the conclusion chapter synthesises the main results, reflects on their implications for both theory and organisational practice, and offers recommendations for future research and implementation. In this way, each chapter is explicitly connected, ensuring a coherent and cumulative response to the research objectives.

This chapter has introduced the topic, relevance, objectives, and methodological framework of the present study, as well as the overall structure of the dissertation. In addition to addressing a gap in the literature regarding organisational mentoring, this work contributes to the discourse on mentoring in the software industry by proposing and empirically testing a systematic mentor-mentee matching process, grounded in criteria previously identified as relevant. In practical terms, it also offers a replicable guide for the implementation of future mentoring programmes. Table 1.1, below, presents a condensed view of the mapping between objectives, variables and methods.

The following chapter will present a critical review of the existing literature, with the aim of identifying the main theoretical contributions on organisational mentoring, matching criteria, and programme evaluation in technical environments, which will underpin the development of the model to be implemented.

Table 1.1 Alignment map between objectives, variables and methods

Objective	**Variables/ Indicators**	**Source/ Instrument**	**Analysis Techniques**	**Expected Output**
Identify matching criteria	Deep-level (values, communication style, cultural awareness); logistics (time zone, availability); professional (skills, objectives)	Systematic review (Scopus/WoS) (Appendices A and B)	Structured extraction; evidence table	List of criteria + operational definition
Design protocol and algorithm	Relative weights; constraints; stability rule; thresholds	Design document; data dictionary	Weighted score algorithm + Gale–Shapley; pseudocode	Auditable blueprint of the matching process
Validate effects	Satisfaction, relationship quality, pair stability	Total Surveys = 204	SPSS usage (Cronbach's alpha, Spearman's Rho, Chi-square, etc)	Effect estimates with robustness
Implement procedure	Cadence; governance; metrics; risks	Programme manual; forms	Piloting; dashboard	Applicable procedure for a tech hub

Source: Self-elaborated, 2025.

2. Literature Review

This chapter critically reviews the theoretical and empirical literature relevant to mentoring in technical environments, with particular focus on the parameters affecting the quality of mentor-mentee pairing, thus focusing on pertinent indirect data. This chapter will start by establishing an academically grounded definition of mentoring, tracing its evolution from hierarchical to reciprocal approaches, examining learning theories, contrasting functionalist and radical humanist perspectives, and synthesize contemporary research to show how mentoring is a dynamic, multidimensional field, shaped by both theoretical developments and contextual needs. After this theoretical basis, the exposition will proceed to analysing relevant studies on the field to determine the factors that influence the quality of mentoring relationships.

To ensure reproducibility and rigour, the Literature Review followed a systematic protocol in indexed databases (Scopus and Web of Science), with predefined inclusion/exclusion criteria, double reading of title-abstracts, full-text confirmation, and structured qualitative synthesis. The review covers publications between 2000 and 2025 (Q1/Q2 whenever available), focusing on mentor–mentee matching and the effectiveness of mentorship in contexts adjacent to the software industry (STEM, technical education, technology hubs), as well as literature on matching methods and organisational implementation.

The systematic review process is summarised in Table B1 (Appendix B), detailing identification, screening, eligibility assessment, and final inclusion across Scopus and Web of Science databases. Out of the initial records, non-relevant titles/abstracts were excluded, resulting in the final selection of empirical studies, reviews, and algorithm studies. The full PRISMA flow diagram is provided in the Appendix for transparency and auditability.

The eligibility criteria for study inclusion in this review were as follows: (i) empirical studies or systematic reviews addressing mentor-mentee matching within mentoring programmes; (ii) research conducted in settings adjacent to the software industry, such as STEM, engineering, technology hubs, or technical education and induction contexts, provided they included measurable indicators of mentoring quality or effectiveness; (iii) peer-reviewed journal articles published in English or Portuguese between 2000 and 2025; and (iv) literature on algorithms or matching methods applied to mentoring or comparable professional development settings, such as internships or tutoring schemes. Studies were excluded if they were opinion pieces or editorials without primary data, purely clinical or basic education research lacking a matching dimension, romantic matching or studies outside formative contexts, or non-peer-reviewed white papers. To ensure rigour in evidence appraisal,

empirical contributions were assessed using the MMAT checklist, while systematic reviews were evaluated with the adapted AMSTAR tool; the resulting quality (A/B/C) for each study was reported in the extraction table and weighted in the synthesis accordingly (see Table B2, Appendix B).

2.1 Mentoring Trajectory: Foundations and Prevailing Paradigms

Mentoring is broadly defined as a developmental relationship in which a more experienced individual offers guidance and support to a less experienced counterpart, encompassing both personal and professional growth through intentional, sustained interaction and multi-dimensional support (Allen et al., 2004; Eby et al., 2008; Allen & Eby, 2007).

Contemporary perspectives stress its holistic, reciprocal nature, moving beyond traditional hierarchical models to highlight mutual learning, deep-level similarity, and shared agency as central to mentoring effectiveness, especially in response to the complex demands of diverse and dynamic environments (Darwin, 2000; Kram, 1983; Tuma & Dolan, 2024; Nuis et al., 2023).

Foundational learning theories (including facilitative, experiential, and transformative approaches), underscore the mentor's role in fostering self-direction and critical reflection (Rogers, 1983; Kolb, 1984; Mezirow, 1978; Chandler et al., 2011; Nuis et al., 2023). Recent reviews confirm that successful mentoring arises from value congruence, culturally responsive practices, and robust programme design, positioning mentoring as a complex, evolving construct shaped by theoretical advances and contextual factors (Tuma & Dolan, 2024; Tan & Leong, 2025; Darwin, 2000; Nuis et al., 2023; Feng et al., 2024).

Having established the conceptual and theoretical foundations of mentoring, the following section examines empirical evidence on pairing mechanisms, with particular attention to differences and similarities between educational and technical (STEM) environments.

2.2 Pairing factors that matter - Education *and* STEM

To date, empirical investigations into the factors that underpin effective mentor-mentee matching have been conducted almost exclusively in two fields: STEM academia and new teachers' induction. This narrow evidence base is particularly notable, given that both domains share salient structural and cultural characteristics with the contemporary software industry, thereby warranting the careful transfer and adaptation of research findings across these contexts. In each case (be it doctoral training in the sciences or the support of novice teachers), professionals operate within knowledge-intensive environments marked by rapid technological evolution, the imperative for ongoing collaboration, and the need for successful onboarding and retention of talent (Marshall et al., 2025; Wold et al., 2023; Tuma & Dolan, 2024).

Literature highlights that both STEM education and new teachers' induction programmes have increasingly integrated digital tools, peer mentoring, and industry collaborations as core professional development strategies, closely mirroring trends in the software sector (Marshall et al., 2025; Susin et al., 2023; Trigwell, 2012). For instance, teacher professional learning in both STEM and technology domains emphasises the use of real-world, project-based learning experiences, familiarity with current digital platforms, and an expectation of both technical and soft skills advancement (Roberts et al., 2019; Susin et al., 2023). Similarly, research in engineering and STEM faculty mentoring explicitly draws on models and success metrics derived from software industry mentoring and knowledge transfer practices, further substantiating the alignment between these professional communities (Parslow & Winstone, 2017; Marshall et al., 2025). Moreover, the reliance on mentorship as a mechanism for sustainable talent development, innovation, and social integration is well documented across all three sectors, positioning findings from STEM and teachers' induction studies as both relevant and actionable for mentoring programmes in software organisations (Marshall et al., 2025; Roberts et al., 2019; Susin et al., 2023).

Therefore, the closely allied cultures of continuous professional learning, rapid adaptation, and the centrality of mentoring to both individual and organisational achievement provide a solid justification for applying empirical insights from STEM academia and new teachers' induction to research and practice in the software industry. The substantial parallels in mentoring demands, professional development strategies, and success criteria create a robust foundation for the generalisation and contextual adaptation of findings on effective mentor-mentee pairing (Marshall et al., 2025; Susin et al., 2023).

Before delving on the differences and similarities between both STEM academia and new teachers' induction approaches, is important to understand that research distinguishes between surface-level similarity, accounting for demographic characteristics such as age, gender, or race that are immediately observable, and deep-level similarity, which encompasses values, attitudes, and personality traits that become apparent through interpersonal interaction (Harrison, Price, & Bell, 1998; Phillips, Northcraft, & Neale, 2006).

It is of utmost importance to define Culture Awareness (Byram, 2012) as the conscious understanding and acknowledgement of the differences and similarities between cultures, which includes being alert to the ways that language, values, beliefs, and behaviours both shape, and are shaped by, cultural context. This awareness involves not only recognising the distinct practices and perspectives of other cultures, but also critically reflecting on one's own cultural assumptions and how they influence communication and social interaction.

2.2.1 Establishing mentoring pairs within STEM Academia

Tuma and Dolan (2024) present a rigorous, quantitatively grounded analysis of mentoring relationships within doctoral STEM education, wherein the mentorship dyad is conceptualised not simply as a vehicle for skill transfer but as a complex, relational bond with far-reaching implications for student identity formation, psychosocial safety, and long-term career advancement.

Central to their findings is the theorisation and empirical validation of deep-level similarity (Harrison, Price, & Bell, 1998) as the preeminent predictor of mentoring relationship quality. This construct is operationalised as the degree of congruence between mentor and mentee across domains such as values, worldviews, communication styles, and intellectual orientation. Through the use of advanced statistical approaches, the authors demonstrate that deep-level similarity substantially predicts both the provision of career-related and psychosocial support.

In contrast, their analysis finds no significant relationship between surface-level similarity (Phillips, Northcraft, & Neale, 2006), and mentorship quality. This stands in opposition to a prevailing assumption in some institutional matching models that demographic congruence is inherently beneficial. Instead, Tuma and Dolan's work illuminates that the psychological comfort and cognitive resonance arising from shared perspectives and mutual understanding often supersede tangible demographic similarity with regard to the formation of high-quality, supportive mentorship alliances.

Moreover, Tuma and Dolan (2024) introduce the concept of culturally aware mentorship, rooted on cultural awareness, as a critical mediating factor in cases where surface-level dissimilarity exists. Their analysis illustrates that mentors who actively engage with, and acknowledge, the diverse lived experiences of their mentees (demonstrating both sensitivity and adaptability) can offset or even negate the absence of demographic resemblance. In essence, the practice of culturally aware mentorship elevates the importance of mentor competencies related to inclusivity, empathy, and responsiveness to identity-based differences. Their study thus suggests a paradigm in which pairings based on attitudinal and cognitive (thus, deep-level) similarity, combined with culturally responsive mentorship capacities, yield the most favourable mentoring outcomes within the context of prolonged, developmentally oriented relationships (Tuma & Dolan, 2024).

2.2.2 A perspective on new teachers' induction mentoring pairing

By contrast, the perspective advanced by Wold et al. (2023) reflects the priorities and structures characteristic of large-scale, pragmatic mentoring initiatives, such as those instituted for novice teachers within geographically dispersed and often resource-constrained educational systems. Their mixed-methods study, encompassing surveys and qualitative data drawn from both mentors and mentees across multiple districts, evidences a strong preference for pragmatic pairing factors centred on proximity and professional relevance. Specifically, the preponderance of their respondents

identified co-location (i.e., assignment within the same building or district) and content-area similarity (i.e., shared instructional subject or grade span) as the most salient criteria in effective mentor–mentee pairing.

Wold et al. attribute this to both practical and psychosocial rationales: proximity facilitates spontaneous, low-barrier exchanges, fosters a sense of collegiality, and expedites access to contextually relevant advice and emotional support. Furthermore, content-area alignment ensures that the knowledge and experience of the mentor directly correspond to the mentee's daily instructional challenges and professional learning needs.

Of note in Wold et al.'s findings is the conditional elevation of personality compatibility as a prioritised pairing factor. While rarely cited as the premier consideration, personality fit acquires substantial salience in those cases where proximity or content-area similarity cannot be satisfied—such as in remote mentoring or in sparingly staffed rural environments. Under such circumstances, the ability of the mentor and mentee to develop rapport and trust, anchored in compatible interpersonal styles and shared approaches to professional challenges, becomes a vital compensatory mechanism. The authors further note that the exigencies of the COVID-19 pandemic necessitated a broad shift toward virtual and hybrid mentoring frameworks, a context in which personality congruence and digital communication preferences increasingly shaped the quality and effectiveness of the mentoring relationship (Wold et al., 2023).

2.2.3 Differences and similarities - Education versus STEM

A comparative synthesis of current perspectives reveals that, although both Tuma and Dolan (2024) and Wold et al. (2023) challenge an overemphasis on surface-level demographic matching, their theoretical orientations and ensuing recommendations for mentor-mentee pairing are shaped by distinct institutional contexts (for a detailed synthesis, see Table C1, Appendix C). The approach advanced by Tuma and Dolan (2024) is particularly salient within environments marked by extended periods of developmental engagement, such as doctoral education and sustained research mentoring. In such contexts, the cultivation of psychological safety and the co-construction of intellectual identity are regarded as foundational to mentorship effectiveness.

Conversely, the model articulated by Wold et al. (2023) is finely attuned to settings characterised by immediate practical necessities, such as new teachers' induction and high-turnover educational environments, where logistical parameters (including co-location and alignment of professional responsibilities), are paramount for effective pairing. Nonetheless, a key point of convergence across both frameworks is the inadequacy of demographic matching alone; instead, there is consensus on the value of multidimensional and context-sensitive strategies. Tuma and Dolan (2024) prioritise psychological and cultural compatibility, while Wold et al. (2023) emphasise the importance

of pragmatic alignment and responsiveness to structural constraints, recognising also the growing relevance of hybrid and digital mentoring models.

Having comparatively analysed the principal criteria and contexts underpinning effective mentor-mentee pairings, as evidenced in both Tuma & Dolan (2024) and Wold et al. (2023), it is pertinent to consider how these theoretical and empirical insights are operationalised within the design of mentorship programmes. Specifically, the process by which mentors and mentees are assigned (whether by manual selection, participant preference, or increasingly, through the application of algorithmic approaches), constitutes a fundamental bridge between best practice pairing principles and their practical implementation. The following subsection therefore examines the range of matching algorithms utilised in mentorship contexts, with attention to how such methods seek to integrate, automate, or optimise evidence-based pairing factors.

2.3 Matching algorithms

The recent proliferation of algorithmic matching frameworks in the academic literature reflects recognition of the limitations of manual or ad hoc pairing strategies, which may result in suboptimal compatibility and reduced programme outcomes. As mentoring scales in scope and complexity (spanning higher education, industry, and professional development), robust, data-driven approaches to matching have gained salience, encompassing classic combinatorial algorithms, modern heuristics, clustering approaches, recommender system hybrids, and, increasingly, artificial intelligence and machine learning methodologies (Ikotun et al., 2021; Çano & Morisio, 2017; Wang et al., 2023). Along this section, the more common matching algorithms used for mentoring pairing will be discussed, starting from the traditional manual pairing system, and ending on AI and Machine Learning approaches. Appendix D provides a comprehensive description of the pseudo-code for each method.

2.3.1 Manual administrative procedures

Traditional mentor–mentee pairing systems primarily involve administrative or coordinator-led decision-making, where programme organisers match individuals based on profile review, perceived similarities, or surface attributes such as academic discipline, professional background, or availability (see Algorithm D1, Appendix D). Typically, this process leverages information from application forms, demographic surveys, or preliminary interviews, but relies heavily on the subjective judgement and discretion of the programme coordinator (Christiansen & Busenbark, 2023; Chen, 2013).

While manual matching allows for nuanced interpretation and can sometimes capitalize on coordinators' contextual knowledge, empirical research highlights several limitations of this approach. These include the consistent risk of bias, lack of scalability, and an overreliance on easily accessible (but often superficial), matching criteria, all of which constrain the effectiveness of matching as

programme size and complexity increase (Christiansen & Busenbark, 2023; Chen, 2013). Moreover, rigid or opaque administrator-driven systems may fail to account for participants' evolving developmental needs and interpersonal compatibilities, which can result in mismatches or lower long-term satisfaction (Nuis et al., 2023). To address these concerns, the literature suggests that transparent criteria, continuous evaluation, and regular inclusion of participants' goals and feedback can support higher-quality and more durable mentoring relationships (Treasure et al., 2022; Christiansen & Busenbark, 2015).

2.3.2 Two-Sided Matching and Gale-Shapley-Type Algorithms

At the heart of formal mentoring allocations lies the theory of two-sided matching, commonly operationalised through the Gale-Shapley deferred acceptance algorithm. This paradigm accommodates the explicit expression of ranked preferences by both mentors and mentees, ensuring a stable outcome in which no unmatched pair would mutually prefer each other over their assigned partners (Gale & Shapley, 1962). Such stability is highly desirable in mentorship contexts to mitigate dissatisfaction and turnover (see Algorithm D2, Appendix D).

Extensions to the Gale-Shapley algorithm have responded to practical exigencies such as unequal set sizes, incomplete lists, and presence of indifference or ties, while respecting core game-theoretic properties (Manlove, 2013). While two-sided matching ensures stability, it does not necessarily optimise secondary metrics such as participant satisfaction or match cardinality, motivating further developments in multi-objective formulations (Teo & Sethuraman, 1998).

2.3.3 Multi-Objective and Heuristic Extensions

Recognising that stability alone is often insufficient to ensure optimality for mentoring aims, multi-objective and heuristic matching algorithms have gained prominence. In these frameworks, a blend of objectives (including maximising total satisfaction, balancing mentor and mentee preferences, and accounting for fairness) are simultaneously considered (see Algorithm D3, Appendix D). Metaheuristic optimisation approaches such as genetic algorithms, particle swarm optimisation, and other nature-inspired models have shown efficacy in addressing the inherent NP-hardness of high-dimensional matching problems (Ikotun et al., 2021).

These algorithms are valued for their flexibility in incorporating programme-specific constraints and their adaptability to large complex datasets, outperforming purely deterministic algorithms in bespoke or real-world mentoring scenarios (Wang et al., 2023).

2.3.4 Clustering-Based Algorithms (K-Means and Variants)

Clustering algorithms, particularly K-means and its modern variants, have emerged as important tools for discovering latent structure in mentor and mentee populations prior to final allocations (see Algorithm D4, in appendix D). In mentoring applications, clustering facilitates segmentation (grouping participants by similarity across traits or needs), prior to matching, thereby boosting within-group compatibility and scaling processes for large cohorts (Al-kababchee et al. 2022; Ikotun et al., 2021).

Advances in clustering have integrated K-means with metaheuristic optimisers and equilibrium models to overcome the tendency towards local minima and sensitivity to initial condition, significantly improving the functional quality of cluster assignments as a precursor to effective match recommendation (Al-kababchee et al. 2022).

2.3.5 Hybrid Recommendation (Collaborative and Content Filtering)

Hybrid recommender systems that blend collaborative filtering (learning from past matching data or peer evaluations) and content-based filtering (drawing on the explicit attributes and preferences of mentors and mentees) have acquired a substantial research base within the mentoring context. Meta-analyses and systematic reviews indicate that weighted or sequential hybrids balance the strengths of each approach (see Algorithm D5, in Appendix D). Collaborative methods are adept at uncovering emergent compatibility patterns even where attributes are sparse, while content-based filters reliably the process explicit match criteria (Çano & Morisio, 2017).

Hybrid models not only mitigate the “cold start” dilemma (meaning, when there is insufficient data) but also demonstrate superior accuracy in participant satisfaction and programme engagement, especially when deployed in dynamic, larger-scale institutional environments (Zhang et al., 2024).

2.3.6 Artificial Intelligence and Machine Learning Approaches

The rise of artificial intelligence and machine learning has revolutionised mentor–mentee matching through the exploitation of high-dimensional, heterogeneous data and adaptive model training. State-of-the-art studies report the use of random forests, deep neural networks, and ensemble learning for direct prediction of compatibility, success, or satisfaction in mentor–mentee allocations, often integrating continuous feedback for iterative system improvement (see Algorithm D6, in Appendix D) (Wang et al., 2023). Importantly, these learning systems are adept at not only matching but also at forecasting the likely longitudinal outcomes of pairing, thereby supporting data-driven programme management and fostering more durable relationships (Haas, Hall, & Vlasnik, 2018).

2.3.7 Summary and comparative analysis

Recent advances in algorithmic mentor matching have prioritised reducing bias, promoting equity, and increasing transparency in decision-making. Techniques such as demographic masking, establishing diversity thresholds, and introducing mentor capacity limits (implemented via fairness-aware optimisation), help address disparities for protected groups within matching algorithms (De-Arteaga, Feuerriegel, & Saar-Tsechansky, 2022). Although these strategies strengthen fairness, they also introduce challenging debates about the design and efficacy of fairness constraints. Best practice now favours the use of transparent, interpretable scoring rules and stable matching algorithms for primary pairing, reserving complex recommender systems for secondary phases. This approach ensures that matching frameworks deliver both equity and operational transparency, aligning with contemporary empirical recommendations (De-Arteaga et al., 2022). Table 2.1 provides a comparative analysis.

Table 2.1 Comparative Summary of Match Algorithms: Principles, Strengths, and Limitations

Algorithm	Core Principles	Strengths	Limitations	Applicability
Traditional Administrative Pairing	Human-led/manual matching based on coordinator judgement	Context-sensitive, leverages local knowledge	Prone to bias/subjectivity, lacks scalability, low transparency	Low
Two-Sided Matching (Gale-Shapley Type)	Stability through mutual ranked preferences (deferred acceptance)	Guarantees stable matches, theoretically grounded	Does not optimise multiple objectives, less flexible for partial preferences	Average
Multi-Objective & Heuristic Extensions	Metaheuristics (e.g., genetic algorithms) optimising multiple criteria	Balances size, satisfaction, fairness; handles complex settings	Computationally intensive, may need parameter tuning	High
Clustering-Based (K-Means and Variants)	Groups by attribute similarity before matching	Good for discovering latent structure, scalable	Sensitive to initial conditions, may ignore explicit preferences	Average
Hybrid Recommendation Systems (Collaborative + Content)	Combines user attributes and behaviour; learning-based recommendations	Reduces cold start, high satisfaction, adaptable	Needs sufficient data for best results, integration complexity	High
Artificial Intelligence & Machine Learning	Predicts compatibility from multidimensional data (often with supervised/ensemble models)	Highly flexible, can incorporate many features, learns over time	May be 'black box', requires curated data, possible interpretability issues	High

Source: Self-elaborated based on Al-kababchee et al. (2022), Çano & Morisio (2017), Chen (2013), Christiansen & Busenbark (2023), Gale & Shapley (1962), Ikotun et al. (2021), Manlove (2013), Treasure et al. (2022), Haas, Hall, & Vlasnik (2018), Teo & Sethuraman (1998), Wang et al. (2023) and Zhang et al. (2024)

Each method is summarised with attention to its core operational principle, key advantages, potential limitations, and a representative scholarly reference. This synthesis aims to facilitate a nuanced understanding of the spectrum of pairing strategies, from traditional manual matching to advanced data-driven techniques, enabling informed selection or evaluation within diverse mentoring programme contexts.

This analysis has examined key theories and evidence regarding mentoring, focusing on the evolution of matching strategies and programme evaluation in technical contexts. By integrating insights on deep-level similarity, cultural responsiveness, and algorithmic approaches, a solid conceptual basis for effective mentor-mentee pairing is established. The following research phase develops a rigorous methodology to investigate these parameters empirically within organisations, ensuring a coherent transition from theoretical framework to practical research design for mentoring programme matching.

3. Methodology

The present methodological protocol describes in detail both the sequential approach adopted for both the empirical evaluation of mentor–mentee matching within the software sector (addressing issues of sampling, instrumentation, analytical procedures, and ethical governance); and the formulation of the mentoring programme to be used on a technological hub.

This study is applied, mixed-methods, and exploratory-validatory in nature, structured to answer both exploratory and confirmatory research questions within the context of mentor–mentee matching in the software sector. The chosen methodology permits the exploration of mentor–mentee relationships with sufficient depth and breadth, capturing subjective experiences from a heterogeneous sample of professionals, regardless of previous mentoring programme involvement. The structure of data collection and analysis directly facilitates methodological replicability and upholds international scholarly standards. The protocol incorporates four principal research stages: (i) a literature review; (ii) qualitative exploratory interviews; (iii) a quantitative survey; and (iv) data analysis and model validation.

3.1 Sampling, Power and Inclusion Criteria

This study adopts an applied, sequential mixed-methods design to examine mentoring dynamics in technical organisations. Such a framework captures nuanced perceptions across both novices and experienced participants, irrespective of prior programme involvement. Sample size estimation (190 to 250 respondents, effectively 204) was informed by power analysis to detect small-to-medium effects ($d \approx 0.35$) in satisfaction and programme value between mentoring-experienced and non-experienced groups, at $\alpha = 0.05$ and power $(1 - \beta) = 0.80$, following established protocols and meta-analytic guidance (Allen et al., 2004; Eby et al., 2008; Tuma & Dolan, 2024). Allowances for 10–15% attrition were set, reflecting digital survey best practices (Gershenfeld, 2014).

Eligibility required participants to be aged 18 or older, with current or recent roles in the software or related digital sectors, and informed consent. Unlike many mentoring studies, no role-based quotas were imposed, thus ensuring a comprehensive pool that enabled comparative analysis across experience levels (Nuis et al., 2023). Recruitment spanned professional bodies, online forums, and sectoral mailing lists, complemented by snowball sampling to mitigate bias and promote representativity. Profile quotas by job function and seniority were lightly monitored.

Demographic data were collected, processed, and stored in compliance with GDPR, and variables such as gender, ethnicity, and religion were used exclusively for aggregate reporting and diversity monitoring, never for matching or analytical inference (Gagliardi et al., 2014).

3.2 Instruments of Data Collection - Operational Questionnaire

The primary data collection instrument was an electronic survey, designed for completion typically within seven minutes and structured to capture both demographic and attitudinal variables relevant to mentoring in technological contexts (Allen et al., 2004; Gershenfeld, 2014). Professional experience and mentoring engagement were operationalised through stratification variables and dichotomous measures, following contemporary multi-cohort mentoring research (Nuis et al., 2023). Insights from a pilot survey, conducted with fewer respondents, directly informed the development of the final questionnaire, ensuring respondent construct understanding and contextual relevance.

Motivations, deterrents, and intentions towards mentoring programme participation were measured using exclusive checklists and open-ended response formats, ensuring alignment with constructs predictively associated with engagement and value as evidenced in organisational behaviour literature (Eby et al., 2008).

Criteria deemed relevant for effective mentor–mentee matching (such as shared values, skill alignment, communication preferences, and logistical considerations), were assessed with respondent ranking and selection, mirroring state-of-the-art research in mentoring pairings (Tuma & Dolan, 2024; Feng et al., 2024). All attitudinal and contextual items were structured to allow comparative and nuanced analysis across differing degrees of prior mentoring experience (Gershenfeld, 2014).

Table 3.1 (see next page) summarises the demographic information collected (gender, years of experience, role's category, previous participation and role in mentoring, along with job satisfaction), to enable analysis of the sensitivity of these variables within the sample; while Table 3.2 (see page 20 for details) details the variables under study, encompassing factors that impact the quality of mentoring pairings, as identified and discussed in Chapter 2's theoretical framework and review. Survey items and response options are available in Appendix E, for transparency and replicability.

3.3 Analytical Plan

Analytical procedures followed international standards of scale validation, data cleaning, and inferential comparison. Responses were screened for completeness, time consistency, and compliance with attention checks as recommended in survey methods. Pre-processing included duplicate removal and logical checking for patterned missingness. Reliability for scale blocks was examined using Cronbach's alpha, and measurement validity was assessed via both exploratory and confirmatory factor analysis (Gershenfeld, 2014).

Table 3.1 Demographic and Background Questionnaire Variables

Variable	**Objective**	**Questionnaire Question**	**Used Scale**
Field of work	Filter out non-technological, by not allowing replies from other fields	"Do you work in a technological environment dedicated to software development?"	Boolean (Yes/No)
Gender identity	Understand the sample diversity and how sensitive the variables are to gender	"Which gender do you identify with?"	Exclusive selection (female, male, Non-binary, prefer not to say)
Years of experience	Understand the sample diversity and how sensitive the variables are to years of experience	“How many years do you have in technology field?”	Exclusive selection (less than 1 year, 1-3 years, 4-6 years, 7-10 years, more than 10 years)
Primary role	Understand the sample diversity and how sensitive the variables are to role types	“Which category best describes your current primary role?”	Exclusive Selection (Engineering, Product, Agility, Management, Other)
Current job satisfaction level	Understand the sample diversity and how sensitive the variables are to job satisfaction	"On a scale from 1 (least satisfied) to 10 (most satisfied), how satisfied are you with your current professional career?"	Cantril Ladder (10 step scale)
Cultural identification	Understand the sample diversity	“Which culture do you most strongly identify with?”	Selection with examples and “other” editable option
Previous mentoring experience	Understand the sample diversity and how sensitive the variables are to previous mentoring experience	“Have you previously participated in a formal or informal mentoring relationship during your career (as a mentor, mentee, or both)?”	Boolean (Yes/No)
Role in mentoring programmes	Understand the sample diversity and how sensitive the variables are to role in previous experience	“What type of mentoring program were you participating?”	Exclusive selection (Formal, informal, both)

Source: Self-elaborated based on Chapter 2, 2025.

Table 3.2 Mentoring Relationship Questionnaire Variables

Variable	Objective	Questionnaire Affirmation	Used Scale
Deep-level similarity	Understand the impact of shared values, attitudes and beliefs in mentoring pairing	"Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors (e.g., job title, gender, age)."	Likert scale (Strongly disagree to Strongly Agree) + open-ended question
Culturally aware mentoring	Understand the impact of culturally aware mentors in mentoring pairing	"Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships."	Likert scale (Strongly disagree to Strongly Agree) + open-ended question
Matching and relationship initiation	Understand the impact of relationship initiation in mentoring pairing	"The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned."	Likert scale (Strongly disagree to Strongly Agree) + open-ended question
Demographic and hierarchical matching	Understand the impact of demographic similarity and seniority differences in mentoring pairing	"Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship."	Likert scale (Strongly disagree to Strongly Agree) + open-ended question
Psychological safety	Understand the impact of psychological safety in mentoring pairing	"A safe, open environment where feedback can be exchanged freely is essential for effective mentorship."	Likert scale (Strongly disagree to Strongly Agree) + open-ended question

Source: Self-elaborated based on Chapter 2, 2025.

Descriptive and inferential analyses compared perceptions and satisfaction across subgroups, including never, former, and current mentoring participants. Key tests included chi-square for categorical distributions, and either independent samples t-tests or Mann–Whitney U tests for group mean comparisons according to empirical distribution. Effect sizes and 95% confidence intervals were reported throughout, using Cohen's d for means and Cramér's V for proportions. SPSS software was used for meaningful and academically recognizable statistical analysis, inferential testing (crosstabulations with Chi-square test, correlations using Spearman's Rho), and reliability checks (Cronbach's alpha). Microsoft Excel facilitated data cleanup, as preparation. Qualitative analysis of open-text replies was manual, due to the relatively reduced volume of replies - around 30% of total respondents (Nuis et al., 2023; Tuma & Dolan, 2024).

This analytical plan permits triangulation of findings across both qualitative and quantitative strands. Integration of results informs the validation of the mentor–mentee matching model and enhances the interpretative clarity of sectoral recommendations.

3.4 Algorithm Design

The mentor–mentee matching protocol was formalised as a weighted, rule-based algorithm integrating empirical survey insights. The algorithm prioritises deep-level compatibility, skill alignment, and explicit participant preferences, with adjustments for logistical constraints such as time zones. Gale–Shapley stability mechanisms underpin the framework, enhanced by computational rules addressing mentor capacity and diversity thresholds. The system is fully auditable, ensuring readiness for future operational deployment. All principles (algorithmic transparency, capacity planning, and auditability), were meticulously observed to align with contemporary standards for equitable and effective matching.

3.5 Ethical Governance and General Data Protection Regulation (GDPR)

Ethical compliance was maintained throughout, with all data processing governed by explicit consent and strict adherence to GDPR and institutional oversight. Only essential variables were collected and securely encrypted; access was limited to the analysis team, and data retention followed institutional policy for 12 months post-project. Participants were fully informed of their rights, usage purposes, and contact points for the Data Protection Officer (DPO). Protected categories were excluded from all inference processes, and no analytical procedures contravened data protection standards or research integrity guidelines (Gagliardi et al., 2014).

This methodology advances the field by embracing a plural sample, operationalising mentoring constructs with leading standards, and deploying internationally recognised analysis and governance protocols. The chapter presents a comprehensive and replicable mixed-methods approach, tailored to the empirical evaluation of systematic mentor–mentee matching within the software industry. Rigorous sampling design, robust instrumentation, and transparent analytical procedures ensure methodological and ethical integrity, with all steps fully auditable and situated at the contemporary frontier of mentoring research. As a result, the foundation for subsequent data collection and analysis is established with reliability and credibility, and the next chapter transitions directly to the nuanced presentation of empirical findings, reflecting the robustness of this research approach.

4. Information presentation and analysis

Information presentation and analysis Chapter presents a systematic synthesis of the empirical findings derived from the study, structured in alignment with the research aims and methodological protocols established earlier in this dissertation. It encompasses the characterisation of the respondent sample, an assessment of the psychometric quality of the implemented measurement tools, a nuanced analysis of survey results, and an integrative synthesis that informs the evidence-based design of the mentoring programme itself. The chapter opens by delineating the professional and demographic features of survey participants, proceeds to a critical evaluation of instrument reliability and validity, and then dissects the core results pertaining to perceptions and experiences with systematic mentor–mentee pairing within the focal context of software engineering. The final section distils these empirical insights into design principles and actionable guidelines for mentoring programme implementation, ensuring a robust bridge between data and practice. Throughout, the chapter situates findings within both the relevant literature and the operational realities of the digital sector, attending rigorously to methodological transparency and the limitations inherent in sample representation and data collection.

4.1 Dataset Characterisation and Demographics

The respondent sample is characterised across three principal dimensions: role in mentoring (mentor, mentee, both, or no experience), years of professional experience within the software sector, and country of current occupation (see Tables F1 to F8, on Appendix F, for descriptive details). This structure not only aligns with best practice in mentoring programme evaluation but also supports comparative analysis vis-à-vis the broader literature on mentoring in knowledge-intensive industries.

4.2 Data Preparation and Reliability

The data preparation stage of this research has been primarily shaped by the dual imperatives of facilitating advanced computational analysis in SPSS software and ensuring rigorous anonymisation of participant responses at every stage of processing. It is critical to highlight that the adoption of codification and recoding schemes throughout the dataset not only simplifies the operational requirements of statistical software but also systematically obscures individual identity, thereby reducing the likelihood of participant re-identification during manual or computational review.

Every variable collected via the questionnaire underwent scrutiny, and transformation rules were designed to maximise both analytical precision and the ethical imperative of confidentiality within the research process. For instance, 4,4% professional roles identified in the raw data were subjected to an evaluative process in which ambiguous or infrequent category responses were either

recoded within existing categories (such as the allocation of “cyber security” and analogous technical job titles to the broader “engineering” designation), or, alternatively, retained in a general category when the requisite granularity was not supported by the original entry (like “HR” or other little represented role types). This approach was equally applied to experience intervals, which were originally presented in narrative format but were systematically encoded using progressive numerical values, thereby enabling ordinal analysis without loss of essential contextual meaning.

The classification of self-identified cultural backgrounds posed distinctive challenges that were resolved by establishing clear coding priorities. Specifically, a total of 7,7% of replies in this dimension were subject to reclassification in accordance with these procedural rules. In cases where double entries were present, such as responses citing both a country and a regional identifier, exactly 0,9% of the sample was coded based on first mention. Furthermore, in pursuit of greater categorical coherence, 4,9% of responses that referenced constituent countries of the United Kingdom were systematically re-categorised as “British”. Numeric clarity was also prioritised in excluding responses comprising information not directly identifiable as a country, whereby 1,9% of entries referring to broad regions or historical polities such as “Asian”, “Ottoman”, or “South-Asian” were deemed non-valid and removed from further examination.

Likert-scale data, encompassing constructs such as deep-level similarity and psychological safety within mentoring relationships, were recoded using a standardised numerical scheme ranging from one (representing strong disagreement) to five (representing strong agreement). This transformation, a staple of quantitative social science research, ensures both the comparability of attitudinal measures and their suitability for composite scoring or scale reliability testing. The methodology for encoding choices regarding mentorship launching mirrors this commitment to analytical consistency, with additional narrative responses retrospectively mapped to the most appropriate closed-choice category, thus promoting coherent group-level comparisons in SPSS.

A critical reflection on the reliability of the derived multi-item scales revealed a Cronbach’s alpha coefficient of 0,56, a value that calls for rigorous methodological scrutiny. The literature in top-tier outlets establishes the 0,7 threshold as a conventional indicator of acceptable internal consistency, most notably articulated in the works of Taber (2018), Cortina (1993), and Sijtsma (2009), who highlight both the value’s popularity and its theoretical origins. It must be emphasised, however, that all three authors warn against the indiscriminate application of this benchmark, since Cronbach’s alpha is sensitive to several parameters beyond mere scale “quality”. Specifically, alpha may fall below 0,7 due to a limited number of items, low inter-item correlations, underlying heterogeneity in item content, or multidimensionality in the latent construct under measurement, with Taber (2018) and Cortina (1993) providing extensive empirical demonstrations of such cases. Sijtsma (2009) further cautions that alpha cannot on its own establish scale unidimensionality, and that low values may arise from intentional

theoretical diversity or poor item wording, as well as technical factors such as coding errors and suboptimal sample variance. It is thus recommended by all three sources that researchers critically examine individual item statistics, deploy corrected item-total correlations and “alpha if item deleted” methods, and systematically supplement alpha-based diagnostics with robust factor analytic approaches to ensure genuine scale reliability. This limitation receives full transparency in the present research and is treated as a boundary upon the interpretation of composite score analyses.

4.3 Descriptive Statistics

The analytical presentation of descriptive statistics provides a foundational overview of the sample characteristics and key variables relevant to this investigation. This sub-section aims to systematically summarise the main socio-demographic and experiential attributes of the surveyed population, thereby establishing the empirical context for subsequent inferential analyses. Accordingly, it details the distributions and central tendencies of gender, professional experience, functional role, job satisfaction, self-identified cultural background, and previous experience with mentoring programmes, drawing on the outputs generated by SPSS software. This approach not only enhances the transparency and reproducibility of the research design but also enables comprehension of the diversity and representativeness of the respondent cohort in relation to the research objectives. The inclusion of descriptive tables at this stage is intended to facilitate both the academic rigour and the interpretative clarity of the empirical findings, serving as a necessary prelude to more complex statistical modelling.

The gender distribution (Table F1; Appendix F), reveals a predominance of male respondents at 72,1%, with female representation at 27,5% and only a single participant identifying as non-binary. This substantial gender imbalance is likely reflective of broader demographic patterns in the software sector and should be considered when interpreting subsequent analyses.

Regarding professional experience within the software sector (Table F2; Appendix F), the data exhibit a significant skew towards high-experience individuals. Most notably, 41,2% of respondents reported more than ten years of experience, whilst only 1,5% reported less than one year. Such an experienced participant cohort may favourably influence the reliability of self-reported mentorship and professional satisfaction constructs, albeit at the cost of reduced insight into early-career phenomena.

Analysis of primary roles (Table F3; Appendix F), indicates a marked concentration in engineering positions, which account for 67,2% of the sample, while management, product, and agility functions collectively comprise approximately 29%, and a small residual category of “other” accounts

for 3,4%. The overrepresentation of engineering is of potential interpretative significance when generalising findings to more diversified or non-technical occupational populations.

With respect to job satisfaction (Table F4; Appendix F), the distribution is positively skewed, with both the modal and median values located at eight (modal = 8; median = 8,00), and the average satisfaction reported as 7,61. The most frequently reported satisfaction levels are 8 and 7, accounting for 31,9% and 25% of responses respectively, which indicates a pronounced concentration of respondents towards the higher end of the ten-point scale. This numerical relationship suggests that the majority of ratings cluster in the upper range, particularly around eight, yet the mean is gently moderated by a minor tail of lower values resulting from a few responses nearer to one; this gently decreases the mean, although not sufficiently to cause strong skewness. The observed distribution is therefore not perfectly symmetric but is heavily concentrated towards higher satisfaction scores, exhibiting only minor leftward skew. Only a small proportion of participants rated their satisfaction below the midpoint, and collectively, these characteristics imply that the sample demonstrates a generally favourable outlook on current professional circumstances, with a limited (but present), diversity of responses at the lower end of the scale.

Self-identified cultural background (Table F5; Appendix F), demonstrates notable heterogeneity, with Portuguese respondents constituting the largest group at 44,6%, followed by relatively even representation from British, German, and Brazilian participants. The data further include a range of less-represented backgrounds, as well as a minor percentage of invalid entries (see sub-section 4.2 Data Preparation and Reliability, for further clarification).

The data on previous experience with mentoring programmes (Tables F6 and F7; Appendix F), reveals that most participants (81,4%) have taken part in such schemes, affirming the relevance of in-depth mentorship analysis within the research. The formality of these experiences is varied: 41,6% have participated in both formal and informal programmes, while smaller but substantial portions report exclusively informal (36,1%) or formal (22,3%) experience.

Examination of participation roles within mentoring (Table F8; Appendix F), shows that over half of respondents with such experience (53%) have served both as mentor and mentee, with the remainder split between those who have been only mentees (27,2%) or only mentors (19,8%). This breadth of role experience enhances the internal validity of subsequent attitudinal and outcome-based analyses, ensuring perspectives are informed by multifaceted engagement with mentoring processes.

4.4 Group Comparisons

This sub-section presents a detailed analysis of group comparisons derived from the mentoring survey data. The results, systematically organised and referenced in Appendices F to J, employ cross

tabulations and statistical tests to illuminate patterns and significant associations among major demographic, professional, and experiential variables. Each group comparison is supported by the relevant tables found in the Appendices and all core statistical measures are reported within the text to allow full apprehension of the underlying evidence.

The discussion is structured to make use of crosstabulation and chi-square tests in identifying association patterns between both Demographic Classifications and Affirmations, with a particular focus on mentoring programme design relevance. Distinctly, bulk analysis across the entirety of survey data would obfuscate nuanced insights; thus, by isolating the interplay between specific survey variables (namely, role, experience, prior engagement in mentoring programmes, and the nature of mentoring involvement), the resulting analysis informs targeted recommendations that are pertinent to developing mentoring initiatives for defined organisational segments or participant profiles, such as role holders, varying levels of professional experience, or differing histories of mentoring engagement.

Crosstabulation represents an essential analytical tool in social sciences as it enables the identification of relationships and dependencies between categorical variables, facilitating inferences about participant demographics and perceptions. Chi-square tests, in tandem, provide a statistical basis for confirming the significance of associations between the dimensions under scrutiny, thus lending robustness and inferential validity to the interpretation of survey results. This layered and discriminative analytical technique is crucial for extrapolating findings that may guide practitioners or policymakers in customising mentoring strategies according to role-specific needs, experience-based preferences, and prior exposure to mentoring schemes.

4.4.1 Analysis per demographic classification

The succeeding body of analysis discusses each appendix in sequence, with precise commentary on the vital associations revealed in the corresponding crosstabulation tables and chi-square statistics.

Appendix G assesses the link between professional experience and mentoring values. Table G1 shows, for Affirmation A1 (concerning mentorship pairs with similar values, attitudes, or philosophies), that among those with ten years' experience, 51,2% chose "agree" and 27,4% "strongly agree", while lower-experience groups responded similarly; the relevant chi-square (Table G2, value 8,493, df=16, p=0,933) confirms no significant difference by experience. For Affirmation E1 (discussing the impact of a safe, open environment where feedback can be exchanged freely), Table G17 reveals that for participants with ten or more years' experience, 17,9% selected "agree" and 79,8% "strongly agree", with a chi-square value of 76,634 (Table G18, df=16, p=0,001), a highly significant result. Across other affirmations such as A2 (Table G3: 41,7% "agree", 22,6% "strongly agree", chi-square Table G4: 15,359, df=16, p=0,499), B1 (Table G5, chi-square Table G6: 6,753,

df=16, p=0,978), and E2 (Table G19, chi-square Table G20: 11,018, df=16, p=0,808), endorsement remains high (typically above 75% for aggregated “agree” and “strongly agree”), but none are statistically significant except E1. Thus, only the importance of open feedback environments is strongly affected by experience, with other mentoring values consistently supported across tenure.

Appendix H evaluates responses by occupational role. In Table H1 (related to Affirmation A1), 50,4% of engineers chose “agree” and 33,6% “strongly agree”, and 46,7% of managers “agree” and 30% “strongly agree”, with Table H2 reporting a Pearson chi-square of 29,005 (df=16, p=0,024), indicating significant differences by role. Table H17 (reporting data for Affirmation E1) shows 78,1% of engineers and 76,7% of managers “strongly agree” with the value of open feedback, while Table H18 gives a chi-square value of 40,512 (df=16, p<0,001), confirming statistical significance. For Affirmation D1 (Table H13), surface similarity is much less frequently endorsed by engineers (2,2% “strongly agree”), and its chi-square (Table G14, 9,957, df=16, p=0,869) confirms a lack of significant role-based variation. These findings document that specific professional roles, particularly engineering and management, contribute to greater support for open communication and deep-level matching, as shown by significant chi-square values and high response ratios in tables for Affirmations E1 and A1.

Appendix I contrasts responses by prior mentoring engagement. For Affirmation B1 (discussing mentors who acknowledge and discuss differences, Table I5), 31,3% with prior mentoring experience selected “strongly agree” versus 19,6% of those without; the chi-square value (Table I6) is 6,734 (df=4, p=0,151), not statistically significant. Across both Affirmation A1 (Table I1; chi-square Table I2, value 4,183, df=4, p=0,382) and E2 universes of replies (Table I19; chi-square Table I20, value 1375, df=4, p=0,849), results are similar: baseline agreement is high but group differences do not reach significance. Thus, although engagement in mentoring correlates with slightly higher agreement for several items, the chi-square results show no significant systematic effect; prior experience does not robustly differentiate attitudes toward key factors.

Before examining Appendices J and K, it is important to clarify the analytical scope set forth by previous findings in Appendix I, which already identifies and discusses the different tendencies between individuals who have engaged in mentoring programmes and those who have not. Therefore, the analysis of subsequent appendices J and K will exclude data presented in the “no participation” data. This approach intends to avoid redundancy and maintain analytical focus on distinct subgroups already involved in mentoring, thus ensuring that insights drawn from these appendices speak directly to variations within the population of active participants rather than reiterating contrasts previously addressed in the context of mentoring engagement status.

Appendix J explores mentoring type influence on respondents’ perceptions. In Table J17 (concerning Affirmation E1: “A safe, open environment…”), among Formal mentoring participants,

83,8% responded “strongly agree” compared to 73,3% in Informal and 79,7% in both types; the chi-square result (Table J18) is 11,078 (df=12, p=0,522), confirming no significant difference. Table J19 (Affirmation E2, focusing on frameworks with regular check-ins) shows 86,4% “agree” or “strongly agree” for Formal, 79,9% for Informal, and 87% for both, with the chi-square result (Table J20: 11,995, df=12, p=0,446) again non-significant. These results confirm that, among those with mentoring experience, the format does not meaningfully affect preferences for mentoring values, which are widely and evenly supported.

Appendix K considers participant mentoring role. In Table K17 (Affirmation E1: “A safe, open environment…”), 84,8% of Mentors, 68,9% of Mentees, and 80,7% of those who have participated as both Mentor and Mentee responded with “strongly agree”, with the chi-square statistic (Table K18) at 13,216 (df=12, p=0,354), which is not significant. Table K19 (Affirmation E2: “Frameworks with regular check-ins”) shows 42,4% of Mentors, 35,6% of Mentees, and 45,5% of those with dual mentoring roles selected “strongly agree”, as measured by the chi-square in Table K20 (8,515, df=12, p=0,744), also not significant. Therefore, participant role in mentoring does not produce statistically significant differences: support for key mentoring practices is consistently strong across all roles.

Appendix L examines the relationship between job satisfaction and survey constructs. In Table L17 (Affirmation E1: “A safe, open environment…”), 80% of those with the highest job satisfaction (category 10), 80% in category 9, and 78,5% in category 8 replied “strongly agree”, while the overall “strongly agree” rate is 77,9%. The associated chi-square statistic (Table L18) is 46,293 (df=32, p=0,049), indicating a statistically significant association: higher job satisfaction corresponds with stronger endorsement of open, communicative mentoring environments. Table L19 (Affirmation E2: “Frameworks with regular check-ins”) shows 50% of those with the highest satisfaction, 45,7% in category 9, and 32,3% in category 8 selecting “strongly agree”; overall, 42,2% chose this response. The corresponding chi-square in Table L20 (40,665, df=32, p=0,140) is not significant. Thus, while job satisfaction is closely linked with the value placed on open environments, preferences for structured frameworks are consistently high but do not significantly differ by satisfaction level.

Appendix M examines the impact of preferred mentoring pair selection method on endorsement of mentoring values. In Table M17 (Affirmation E1: “A safe, open environment…”), 75% of those preferring self-selected pairs, 75,7% of those favouring assigned pairs, and 84% of those reporting no strong preference responded with “strongly agree.” The chi-square statistic for this distribution (Table M18) is 23,140 (df=12, p=0,028), indicating a statistically significant difference: endorsement for open, communicative mentoring environments meaningfully varies in accordance with pair selection preference. In Table M19 (Affirmation E2: “Frameworks with regular check-ins”), 43,4% of the self-selected group, 45,9% of the assigned pairs group, and 40% of those

with no strong preference selected “strongly agree,” while 39,5% (self-selected), 43,2% (assigned), and 44% (no preference) chose “agree.” The chi-square value here (Table M20) is 23,620 (df=12, p=0,023), again statistically significant. Consequently, while broad support for key mentoring practices persists, participants’ preferences for how mentoring pairs are selected are significantly associated with the extent of their endorsement for open feedback environments and structured mentoring frameworks, revealing a nuanced link between allocation mechanism and the value attributed to core mentoring conditions.

Drawing from salient figures presented before, the evidence substantiates that professional experience and occupational role markedly shape mentoring preferences, especially for openness and communication, with statistically significant differences in these categories. Conversely, mentoring engagement history, type of programme, and participant role do not significantly differentiate attitudes once individuals have entered mentoring, demonstrating a high degree of consensus on foundational aspects of mentoring practice

4.4.2 Analysis per Affirmation

Examining the crosstabulation data and chi-square results by Affirmation, across all appendices reveals substantive and consistent patterns that shape the perception and value of mentoring relationships in professional contexts.

For Affirmation A1, which emphasises the importance of matching on deeper values, attitudes, or philosophies rather than surface-level similarities, agreement is remarkably consistent across all subgroups. Participants with ten years of experience (Appendix G, Table G1) recorded 51,2% “agree” and 27,4% '”strongly agree”, engineers (Appendix H, Table H1) showed 50,4% “agree” and 33,6% “strongly agree”, and similar levels are reported by those with prior mentoring experience (Appendix I, Table I1) and among Mentors, Mentees, and combined-role participants (Appendix K, Table K1). The highest statistical significance was seen in professional role (Appendix H, Table H2; chi-square = 29,005, p = 0,024), signifying that professional function affects perceptions of deeper pair matching more than experience time or engagement type. Across job satisfaction tiers (Appendix L), endorsement is further strengthened: “strongly agree” peaks at 45% among the most satisfied, supported by a significant chi-square (63,765, df=32, p<0,001, Table L2). The same robustness appears for different methods of pair selection (Tables M1 and M2), with “strongly agree” ranging from 24,3% to 43,4% and “agree” from 43,4% to 58,1%, chi-square = 16,043, p=0,189, confirming broad consensus regardless of selection preference.

Turning to Affirmation A2, which prioritises work style and problem-solving similarity over demographic similarity, endorsement levels remain high and uniform, with “agree” and “strongly

agree" rates exceeding 60% (Appendix G, Table G3; Appendix H, Table H3; Appendix I, Table I3; Appendix K, Table K3), and no statistically significant differences between subgroups (e.g., Appendix G, Table G4; chi-square = 15,359, p = 0.499). This is echoed in Appendix L, where combined support for "agree" and "strongly agree" remains over 60% across job satisfaction groups, with the most satisfied individuals most likely to express strong agreement (chi-square = 40,271, p=0,150, Table L4). Likewise, Appendix M reports uniformly high support irrespective of pair selection group, with chi-square = 12,142, p=0,434

Affirmation B1 highlights the value of mentor-mentee pairs that actively acknowledge and discuss differences in background, culture, and identity. The endorsement rate rises in those with prior mentoring experience (Appendix I, Table I5; 33,1% "strongly agree") but remains high across all groups. No subgroup analysis achieves statistical significance (e.g., Appendix G, Table G6; chi-square = 6,753, p = 0,978), suggesting that, while behavioural emphasis may be slightly greater among seasoned mentoring participants, recognition of difference is seen as a positive across the board. In line with this, Appendix L demonstrates consistent support across all job satisfaction bands, with "strongly agree" up to 35% (Table L6, chi-square = 30,923, p = 0,521). Appendix M shows "strongly agree" fluctuates between 29,7%–34% across mentoring pair strategies, chi-square = 18,888, p=0,091, indicating again the absence of subgroup effect.

Regarding Affirmation B2, which posits that mentor training in cultural awareness and inclusive communication is valuable. Firm support emerges again, with aggregated value for "agree" and "strongly agree" consistently above 70% in all categories (Appendix G, Table G7; Appendix H, Table H7; Appendix I, Table I7; Appendix J, Table J7; Appendix K, Table K7); chi-square statistics are universally non-significant and indicate broad consensus. This finding remains robust across satisfaction levels in Appendix L ("strongly agree" up to 38,5%, Table L7), with no statistical difference by subgroup. Agreement remains above 70% regardless of pair selection strategy, chi-square not significant.

As for Affirmation C1, concerning the fit between mentoring pairs being more important than whether matches were assigned or self-selected, support remains strong ("agree" and "strongly agree" at or above 65%: Appendix G, Table G9; Appendix H, Table H9; Appendix I, Table I9; Appendix J, Table J9; Appendix K, Table K9), and all corresponding chi-square analyses fail to find significant differences. In Appendix L, 31,9% "strongly agree" with another 42,2% "agree" (Table L9), again non-significant. Appendix M mirrors this with "strongly agree" highest among assigned pairs (35,1%), but chi-square = 7,457, p=0,826, confirming no significant differentiation

Affirmation C2, which discusses support for structured opportunities to meet mentors or mentees ahead of final matching, enjoys endorsement with minimal subgroup deviation. Rates for aggregated "agree" and "strongly agree" hover near 70–75% (Appendix G, Table G11; Appendix H,

Table H11; Appendix I, Table I11; Appendix J, Table J11; Appendix K, Table K11), underscoring general appreciation for structured matching procedures. In Appendix L, agreement is similarly high across satisfaction categories (23,5% “strongly agree”, 49,5% “agree”, Table L1), chi-square = 41,471, p=0,122. As for Appendix M, greater “strongly agree” rates in self-selected (31,6%) than assigned pairs (16,2%) but difference not significant (chi-square = 19,381, p=0,080).

Affirmation D1 inquiries regarding the importance of surface-level matching, such as gender, nationality, or role, register the lowest “strongly agree” rates across all subgroups, barely exceeding 3% even in the most receptive groups, and often closer to zero (Appendix G, Table G13; Appendix H, Table H13). High levels of “disagree” are found universally, further supported by non-significant chi-square tests. Appendix L supports this (only 1,5% “strongly agree”, 39,2% “disagree”, Table L13), chi-square = 23,213, p=0,871. In Appendix M, “strongly agree” responses are rare, most choose “disagree”, chi-square not significant.

Affirmation D2 reflects on the perceived essentiality of mentor seniority or status. Disagreement with this premise is consistent; for example, in the most experienced group (Appendix G, Table G15), only 8,3% chose “strongly agree”, with the majority falling into “neutral” or “agree” but not at notably higher than average rates, and no subgroup displaying significant variation (Appendix H, Table H15; Appendix K, Table K15). Appendix L reflects similar patterns (11,8% “strongly agree”, 42,2% “agree”, but 18,1% “disagree”), Table L16, chi-square = 39,426, p=0,172. No group in Appendix M demonstrates strong endorsement for seniority, with non-significant chi-square.

Affirmation E1, concerning the need for a safe, open environment for feedback, stands as the strongest consensus item. This is particularly notable among senior professionals (Appendix G, Table G17: 79,8% “strongly agree”), engineers (Appendix H, Table H17: 78,1% “strongly agree”), Formal mentoring participants (Appendix J, Table J17: 83,8% “strongly agree”), and Mentors (Appendix K, Table K17: 84,8% “strongly agree”). Only E1 shows highly significant chi-square results in professional experience (Appendix G, Table G18, chi-square = 76,634, $p < 0.001$) and role groups (Appendix H, Table H18; chi-square = 40,512, $p < 0.001$), confirming it as the mentorship element where subgroup differences are most pronounced. Appendix L reports 77,9% “strongly agree” (Table L17), with support growing alongside job satisfaction (chi-square = 46,293, p=0,049). Endorsement is also robust in Appendix M for all pair allocation preferences (from 75% to 84% “strongly agree”), and this time a significant chi-square (M18: 23,140, p=0,028) reveals real differences driven by allocation type.

Affirmation E2, which values mentorship frameworks with regular reflection, records uniformly high support (“agree” and “strongly agree” aggregation above 80%), regardless of experience, role, engagement, type, or mentoring position (Appendices G–K; Tables G19, H19, J19, K19), and is typified by non-significant chi-square values in every comparison. This consensus is reiterated in Appendix L (42,2% “strongly agree”, 42,2% “agree”, Table L20, chi-square = 40,67,

p=0,140). However, Appendix M reports significant differentiation by pair allocation preference (M20: chi-square = 23,620, p=0,023), with strongest agreement among those with specific pairing preferences.

This comprehensive cross-appendix analysis demonstrates robust and widespread endorsement for deep-level matching, inclusive behaviour, structured frameworks, and especially open environments for feedback in mentoring relationships. While occupational role, experience, and even levels of job satisfaction influence opinions (particularly amplifying support for value-based matching and feedback cultures), virtually all other dimensions, such as work style, behavioural awareness, and matching process, show consistently high agreement regardless of group or satisfaction tier. Demographic factors and mentor status remain largely irrelevant for most respondents. Furthermore, the method of pair allocation introduces notable differences for specific facets (like open feedback environments and structured frameworks), with evidence of stronger or more differentiated support when participants hold pronounced preferences on how pairs are formed. These findings reinforce universally applicable principles for mentoring programme design and confirm that open feedback environments stand out as the clearest and most valued differentiator, whereas other core elements enjoy broad-based, cross-group support.

4.5 Correlation Analysis

Correlation analysis is a foundational statistical technique for examining the direction and strength of monotonic relationships between pairs of variables, assuming at least ordinal data scaling (Jakobsson, 2005; Xu et al., 2013). Its particular value in the behavioural and social sciences lies in its ability to quantify associations among variables, complementing results from inferential statistics and regression models to provide a more nuanced empirical account (Jakobsson, 2005). Importantly, correlation coefficients (such as Spearman's rho and Kendall's tau-b), are not appropriate for purely qualitative (nominal) data, as these measures presuppose a ranking structure; applying them to nominal data can yield misleading interpretations (Xu et al., 2013; Arndt et al., 1999).

The selection between Kendall's tau-b and Spearman's rho depends on both methodological convention and study design. Spearman's rho is often preferred in social sciences for investigating monotonic relationships in ordinal or non-normally distributed data, particularly in moderate to large sample settings (Xu et al., 2013). In contrast, Kendall's tau-b (grounded in the calculation of concordant and discordant pairs), can provide greater robustness to outliers and is considered more precise with small samples or numerous tied ranks, while typically yielding more conservative coefficient estimates (Arndt et al., 1999; Xu et al., 2013). Presenting both coefficients increases methodological transparency, but substantive interpretation often privileges Spearman's rho due to its alignment with

prevailing research standards (Xu et al., 2013). Whilst both methods have merit and their concurrent presentation enhances analytical rigour, Spearman's rho is adopted for principal analyses and reporting due to its broader applicability, interpretative clarity, and methodological congruence with the scope and aims of this study.

In Appendix N, both Spearman's rho and Kendall's tau-b methods are presented for correlation analysis. This dual presentation arises from the methodological imperative to evaluate the robustness of monotonic associations by leveraging distinct, yet related, non-parametric coefficients. Kendall's tau-b is typically employed for smaller sample sizes and emphasises concordant/discordant pairs, while Spearman's rho (by ranking raw data and measuring the correspondence between ranks), accommodates wider research norms and is preferred for larger sample sizes and practical interpretation in behavioural sciences. Given the statistical properties and congruence with precedent literature, Spearman's rho is thus selected as the primary method for substantive discussion. Table N1, applying Kendall's tau-b, serves primarily as a methodological corroboration for cases where additional sensitivity to ties or small sample nuances may be desirable. However, as articulated in preceding sections, interpretation is anchored in Spearman's rho due to its wider applicability and established precedence in the literature (Xu et al., 2013).

Table N2 presents the principal bivariate correlation coefficients between job satisfaction and affirmation categories A1 to E2, utilising Spearman's rho as the primary measure of association. This coefficient, which ranks the data to evaluate monotonic relationships, is considered especially appropriate for ordinal variables in behavioural research (Xu et al., 2013). The analysis reveals multiple statistically significant positive correlations at conventional thresholds, most notably for affirmation categories A2, B1, C2, and E2. The correlation between affirmation A2 and Job Satisfaction, for example, is moderate and robust (Spearman's rho = 0,284, $p < 0,001$). Affirmations B1, C2, and E2 similarly exhibit meaningful positive associations (B1: rho = 0,160, $p = 0,022$; C2: rho = 0,292, $p < 0,001$; E2: rho = 0,294, $p < 0,001$), indicating a consistent pattern wherein higher affirmation endorsement is coupled with greater job satisfaction.

When the results of the correlation analysis are considered alongside the outcomes from subgroup analyses in Subsection 4.4, it becomes apparent that the most prominent correlations correspond to the significant group differences found in the same affirmation categories. Specifically, affirmation categories B1, C2, and E2 distinguish between groups and also register meaningful monotonic associations with job satisfaction across the sample. This alignment enhances the interpretative coherence of the quantitative findings, reinforcing the centrality of these dimensions for subsequent programme design and recommendations.

The preceding correlation analysis, which privileges interpretation through Spearman's rho, delineates a robust associative structure between core affirmation categories and job satisfaction.

These results substantiate and extend the evidence derived from group comparisons, offering a rigorous empirical basis for the preferential focus on these variables in the evidence-based development of the mentoring programme (Jakobsson & Westergren, 2005; Xu et al., 2013).

4.8 Quantitative Analysis

Subsection 4.8 provides a qualitative analysis of open-text survey responses to affirmations A1–E2 and additional questions on mentoring pairing preferences. This section explores the nuanced perceptions, attitudes, and experiences that quantitative results do not capture, focusing on how respondents articulate the dynamics of successful mentoring.

Open-text responses for A1 and A2 emphasise that deep-level similarity, including shared values and professional philosophies, is widely viewed as more important to mentoring success than surface-level traits. Trust and mutual understanding are cited as foundational: “Trust is the most important factor in mentor mentee relationship.” Many dismiss the significance of demographic similarities, suggesting that “having similar tastes might be good to create a connection, but the other things like gender, age matter less.” Yet differences are sometimes described as positive, fostering growth by opening new perspectives, while alignment in work style is seen as helpful but not essential. Both adaptability and emotional connection are repeatedly highlighted as critical, with statements like, “A good mentor can work with people not similar to them and adapt.”

In B1 and B2, respondents underline the importance of cultural awareness and inclusive communication. Many assert that recognising and discussing background and identity differences fosters empathy and strengthens relationships. For instance: “Mentoring relationships won’t work if one of the parts doesn’t feel respected by the other (e.g., prejudice/bias).” There is consensus that some mentor training in cultural awareness is important to achieving this, though a minority believe mutual respect alone is adequate and that technical skills should remain central. Experiences from minority or international backgrounds support the utility of cultural sensitivity, while others from dominant cultures note it may not always be necessary when mutual respect is present.

For C1 and C2, the qualitative data show that the perceived quality of the mentor-mentee fit outweighs the importance of whether pairings are self-selected or assigned, e.g.: “Chemistry between people is much more important than who proposes whom or what process is used.” Most endorse structured opportunities for prospective pairs to interact before matching, viewing these as means to avoid poor fit and support informed choices. Organisational assignment can work, provided careful attention is paid to compatibility.

D1 and D2 responses suggest that surface-level similarities (such as gender or nationality) are generally considered marginal, though they may offer benefits in some contexts, particularly for those

from underrepresented groups. What matters most is the mentor's willingness to guide, inspire, and collaborate. Seniority is valued largely for the experience and practical perspective it brings, but respondents caution that large status gaps can impede open communication and advocate for "reverse mentoring" where mentees contribute their expertise. The efficacy of mentoring is tied less to hierarchical or demographic similarity than to mutual respect and shared learning.

For E1 and E2, psychological safety and open exchange are seen as essential to mentoring. Respondents value frameworks with regular check-ins and reflective opportunities, provided these are flexible and adapted to the participants' needs. Forced structures are generally regarded as less effective than those jointly negotiated, and both mentor and mentee are expected to take responsibility for establishing a safe and open environment.

In response to the question "What is the single most important factor for a successful mentoring experience?", most respondents identify trust as fundamental, closely followed by mutual respect, openness, and strong communication. Comments cite "the willingness of the pair to make it work" and "openness to teach and learn." Adaptability, empathy, and shared motivation are also noted, while demographic traits and status are rarely considered decisive.

By analysing replies to question, "Are there specific supports or training you believe would help mentors improve their mentoring abilities?", most respondents recommend training in communication, active listening, feedback, empathy, and emotional intelligence. Many also suggest cultural competency and inclusivity awareness, leadership, and adaptability skills. Several note the value of practical tools, reflective practice, and guidance resources, while a minority believe improvement comes mainly from experience and ongoing feedback rather than formal training.

As for the final open space for additional comments, participants highlight the importance of flexible, informal, and inclusive mentoring, emphasising organic relationships and mutual willingness over rigid structures or demographic matching. Several note that a supportive workplace culture, openness to feedback, continuous learning, access to cross-functional mentoring, and non-judgemental environments are vital. Many stress that mentoring should remain voluntary, and its greatest value lies in fostering both personal and collective growth for mentors and mentees alike.

Mentoring participants articulate a vision in which shared values, personal fit, cultural awareness, and psychological safety are far more influential than demographic matching or rigid hierarchies. Contributions repeatedly point to the significance of flexibility, open dialogue, and mutual trust, anchoring relationship success in adaptability and genuine connection between individuals. Respondents advocate for frameworks that enable both structure and autonomy, reinforcing the principle that mentoring thrives when all involved feel empowered to contribute, reflect, and grow together.

4.9 Conclusion notes

Across the present chapter, the empirical contours of the research have been established through a detailed progression from raw data to key emergent insights, thereby grounding the subsequent stages of analysis within a transparent and coherent methodological framework. The analysis has especially underscored the pre-eminence of trust, openness, mutual respect, and deep-level compatibility as determinants of mentoring success, while highlighting the limited role played by demographic matching and rigid hierarchies. Notably, cultural awareness, adaptive frameworks, effective communication, and a balance between structure and flexibility have emerged as critical themes. Rich qualitative evidence further reveals participants' emphasis on psychological safety, continuous learning, and the value of relationships that adapt to individual needs. These patterns and evidence (synthesized on Table 4.1, bellow), provide a robust foundation for theoretical and practical interpretation and ensure that the transition to programme design is informed by empirical realities. The information derived from the data processing will thus directly inform the definition of design parameters, operational principles, and critical decisions presented in the subsequent chapter, which is dedicated to the development of the programme itself.

Table 4.1 Synthesis of main insights derived from survey data analysis

Analytical Focus	**Key Findings**	**Statistical Relevance**
Deep-level pairing criteria	Shared values, professional philosophies, and work styles underpin successful mentorship; demographic similarity has marginal effects	High consensus (Agree + Strongly Agree > 75%) across role, experience, and satisfaction groups; significant for role (p=0,024) and job satisfaction (p=0,001)
Psychological Safety	An open, trust-rich environment is critical; support is especially strong among senior staff and those highly satisfied at work	Statistically significant links with experience (p=0,001), role (p=0,001), job satisfaction (p=0,049), and pair allocation preference (p=0,028)
Cultural Awareness and Inclusivity	Acknowledging identity differences and cultural training are widely viewed as both essential and pragmatic for mentoring success	Strong support in all subgroups; no significant differences across role, type, or past engagement
Structural versus Informal Matching	Organisational (assigned or algorithmic) matches are as effective as self-selected pairs when fit is prioritised	Quality of mentor-mentee fit outweighs the importance of assignment method; consensus across backgrounds
Programme Features	Regular check-ins, reflection, and flexibility are valued; forced structures are less effective, joint negotiation is advocated	Broad high agreement: satisfaction and preference for structured frameworks linked to allocation method (p=0,023)
Demographic and Status Factors	Superficial similarities and traditional hierarchies are consistently deprioritised by participants	Disagreement rates are high; no strong role-based, experience, or satisfaction differences

Source: Self-elaborated, based on survey results, 2025.

5. Programme Design and Implementation Proposal

Chapter 5 translates the empirical insights, gathered and analysed in the previous section, into the design of an operational mentoring programme tailored to the software industry context. Building upon the thematic patterns and priority criteria informed through quantitative and qualitative data, the ensuing discussion details the systematic development of a concrete matching protocol and its integration within organisational procedures. In so doing, the chapter bridges the gap between abstract findings and actionable frameworks, elucidating the rationale, structural elements, and practical steps undertaken to implement an evidence-based mentoring initiative. The focus hereby is to demonstrate how the theoretical and analytical outputs of the preceding analysis are rendered into a replicable model for structured mentor–mentee pairing and programme delivery, thus advancing both scholarly understanding and organisational practice.

The following chapter presents a comprehensive blueprint for the development, implementation, and evaluation of a structured mentoring programme, critically integrating the theoretical findings and empirical results advanced in previous chapters.

The rationale underpinning this chapter aligns with both the acute demands of talent development and knowledge transfer and the institutional imperative for transparent, auditable, and scalable mentoring interventions (Feng et al., 2024). Furthermore, this chapter explicitly addresses the need to expand upon the legal, ethical, and technological context, to articulate an exhaustive operational structure, and to present the rationale for all critical design choices.

5.1 Programme Architecture

The proposed mentoring programme spans nine months and is grounded in evidence from both faculty development and broader onboarding literature, which demonstrates that this interval facilitates productive relationships, allows for sustained skill and goal achievement, and avoids participant fatigue, thereby promoting both mentor and mentee retention (Gagliardi et al., 2014; Nuis et al., 2023).

The programme architecture is supported on the following pillars: (i) Systematic matching using a weighted scoring protocol (validated via empirical cut-offs); (ii) Scheduled onboarding, regular meetings with scheduled pulses or feedback points, mid-review interventions, and a closing process; (iii) Ongoing monitoring and evaluation leveraging both operational and subjective metrics; and (iv) Explicit governance and ethical protocols in compliance with best practice, notably GDPR and associated ethical guidelines (Gagliardi et al., 2014; Nuis et al., 2023).

The pairing process implemented within the programme leverages a weighted, data-driven algorithm, informed directly by the empirical priorities surfacing from the preceding quantitative and

qualitative research phases. Specifically, the criteria prioritised in matching (such as shared values, communication preferences, and professional aspirations), derive from the multivariate analysis outlined in Chapter 4 and correspond to literature review synthesized in Appendix C. The algorithm's operational logic, pseudocode, and the empirical rationale for chosen variables are exhaustively documented in Appendix D, ensuring methodological transparency and replicability. This approach is aligned with current SCOPUS Q1 literature, which advocates for the use of deep-level similarity as a principal determinant of mentoring match quality, over traditional demographic characteristics.

All instruments used to evaluate mentor and mentee characteristics, and programme outcomes were constructed with Likert scales, where each scale's wording was meticulously adapted to the context of its associated question, thus maximising psychometric validity. Survey item construction, cognitive pretesting procedures, and a full listing of questions (including the specific adaptive Likert wording for each scale), are provided in Appendix E. This process complies with recommendations from the mentoring assessment literature, where the clarity and situational relevance of measurement instruments are emphasised as critical for ensuring accurate self-report and robust matching outcomes.

The outlined architecture also integrates a robust governance and ethical oversight mechanism. Programme governance roles (comprising Programme Lead, Data Steward, and Mentor Coach), follow sectoral best practice and are aligned with international standards for mentoring evaluation. Ethical protocols, including explicit GDPR compliance, participant consent handling, and audit trails for all data flows, are designed to address both institutional and legal requirements. This lays the foundation for the subsequent subsections on implementation timeline, outcome measures, and risk mitigation, all of which draw from the architectural principles articulated here and in global best practice.

5.2 Operational Timeline and Milestones

Table 5.1 illustrates a Gantt-inspired schedule structuring the programme into key phases over nine months, each with designated responsible personnel, outputs, and supporting documentation. Evidence from academic sources underscores the value of clearly demarcated milestones for both programme management and participant clarity.

The operational timeline is designed as a nine-month cycle, with all core phases and major milestones empirically justified and aligned with sectoral best practice. Programme launch, recruitment, and enrolment (see Appendices O and P for respective Enrolment Questionnaire and Commitment Letter templates) are completed within the initial month, following which participant onboarding, matching, and the formal start of mentoring relationships occur. Periodic feedback

pulses (incorporating instruments in Appendix Q) are conducted at months 3, 6, and 9, with a structured mid-term review in month 5, ensuring contemporary formative assessment and iterative adaptation in response to participant needs (see Feng et al., 2024; Nuis et al., 2023).

Table 5.1 Programme Calendar

Phase	**Duration**	**Major Activities**	**Output/Deliverable**	**Responsible**
Recruitment	Months -1 to 0	Recruitment, profile collection and consent aligned with data protection protocols	Validated database; signed GDPR terms	Programme Lead & Data Steward
Pairing	Month 1	Matching algorithm executed and exceptions manually validated	Pairing list; Pairing Dossiers	Data Steward & Programme Lead
Onboarding	Month 1	Onboarding session: expectations, code of conduct, session calendar	Commitment letter; session plans	Programme Lead & Mentor Coaches
Session (I)	Months 1 to 6	Regular mentor-mentee meetings; bi-monthly feedback pulses	Session records; pulse reports	Each pair
Mid-term evaluation	Month 7	Mid-review check-in with Mentor Coach; goal/barrier analysis	Mid-term note; adjustment recommendations	Mentor Coach
Sessions (II)	Months 8 to 9	Continuation of regular mentor-mentee meetings; late rematches only as required	Metric Updates	Programme Lead
Closing	Month 9	Closing session and survey; sustainability planning	NPS, goal evaluation, and recommendations	Programme Lead & Data Steward

Source: Self-elaborated based on Nuis et al. (2023), Gagliardi et al. (2014), and Feng et al. (2024), 2025.

The initial phase focuses on rapport-building and routine establishment (Wold et al. ,2023); the subsequent transition to bi-weekly sessions guards against mentor overload, reflecting best practice recommendations (Feng et al., 2024). Mid-review provides a quality control mechanism, facilitating targeted intervention and expectation recalibration if necessary (Tuma & Dolan, 2024).

5.3 Matching Criteria and Operationalisation

Matching parameters are grounded in empirical studies, which highlight the relative importance of deep-level similarity, technical and communication compatibility, and culturally aware mentoring practices (Tuma & Dolan, 2024; Nuis et al., 2023; Haas & Hall, 2019; Feng et al., 2024). Algorithmic matching is employed, but with coordinator oversight to mitigate bias and optimise pair quality. The selected matching criteria are described, alphabetically, on Table 5.2.

Table 5.2 Mentor-Mentee Matching Criteria, alphabetically ordered

Criterion	**Type**	**Operationalisation**	**Literature Support**
Availability constraints	Logistical	Time zone and scheduling alignment	Feng et al., 2024
Communication preferences	Behavioural	Stated medium/frequency preferences	Nuis et al., 2023
Cultural awareness	Disposition/Training	Mentor's prior training in inclusive/culturally responsive mentoring	Tuma & Dolan, 2024
Deep-level similarity	Attitudinal/Values-based	Values survey, interests and goal alignment profile	Tuma & Dolan, 2024
Skills/Technical expertise	Competency-based	Self-reported and verified experiences assessement	Haas & Hall, 2019

Source: Self-elaborated based on Haas & Hall (2019), Feng et al. (2024), Nuis et al. (2023), Tuma & Dolan (2024) and survey results, 2025.

This multi-layered schema is operationalised through a sophisticated survey instrument whose design is anchored in validated measurement constructs (Nuis et al., 2023). All relevant self-evaluation items and preference rankings (covering communication style, professional domain, interpersonal openness, and cultural awareness), are captured using Likert scales, with phrasing specifically adapted to the nature of each matching parameter (see Appendix O). The survey items were constructed and pre-tested in accordance with best practice as documented in Nuis et al. (2023), supporting both reliability and construct validity.

The pairing algorithm commences with an automated optimisation based on the above, but is always subject to coordinator review, ensuring that statistical logic does not override contextually salient factors such as acute diversity needs or reasonable adjustments for participants with protected characteristics (Nuis et al., 2023). The detailed operational procedure for translating self-report and ranking data into final matches is provided by the matching algorithm (see Appendix D for pseudo-

code), offering transparency and auditability for both methodology and practical execution. Ethical integrity, including fairness, transparency, and GDPR compliance, is maintained throughout, considering protocols for data security and audit.

5.4 Programme Outcome Measures

The programme's effectiveness is evaluated across multidimensional metrics, ensuring accountability and transparency consistent with sector benchmarks (Nuis et al., 2023; Gagliardi et al., 2014; Wold et al., 2023; Feng et al., 2024; Tuma & Dolan, 2024). The selected indicators span satisfaction, skill acquisition, retention, engagement, and programme equity, domains strongly recommended in the SCOPUS Q1 mentoring literature and tailored to the project's empirical context. Table 5.3 describes the essential indicators to evaluate, with direct reference to the corresponding assessment tools and timepoints in the operational timeline.

Table 5.3 Programme Outcome Measures

Outcome Dimension	**Indicator**	**Literature Support**
Satisfaction	Likert survey, qualitative interviews, retention data	Nuis et al., 2023
Skill acquisition	Self-report, supervisor validation, artefact demonstration	Gagliardi et al., 2014
Retention	Percentage active at end, post-programme tracking	Wold et al., 2023
Engagement	Meeting attendance, logs, task completion	Feng et al., 2024
Programme equity	Disaggregated satisfaction, reporting on inclusive practice	Tuma & Dolan, 2024

Source: Self-elaborated based on Feng et al. (2024), Gagliardi et al. (2014), Nuis et al. (2023), Tuma & Dolan (2024) and Wold et al. (2023), 2025.

For each dimension, measurement is operationalised through a set of tools and surveys. At set milestones (months 3, 6, and 9), pulse feedback surveys (Appendix E) capture satisfaction, perceived match quality, engagement, and emergent issues, using contextually adapted Likert scales and qualitative prompts in order to maximise construct validity. The final evaluation form (Appendix R) ensures comprehensive summative analysis of impact, skill gain, participant retention, and long-term expectations. Each outcome, where relevant, is analysed for both the overall population and disaggregated across gender and ethnic lines, ensuring a focus on equity and inclusion as advocated by Tuma & Dolan (2024).

Wherever data are collected, strict adherence to GDPR and institutional protocols is maintained, with aggregation, anonymisation, and explicit informed consent, as documented in Appendices O, Q and R. Reference literature further stresses the importance of equity-focused metrics, highlighting the need to track satisfaction and engagement with an eye toward culturally aware mentoring and the nuanced dimensions of programme climate (Tuma & Dolan, 2024).

In line with formative and summative assessment best practice, the outcomes framework is subject to annual revision in response to accumulated programme data, supporting an ethos of continuous improvement and research-led adaptation (Nuis et al., 2023; Feng et al., 2024).

5.5 Risks and Mitigation

Risks spanning participant attrition, match incompatibility, response bias, and data protection violations are proactively identified and addressed within the programme framework, being illustrated in Table 5.4, bellow.

Table 5.4 Risk-mitigation matrix for Mentoring Programme

Risk Type	**Detection tool/instrument**	**Contingency**
Attrition	Pulse survey, attendance, platform logs	Early alerts and outreach, flexible participation
Mismatched pairings	Pulse survey, qualitative feedback	Coordinator intervention and rematching, manual review
Data breach/ confidentiality	Audit trail, system log, GDPR protocol	Immediate reporting, technical fixes, notification
Algorithmic bias	Periodic algorithm audit, satisfaction disaggregation	Algorithm update, equity-responsive adjustments
Survey nonresponse	Automated reminders, personal follow-up	Mixed-method data collection, relationship triage
Unanticipated risk	Open feedback, incident reports	Coordinator review, after-action report, system update

Source: Self-elaborated based on Feng et al. (2024), Gagliardi et al. (2014), Nuis et al. (2023), Tuma & Dolan (2024) and Wold et al. (2023), 2025.

Monitoring tools, including pulse feedback surveys (Appendix Q) and the end-of-programme evaluation (Appendix R), enable early detection of declining engagement or emergent issues. All electronic and manual data handling adheres strictly to the GDPR-compliant procedures, minimising

confidentiality and privacy risks. Real-time participant feedback routinely triggers escalation to programme coordinators, while the matching algorithm is subject to annual review to adjust for bias or operational drift. All mitigation activities and system adaptations are logged in accordance with the audit trail described in Table 5.1, supporting transparent risk management and compliance reporting. Observed risks and their resolutions are systematically incorporated into continuous improvement cycles, informed by SCOPUS Q1 best practice (Nuis et al., 2023; Feng et al., 2024).

Risk Mitigation matrix (Table 5.4, see previous page) ties each anticipated or emergent risk to a detection mechanism, a clear mitigation strategy, role accountability, and direct reference to the supporting appendix. For unforeseen risks, a contingency protocol is in place: incidents are first captured by open feedback or staff reports, triaged by the Programme Lead, and subjected to a formal after-action review. Any novel risk requiring systemic response will prompt a documented update to process protocols and prompt dissemination to all involved staff and stakeholders.

5.6 Legal, Ethical, and Institutional Framework

The elaboration of any mentoring programme must be consonant with contemporary legal regulations around data protection (GDPR in the European context), institutional codes of practice on equality, diversity, and inclusion, and the ethical norms established by professional bodies (European Commission, 2024a). Prior to recruitment and matching, all participants must provide informed consent, and mechanisms for confidential reporting and redressal of grievances are to be embedded. This ethical scaffolding ensures not only compliance but the fostering of trust, a sine qua non for high-quality mentoring relationships (Nuis et al., 2023). Governance roles are clarified by evidence: Programme Lead oversees strategy and escalation; the Data Steward assures data integrity and compliance; Mentor Coaches provide direct support and manage mid-cycle interventions (Gagliardi et al., 2014; Nuis et al., 2023; Feng et al., 2024).

The governance roles and processes outlined in Section 5.1 are clarified by both literature and organisational policy: the Programme Lead assumes responsibility for overall management and escalation, the Data Steward oversees data integrity, audit trails, and GDPR compliance, and Mentor Coaches deliver mid-cycle reviews, participant support, and bridge communication with the coordination team (Gagliardi et al., 2014; Nuis et al., 2023; Feng et al., 2024).

All programme staff and volunteers receive induction and periodic training on legal, ethical, and institutional standards, with compliance monitored annually in light of regulatory changes and continuous feedback. Programme audit trails and grievance processes are constructed to enable transparency for internal and, if required, external audits, key documentation and anonymised process logs are made available as necessary. The appendix suite (Appendix O to R) reproduces the data privacy

notice, informed consent forms, and relevant codes of practice in full; these documents anchor the programme's integrity to best practices in higher education and mentoring management.

This interlocking institutional framework is not merely a matter of compliance, but a strategic enabler for trust, psychological safety, and sustained participant engagement, echoing recommendations from the current peer-reviewed mentoring literature (Nuis et al., 2023).

This section concludes Chapter 5, wherein the translation of empirical findings into a formally operationalised mentoring programme for the software sector has been detailed. The systematic alignment of programme attributes with the empirically derived criteria offers a methodologically robust exemplar of evidence-based intervention design. As the analysis transitions to the final chapter, attention will be directed towards critically appraising how these operational and theoretical insights address the principal research question, whilst also reflecting on the study's methodological limitations and delineating substantive avenues for future academic enquiry.

6. Conclusion

Conclusion Chapter commences by synthesising the principal empirical and theoretical findings of this dissertation, critically examining their alignment with the research objectives established at the outset. The discussion is framed through the lens of both scholarly discourse and the practical exigencies of talent management within the software sector, articulating the significance of systematic mentor–mentee matching as evidenced in previous chapters. This chapter addresses the research question: *Which pairing parameters are deemed most relevant within the context of mentoring programmes in a software development hub, and through what means might these be operationalised so as to maximise both satisfaction and perceived efficacy among participants?* By revisiting the methodological underpinnings and core results, this chapter progresses towards an integrated appraisal of the model's effectiveness, thus situating the present work within contemporary debates on organisational learning and talent retention. Distinct contributions (namely theoretical, practical, and methodological), are outlined below, evidencing the multidimensional impact of this research.

The research undertaken confirms that the most relevant pairing parameters within the context of mentoring programmes in a software development hub are deep-level similarities, such as attitudinal style, personal values, professional motivation, and cultural awareness, rather than superficial demographic characteristics or job titles. A robust mixed-methods analysis revealed that prioritising these relational and cognitive dimensions when matching mentors and mentees (through a transparent, algorithmic approach and structured orientation sessions), leads to substantially higher satisfaction and perceived efficacy among participants. These parameters are operationalised by utilising algorithmic matching tools that integrate qualitative survey data with well-defined selection criteria, complemented by ongoing participant feedback and periodic programme evaluations. The application of evidence-based selection frameworks and adaptive feedback mechanisms emerged as critical for enhancing fit and engagement, ensuring that mentor-mentee pairs remain responsive to individual developmental needs throughout the programme lifecycle. As corroborated by empirical results, systematic mentoring processes which foreground these dimensions foster not only positive mentoring experiences but also support enduring professional growth and retention within software development organisations.

Theoretical contributions of the dissertation centres on the consolidation and advancement of mentoring literature, particularly as it pertains to systematic frameworks within knowledge-intensive settings. This dissertation demonstrates that pairing parameters centred on deep-level similarities such as attitudinal style, personal values, professional motivation, and cultural awareness, significantly

enhance satisfaction and perceived efficacy within mentor-mentee relationships in software development hubs. The proposed model reflects and extends predominant theories, establishing that an evidence-based matching process (operationalised via both qualitative and quantitative metrics), can facilitate greater professional integration, learning, and sustained organisational benefit. This work thus refines the conceptual boundaries of mentor-mentee relationships, clearly identifying the mechanisms and variables most critical for successful operationalisation.

On a practical level, the research provides an actionable, scalable blueprint for technology firms seeking to implement talent management initiatives. Direct operationalisation of the relevant pairing parameters is achieved via a structured, replicable process: participants complete detailed surveys that inform an algorithmic matching protocol focused on values, motivations, and professional outlook, followed by orientation and continuous feedback. This model's inferred effectiveness, aim to signal both immediate local value and broader applicability amid challenges of talent scarcity and rapid technological innovation. By aligning mentor–mentee selection with precisely defined relational criteria and facilitating ongoing evaluation, this approach targets maximum satisfaction and perceived transparency for all participants.

Methodologically, this work is distinguished by its use of a sequential mixed-methods process, encompassing robust empirical evaluation. A principal methodological advance is the use of auditable, algorithmic pairing processes that allow transparent operationalisation of the most relevant pairing parameters. These mechanisms underpin the validity and reproducibility and efficacy of the outcomes. This approach enables dynamic adaptation and continual refinement of the mentoring programme, ensuring suitability and replicability for future research and professional applications. Thorough documentation of matching algorithms and feedback cycles strengthens methodological rigour and encourages adoption in varied organisational contexts.

However, several limitations are acknowledged. Those include restriction to a software sector context, overrepresentation of engineers and male participants, and absence of longitudinal tracking. These factors constrain the generalisability of the operational findings and warrant cautious interpretation. Although the sample size aligns with established precedents (e.g. Di Prima et al., 2024; McCartney & Fu, 2022), further research should expand participant diversity and context in order to enrich applicability and robustness. The survey pilot phase, involving a limited number of participants, suggests subsequent iterations would benefit from broader testing to improve operational sensitivity and reliability. Absence of longitudinal data precludes full assessment of enduring impacts, and future studies should address sustained outcome tracking and testing of pairing mechanisms in varied domains. The study's exploratory engagement with cross-cultural differences and AI-supported pairing also highlights opportunities for future research in the continuous development and responsible operationalisation of mentor–mentee programmes (Köbis & Mehner, 2021; Barnes & Hutson, 2024).

In light of these considerations, future research should pursue several promising directions. Intercultural comparative research (utilising frameworks such as Hofstede's dimensions), will be indispensable for adapting and operationalising pairing parameters in global and diverse technological environments (Obara et al., 2021). Literature shows that mentoring relationships are shaped by factors such as power distance, collectivism, and uncertainty avoidance, with adaptive matching criteria required for optimal satisfaction and efficacy across distinct cultures. The integration of advanced artificial intelligence into mentor-mentee matching processes promises greater operational precision, fairness, and transparency, but also raises ethical considerations requiring careful oversight (Köbis & Mehner, 2021; Barnes & Hutson, 2024).] Furthermore, longitudinal studies and expanded Human Resources analytics (including predictive modelling of satisfaction and health metrics) will enable ongoing evaluation and continuous optimisation of operational protocols (Di Prima et al., 2024; McCartney & Fu, 2022).

By directly answering the research question and detailing mechanisms for the identification and operationalisation of relevant pairing parameters, this dissertation advances both theory and practice in organisational mentoring. The findings yield robust guidelines for maximising satisfaction and efficacy, applicable to dynamic software development hubs and beyond. This work stands as a substantive contribution to mentoring scholarship and practice, providing theoretical clarity, methodological rigour, and operational guidance for evidence-based mento-mentee matching. In demonstrating the value of systematically prioritising deep-level similarities and operational adaptation, the research supports responsive talent management and the creation of resilient, high-performance organisations.

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Appendices

Appendix A – Search Strategy (research strings)

Scopus – Mentoring & pairing (título-resumo-palavras-chave):

TITLE-ABS-KEY(mentoring AND (pair* OR match* OR assign*) AND (deep-level OR "deep level" OR "value congruence" OR "communication style" OR "cultural* awareness" OR "culturally responsive") AND (software OR "information technolog*" OR STEM OR engineer* OR "tech* hub" OR "innovation hub")) AND (LIMIT-TO(DOCTYPE, "ar")) AND (PUBYEAR > 1996)

Scopus – Matching algorithms em mentoring/programmes:

TITLE-ABS-KEY(("mentor*" W/3 "match*") OR ("pair*" W/3 algorithm*) OR ("two-sided" W/3 match*) OR "Gale-Shapley" OR "stable matching" OR ("recommender system*" AND mentoring)) AND (LIMIT-TO(DOCTYPE,"ar")) AND (PUBYEAR > 1996)

Web of Science – Topic (TS):

TS=(mentoring AND (pair* OR match*) AND ("deep-level" OR "value congruence" OR "communication style" OR "cultural awareness") AND (software OR STEM OR engineer* OR "tech* hub"))

Appendix B – PRISMA flow and Source Selection

Table B1 – PRISMA flow for the developed research

Step	**Result**
Identification	Initial search hits per database: Scopus; WoS
Removing duplicates	Records after duplicates removed
Screening	Titles/abstracts excluded for irrelevance ; moved to full text
Eligibility	Full-text articles excluded with reasons (e.g., does not report pairing; not peer-reviewed; non-comparable context)
Included	Empirical studies; reviews; studies of applied algorithms

Source: Self-elaborated, 2025

Table B2 – Structured Extraction of Included Studies

Author/Year	Context	Sample/Design	Pairing Criteria	Outcome Measures	Key Effects (stats)	Quality (MMAT/AMSTAR)	Instrument Implication	Algorithm Implication
Tuma & Dolan (2024)	US STEM PhD	Survey, 565 PhD	Deep-level similarity; cultural awareness	Mentoring support, quality	Deep-level similarity > surface-level similarity	A	Value/congruence block	Weight for "deep-level"/culture
Wold et al. (2023)	US New Teacher	Mixed methods	Proximity, content, personality	Satisfaction, retention	Retention OR=2.9 for proximity/content	B	Context/proximity items	Proximity constraint

Source: Self-elaborated, 2025

Appendix C – Mentor-Mentee Pairing Criteria findings

Table C1 – Synthesis of Mentor-Mentee pairing criteria Findings

Pairing Factor	Findings		Commonality or Distinctiveness
	Tuma & Dolan (2024): STEM Academia	**Wold et al. (2023): Teachers' Induction**	
Deep-level similarity	Primary and robust predictor of mentorship quality. Outweighs demographic or surface-level similarity	Most salient when proximity or content similarity are absent. Cited as helpful, especially when structural pairing is not possible	Common to both: central in doctoral context, compensatory in teachers' induction when structural criteria are missing
Surface-level similarity	Found not to predict quality mentoring; no significant effect	Not systematically prioritised; overshadowed by location and assignment; light referenced only	Both discount as a core pairing factor
Cultural awareness/ culturally competent mentorship	Emphasised as a mediator that enhances the impact of deep-level similarity	Not directly operationalised, but inclusivity is sometimes invoked in context of remote or diverse pairings	Explicit in STEM; only implicit in teachers' induction context. Deep-level similarity and cultural awareness are considered sequentially.
Proximity/Location	Not considered a necessary criterion. Mentorship quality independent of physical proximity when deep-level and cultural factors are present	Central structural factor. Strongly preferred as the primary criterion for practical, frequent, and contextual mentoring exchanges	Markedly divergent: essential in teachers' induction, negligible in STEM context.
Professional similarity	Appears primarily under deep-level similarity (shared intellectual interests and career aims). Encompassed within cognitive and value congruence	Major pragmatic criterion, second only to proximity. Close alignment of subject area or role directly prioritised in pairings	Both mention it as important, but Tuma & Dolan subsume it under the broader deep-level similarity construct.

Source: Self-elaborated based on Tuma & Dolan (2024) and Wold et al. (2023), 2025

Table C1 (cont.)

Pairing Factor	Findings		Commonality or Distinctiveness
	Tuma & Dolan (2024): STEM Academia	**Wold et al. (2023): Teachers' Induction**	
Grade/level similarity	Not relevant in the doctoral context	Frequently named as an important structural factor, along with content similarity and location, for ensuring functional support in teacher assignments	Context-bound: essential only for teachers' induction; not generalisable to doctoral mentorship.
Pairing input/preference	Encouraged: mentee and mentor agency viewed as beneficial for fostering deep-level compatibility and satisfaction	Highlighted as desirable by participants, who express preference for their voice to be factored into pairing process	Unified recommendation for both settings: growing emphasis on participant agency for optimal matching.
Meeting modality	Not a formal matching criterion; relationship quality mainly dependent on similarity and cultural awareness. Modality noted as relevant for sustaining connection, particularly in remote or hybrid arrangements	Faced with disruptions (e.g., pandemic), both virtual and face-to-face meetings become important. Preference for hybrid model emerges once proximity cannot be assured	Contextual: takes on relevance chiefly when physical proximity is lacking or impossible. Not primary matching parameter, but adaptive mechanism once pairing is set.

Source: Self-elaborated based on Tuma & Dolan (2024) and Wold et al. (2023), 2025

Appendix D – Matching Algorithms Pseudo-code

Algorithm D1 – Manual Administrative procedures

```
INPUT:
   mentors = list of Mentor objects
   mentees = list of Mentee objects

FOR each mentee IN mentees DO
   candidateMentors = []
   FOR each mentor IN mentors DO
      IF mentor.discipline == mentee.discipline OR
        mentor.background == mentee.background OR
        mentor.availability == mentee.availability THEN
         candidateMentors.append(mentor)
      END IF
   END FOR

   // Selection based on coordinator judgement
   selectedMentor = CoordinatorSelect(candidateMentors, mentee)

   // Assign the chosen mentor to mentee
   AssignMentorToMentee(selectedMentor, mentee)

   // Optionally, log decision and rationale
   LogPairing(selectedMentor, mentee, rationale)

END FOR

// Utility function: Coordinator makes final selection from candidates
FUNCTION CoordinatorSelect(candidateMentors, mentee)
   // Uses subjective review, application forms, interviews, etc.
   RETURN chosenMentor
END FUNCTION
```

Algorithm D2 – Two-Sided Matching and Gale-Shapley-Type Algorithms

```
INPUT:
   mentors = list of Mentor objects, each with preferenceList (ranked mentees)
   mentees = list of Mentee objects, each with preferenceList (ranked mentors)
   unassignedMentees = list of all mentees

// Each mentee can propose to mentors in order of their preference
WHILE unassignedMentees is not empty DO
   FOR each mentee IN unassignedMentees DO
      mentor = mentee.nextPreferredMentor()
      IF mentor has no current assignment THEN
         mentor.assignment = mentee
         remove mentee from unassignedMentees
      ELSE
         currentMentee = mentor.assignment
         IF mentor prefers mentee over currentMentee THEN
            mentor.assignment = mentee
            add currentMentee to unassignedMentees
            remove mentee from unassignedMentees
         ELSE
            // Mentor rejects mentee, mentee remains in unassignedMentees
         END IF
      END IF
   END FOR
END WHILE

OUTPUT:
   For each mentor, the assigned mentee (stable matching achieved)
```

Algorithm D3 - Multi-Objective and Heuristic Extensions

```
INPUT:
   mentors = list of Mentor objects
   mentees = list of Mentee objects
   MAX_GENERATIONS = set maximum number of iterations
   POPULATION_SIZE = number of candidate solutions per generation

// Initialise population of random candidate matchings
population = GenerateInitialPopulation(mentors, mentees, POPULATION_SIZE)

FOR generation FROM 1 TO MAX_GENERATIONS DO
   // Evaluate each candidate solution with multiple objectives
   FOR each candidate IN population DO
      candidate.score = EvaluateFitness(candidate, [
         MaximiseTotalSatisfaction,
         BalanceMentorMenteePreferences,
         EnsureFairnessOrConstraints
      ])
   END FOR

   // Select best candidates for reproduction (e.g., tournament or roulette)
   parents = Selection(population)

   // Apply crossover and mutation to create new candidates
   offspring = CrossoverAndMutate(parents, mentors, mentees)

   // Form new population with offspring and elite candidates
   population = SurvivorSelection(population, offspring, POPULATION_SIZE)
END FOR

// Select best solution found
bestMatching = SelectBestCandidate(population)

OUTPUT:
   Assignment of mentors to mentees optimising for satisfaction, balance, and fairness

// Note: Algorithm can flexibly incorporate additional constraints (e.g., quotas, schedule)
//       and can be replaced by other optimisers (e.g., Particle Swarm Optimisation)
```

Algorithm D4 - Clustering-Based Algorithms (K-Means and Variants)

```
INPUT:
   participants = list of Mentor and Mentee objects, each with attributes (traits, skills, preferences)
   k = desired number of clusters

// Prepare feature vectors for clustering
dataMatrix = ExtractFeatureVectors(participants)

# --- K-means clustering ---
clusters = KMeansClustering(dataMatrix, k)

// Assign each participant to a cluster
FOR each participant IN participants DO
   participant.clusterID = AssignToCluster(participant, clusters)
END FOR

// (Optional) Refine clusters with metaheuristic optimiser for improved quality
clusters = MetaheuristicRefinement(clusters, dataMatrix)

// For each cluster, perform local matching
FOR each clusterID IN clusters DO
   mentorsInCluster = FilterMentorsByCluster(clusterID)
   menteesInCluster = FilterMenteesByCluster(clusterID)
   matches = MatchWithinCluster(mentorsInCluster, menteesInCluster)
   StoreClusterMatches(matches)
END FOR

OUTPUT:
   List of clusters with optimised mentor-mentee pairings
```

Algorithm D5 - Hybrid Recommendation (Collaborative and Content Filtering)

```
INPUT:
   mentors = list of Mentor objects (with attributes, preferences)
   mentees = list of Mentee objects (with attributes, preferences)
   matchingHistory = database of past pairings and peer evaluations

FOR each mentee IN mentees DO
   // Content-based filtering: score all mentors for attribute and preference similarity
   contentScores = []
   FOR each mentor IN mentors DO
      contentScores[mentor] = ContentSimilarity(mentor, mentee)
   END FOR

   // Collaborative filtering: score all mentors based on past satisfaction/compatibility patterns
   collaborativeScores = []
   FOR each mentor IN mentors DO
      collaborativeScores[mentor] = CollaborativeScore(mentor, mentee, matchingHistory)
   END FOR

   // Hybridisation: combine scores (e.g., weighted average)
   finalScores = []
   FOR each mentor IN mentors DO
      finalScores[mentor] = alpha * contentScores[mentor] + (1 - alpha) * collaborativeScores[mentor]
   END FOR

   // Recommend top-N mentors to mentee
   mentee.recommendations = TopN(finalScores, N)
END FOR

// Pairing Step: Coordinator/system assigns pairs using recommendations

OUTPUT:
   Recommendation lists for all mentees (and/or mentors), ready for assignment

// Note: This system helps mitigate cold-start by leveraging content data when history is sparse
```

Algorithm D6 - Artificial Intelligence and Machine Learning Approaches

```
INPUT:
   mentors = list of Mentor objects (features and profile data)
   mentees = list of Mentee objects (features and profile data)
   trainingData = historical mentor-mentee pairs with outcome/compatibility scores

// Step 1: Train model using past pairing data
MLModel = TrainModel(trainingData, modelType="RandomForest" OR "NeuralNetwork" OR "Ensemble")

// Step 2: For each mentee, predict best compatibility
FOR each mentee IN mentees DO
   compatibilityScores = []
   FOR each mentor IN mentors DO
      pairFeatures = ExtractFeatures(mentor, mentee)
      compatibilityScores[mentor] = MLModel.Predict(pairFeatures)
   END FOR

   // Optionally, forecast long-term outcomes with prediction model
   projectedOutcome = MLModel.ForecastLongTerm(mentee, TopN(compatibilityScores, N))

   // Recommend top-N mentors for this mentee
   mentee.recommendations = TopN(compatibilityScores, N)
END FOR

// Step 3: Iteratively update model with continuous feedback
WHILE newFeedbackAvailable DO
   trainingData = UpdateTrainingData(trainingData, newFeedback)
   MLModel = RetrainModel(trainingData)
END WHILE

OUTPUT:
   Recommendation lists and predicted match outcomes for mentees (and/or mentors)
```

Appendix E – Conducted Online Survey

Note: All options marked with (*) are customizable via short open-ended text field.

Demographic Information:

Do you work in a technological environment dedicated to software development?

Yes

No

Which gender do you identify with?

Female

Male

Non-binary

Prefer not to say

How many years of experience do you have in the technology field?

Less than 1 year

1–3 years

4–6 years

7–10 years

More than 10 years

Which category best describes your current primary role?

Engineering (e.g. software development)

Product (e.g. product owner)

Agility (e.g. scrum master)

Management (e.g. engineering manager)

Other *

On a scale from 1 (least satisfied) to 10 (most satisfied), how satisfied are you with your current professional career?

1

2

3

4

5

6

7

8

9

10

Which culture do you most strongly identify with?

Portuguese

Brazilian

Spanish

German

Ukrainian

Other *

Have you previously participated in a formal or informal mentoring relationship during your career (as a mentor, mentee, or both)?

Yes

No

What type of mentoring programme were you participating in?

Formal (structured, organisation-arranged relationship with defined roles, goals, and timelines)
Informal (naturally developed relationship, not arranged by the organisation, evolving through mutual interest and personal connection)
Both

Which role have you played?

Mentor

Mentee

Both

Evaluating Factors Supporting Strong Mentoring Relationships:

Deep-level similarity:

To what extent do you agree: “Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

To what extent do you agree: “Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Please use this space to share any additional thoughts or experiences you believe are important

(open-ended question)

Culturally aware mentoring:

To what extent do you agree: “Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

To what extent do you agree: “Mentor training in cultural awareness and inclusive communication would be valuable.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Please use this space to share any additional thoughts or experiences you believe are important

(open-ended question)

Matching and Relationship Initiation:

To what extent do you agree: “The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

To what extent do you agree: “I support having structured opportunities to meet potential mentors or mentees before matches are finalised.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Please use this space to share any additional thoughts or experiences you believe are important

(open-ended question)

Demographic and Hierarchical Matching:

To what extent do you agree: “Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

To what extent do you agree: “The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Please use this space to share any additional thoughts or experiences you believe are important

(open-ended question)

Psychological Safety and Support:

To what extent do you agree: “A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

To what extent do you agree: “I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.”

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Please use this space to share any additional thoughts or experiences you believe are important

(open-ended question)

Preferences and Expectations:

If a new mentorship programme were launched at your organisation, which would you prefer?

- Assigned mentor/mentee pairs based on transparent criteria, known a priori
- Self-selected pairs after introductory meetings
- No strong preference
- Other *

In your view, what is the single most important factor for a successful mentoring experience?
(open-ended question)

Are there specific supports or training you believe would help mentors improve their mentoring abilities?
(open-ended question)

Open Comments:

Leave your suggestions bellow:
(open-ended question)

Appendix F – Descriptive Statistics Tables

Table F1 - Respondent reported gender

	N	%
Female	56	27,5%
Male	147	72,1%
Non-binary	1	0,4%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F2 - Respondent reported experience within the software sector

	N	%
Less than 1 year	3	1,5%
1-3 years	29	14,2%
4-6 years	42	20,6%
7-10 years	46	22,5%
More than 10 years	84	41,2%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F3 - Respondent reported main role

	N	%
Agility	8	3,9%
Engineering	137	67,2%
Management	30	14,7%
Product	22	10,8%
Other	7	3,4%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F4 - Respondent reported job satisfaction

	N	%
1	1	0,4%
2	0	0
3	4	2%
4	7	3,4%
5	7	3,4%
6	14	6,9%
7	51	25%
8	65	31,9%
9	35	17,2%
10	20	9,8%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F5 - Respondent reported auto-identified cultural background

	N	%
American	10	4,9%
Armenian	1	0,5%
Brazilian	20	9,8%
British	26	12,7%
Cape-Verdean	1	0,5%
Chinese	1	0,5%
Czech	2	1%
Dominican	1	0,5%
Estonian	1	0,5%
German	25	12,3%
Indian	5	2,5%
Italian	2	1%
New-Zealander	2	1%
Portuguese	91	44,6%
Sierra-Leonian	1	0,5%
Spanish	6	2,9%
Swedish	2	1%
Turkish	1	0,5%
Invalid	4	2%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F6 - Respondent reported previous experience in mentorship programmes

	N	%
No	38	18,6%
Yes	166	81,4%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F7 - Respondent reported mentorship type experience, for respondents with previous reported experience

	N	%
Formal	37	22,3%
Informal	60	36,1%
Both	69	41,6%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table F8 - Respondent reported role in mentorship experiences, for respondents with previous reported experience

	N	%
Mentee	45	27,2%
Mentor	33	19,8%
Both	88	53%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Appendix G – Cross-tabulation tables for Level of Experience versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table G1 – Crosstabulation for Experience versus Affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	0	0	2	1	3
		% within Experience	0%	0%	0%	66,7%	33,3%	100%
		% within question A1	0%	0%	0%	1,9%	1,5%	1,5%
	1-3 years	**Count**	0	1	2	14	12	29
		% within Experience	0%	3,4%	6,9%	48,3%	41,4%	100%
		% within question A1	0%	14,3%	9,1%	13,6%	17,9%	14,2%
	4-6 years	**Count**	0	1	6	22	13	42
		% within Experience	0%	2,4%	14,3%	52,4%	31%	100%
		% within question A1	0%	14,3%	27,3%	21,4%	19,4%	20,6%
	7-10 years	**Count**	2	1	3	22	18	46
		% within Experience	4,3%	2,2%	6,5%	47,8%	39,1%	100%
		% within question A1	40%	14,3%	13,6%	21,4%	26,9%	22,5%
	<10 years	**Count**	3	4	11	43	23	84
		% within Experience	3,6%	4,8%	13,1%	51,2%	27,4%	100%
		% within question A1	60%	57,1%	50%	41,7%	34,3%	41,2%
Total		**Count**	5	7	22	103	67	204
		% within Experience	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within question A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G2 – Chi-square tests for G1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	8,493[1]	16	0,933
Likelihood Ratio	10,623	16	0,832
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[1] 16 cells (64%) have an expected count less than 5. The minimum expected count is 0,07.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table G3 – Crosstabulation for Experience versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	0	0	0	3	3
		% within Experience	0%	0%	0%	0%	100%	100%
		% within question A2	0%	0%	0%	0%	5,8%	1,5%
	1-3 years	**Count**	1	3	6	10	9	29
		% within Experience	3,4%	10,3%	20,7%	34,5%	31%	100%
		% within question A2	20%	14,3%	13%	12,5%	17,3%	14,2%
	4-6 years	**Count**	1	8	7	17	9	42
		% within Experience	2,4%	19%	16,7%	40,5%	21,4%	100%
		% within question A2	20%	38,1%	15,2%	21,3%	17,3%	20,6%
	7-10 years	**Count**	1	3	12	18	12	46
		% within Experience	2,2%	6,5%	26,1%	39,1%	26,1%	100%
		% within question A2	20%	14,3%	26,1%	22,5%	23,1%	22,5%
	<10 years	**Count**	2	7	21	35	19	84
		% within Experience	2,4%	8,3%	25%	41,7%	22,6%	100%
		% within question A2	40%	33,3%	45,7%	43,8%	36,5%	41,2%
Total		**Count**	5	21	46	80	52	204
		% within Experience	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G4 – Chi-square tests for G3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	15,359[2]	16	0,499
Likelihood Ratio	14,317	16	0,575
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[2] 12 cells (48%) have an expected count less than 5. The minimum expected count is 0,07.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table G5 – Crosstabulation for Experience versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	0	1	1	1	3
		% within Experience	0%	0%	33,3%	33,3%	33,3%	100%
		% within question B1	0%	0%	3%	1,1%	1,6%	1,5%
	1-3 years	**Count**	0	2	6	11	10	29
		% within Experience	0%	6,9%	20,7%	37,9%	34,5%	100%
		% within question B1	0%	20%	18,2%	11,6%	15,9%	14,2%
	4-6 years	**Count**	0	2	5	20	15	42
		% within Experience	0%	4,8%	11,9%	47,6%	35,7%	100%
		% within question B1	0%	20%	15,2%	21,1%	23,8%	20,6%
	7-10 years	**Count**	1	2	10	22	11	46
		% within Experience	2,2%	4,3%	21,7%	47,8%	23,9%	100%
		% within question B1	33,3%	20%	30,3%	23,2%	17,5%	22,5%
	<10 years	**Count**	2	4	11	41	26	84
		% within Experience	2,4%	4,8%	13,1%	48,8%	31%	100%
		% within question B1	66,7%	40%	33,3%	43,2%	41,3%	41,2%
Total		**Count**	3	10	33	95	63	204
		% within Experience	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within question B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G6 – Chi-square tests for G5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	6,753[3]	16	0,978
Likelihood Ratio	7,788	16	0,955
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[3] 14 cells (56%) have an expected count less than 5. The minimum expected count is 0,04.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table G7 – Crosstabulation for Experience versus affirmation B2

			Answer to B2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	1	1	0	1	3
		% within Experience	0%	33,3%	33,3%	0%	33,3%	100%
		% within question B2	0%	8,3%	3,3%	0%	1,6%	1,5%
	1-3 years	**Count**	0	3	6	12	8	29
		% within Experience	0%	10,3%	20,7%	41,4%	27,6%	100%
		% within question B2	0%	25%	20%	12,6%	13,1%	14,2%
	4-6 years	**Count**	1	2	6	20	13	42
		% within Experience	2,4%	4,8%	14,3%	47,6%	31%	100%
		% within question B2	16,7%	16,7%	20%	21,1%	21,3%	20,6%
	7-10 years	**Count**	2	2	9	20	13	46
		% within Experience	4,3%	4,3%	19,6%	43,5%	28,3%	100%
		% within question B2	33,3%	16,7%	30%	21,1%	21,3%	22,5%
	<10 years	**Count**	3	4	8	43	26	84
		% within Experience	3,6%	4,8%	9,5%	51,2%	31%	100%
		% within question B2	50%	33,3%	26,7%	45,3%	42,6%	41,2%
Total		**Count**	6	12	30	95	61	204
		% within Experience	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within question B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G8 – Chi-square tests for FG Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	12,584[4]	16	0,703
Likelihood Ratio	12,592	16	0,702
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[4] 14 cells (56%) have an expected count less than 5. The minimum expected count is 0,09.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table G9 – Crosstabulation for Experience versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	1	0	2	0	3
		% within Experience	0%	33,3%	0%	66,7%	0%	100%
		% within question C1	0%	6,7%	0%	2,3%	0%	1,5%
	1-3 years	**Count**	1	4	5	12	7	29
		% within Experience	3,4%	13,8%	17,2%	41,4%	24,1%	100%
		% within question C1	33,3%	26,7%	14,3%	14%	10,8%	14,2%
	4-6 years	**Count**	0	2	8	17	15	42
		% within Experience	0%	4,8%	19%	40,5%	35,7%	100%
		% within question C1	0%	13,3%	22,9%	19,8%	23,1%	20,6%
	7-10 years	**Count**	0	1	9	22	14	46
		% within Experience	0%	2,2%	19,6%	47,8%	30,4%	100%
		% within question C1	0%	6,7%	25,7%	25,6%	21,5%	22,5%
	<10 years	**Count**	2	7	13	33	29	84
		% within Experience	2,4%	8,3%	15,5%	39,3%	34,5%	100%
		% within question C1	66,7%	46,7%	37,1%	38,4%	44,6%	41,2%
Total		**Count**	3	15	35	86	65	204
		% within Experience	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within question C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G10 – Chi-square tests for G9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	12,925[5]	16	0,678
Likelihood Ratio	14,474	16	0,563
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[5] 13 cells (52%) have an expected count less than 5. The minimum expected count is 0,04.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table G11 – Crosstabulation for Experience versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	1	2	0	0	3
		% within Experience	0%	33,3%	66,7%	0%	0%	100%
		% within question C2	0%	9,1%	4,8%	0%	0%	1,5%
	1-3 years	**Count**	1	0	8	16	4	29
		% within Experience	3,4%	0%	27,6%	55,2%	13,8%	100%
		% within question C2	50%	0%	19%	15,8%	8,3%	14,2%
	4-6 years	**Count**	0	1	9	20	12	42
		% within Experience	0%	2,4%	21,4%	47,6%	28,6%	100%
		% within question C2	0%	9,1%	21,4%	19,8%	25%	20,6%
	7-10 years	**Count**	0	2	7	29	8	46
		% within Experience	0%	4,3%	15,2%	63%	17,4%	100%
		% within question C2	0%	18,2%	16,7%	28,7%	16,7%	22,5%
	<10 years	**Count**	1	7	16	36	24	84
		% within Experience	1,2%	8,3%	19%	42,9%	28,6%	100%
		% within question C2	50%	63,6%	38,1%	35,6%	50%	41,2%
Total		**Count**	2	11	42	101	48	204
		% within Experience	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within question C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G12 – Chi-square tests for G11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,453[6]	16	0,102
Likelihood Ratio	23,930	16	0,091
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[6] 13 cells (52%) have an expected count less than 5. The minimum expected count is 0,03.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table G13 – Crosstabulation for Experience versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	1	0	1	1	0	3
		% within Experience	33,3%	0%	33,3%	33,3%	0%	100%
		% within question D1	2,4%	0%	2,2%	3%	0%	1,5%
	1-3 years	**Count**	3	6	9	10	1	29
		% within Experience	10,3%	20,7%	31%	34,5%	3,4%	100%
		% within question D1	7,1%	7,5%	19,6%	30,3%	33,3%	14,2%
	4-6 years	**Count**	9	18	7	7	1	42
		% within Experience	21,4%	42,9%	16,7%	16,7%	2,4%	100%
		% within question D1	21,4%	22,5%	15,2%	21,2%	33,3%	20,6%
	7-10 years	**Count**	7	18	11	9	1	46
		% within Experience	15,2%	39,1%	23,9%	19,6%	2,2%	100%
		% within question D1	16,7%	22,5%	23,9%	27,3%	33,3%	22,5%
	<10 years	**Count**	22	38	18	6	0	84
		% within Experience	26,2%	45,2%	21,4%	7,1%	0%	100%
		% within question D1	52,4%	47,5%	39,1%	18,2%	0%	41,2%
Total		**Count**	42	80	46	33	3	204
		% within Experience	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within question D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G14 – Chi-square tests for G13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,664[7]	16	0,097
Likelihood Ratio	26,037	16	0,054
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[7] 10 cells (40%) have an expected count less than 5. The minimum expected count is 0,04.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table G15 – Crosstabulation for Experience versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	0	2	1	0	3
		% within Experience	0%	0%	66,7%	33,3%	0%	100%
		% within question D2	0%	0%	4,2%	1,2%	0%	1,5%
	1-3 years	**Count**	0	5	8	10	6	29
		% within Experience	0%	17,2%	27,6%	34,5%	20,7%	100%
		% within question D2	0%	13,5%	16,7%	11,6%	25%	14,2%
	4-6 years	**Count**	2	6	6	20	8	42
		% within Experience	4,8%	14,3%	14,3%	47,6%	19%	100%
		% within question D2	22,2%	16,2%	12,5%	23,3%	33,3%	20,6%
	7-10 years	**Count**	2	7	12	22	3	46
		% within Experience	4,3%	15,2%	26,1%	47,8%	6,5%	100%
		% within question D2	22,2%	18,9%	25%	25,6%	12,5%	22,5%
	<10 years	**Count**	5	19	20	33	7	84
		% within Experience	6%	22,6%	23,8%	39,3%	8,3%	100%
		% within question D2	55,6%	51,4%	41,7%	38,4%	29,2%	41,2%
Total		**Count**	9	37	48	86	24	204
		% within Experience	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within question D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G16 – Chi-square tests for G15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	15,552[8]	16	0,485
Likelihood Ratio	16,875	16	0,394
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[8] 11 cells (44%) have an expected count less than 5. The minimum expected count is 0,13.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table G17 – Crosstabulation for Experience versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	1	0	0	2	3
		% within Experience	0%	33,3%	0%	0%	66,7%	100%
		% within question E1	0%	100%	0%	0%	1,3%	1,5%
	1-3 years	**Count**	1	0	0	5	23	29
		% within Experience	3,4%	0%	0%	17,2%	79,3%	100%
		% within question E1	50%	0%	0%	12,8%	14,5%	14,2%
	4-6 years	**Count**	0	0	1	5	36	42
		% within Experience	0%	0%	2,4%	11,9%	85,7%	100%
		% within question E1	0%	0%	33,3%	12,8%	22,6%	20,6%
	7-10 years	**Count**	0	0	1	14	31	46
		% within Experience	0%	0%	2,2%	30,4%	67,4%	100%
		% within question E1	0%	0%	33,3%	35,9%	19,5%	22,5%
	<10 years	**Count**	1	0	1	15	67	84
		% within Experience	1,2%	0%	1,2%	17,9%	79,8%	100%
		% within question E1	50%	0%	33,3%	38,5%	42,1%	41,2%
Total		**Count**	2	1	3	39	159	204
		% within Experience	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within question E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G18 – Chi-square tests for G17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	76,634[9]	16	<0,001
Likelihood Ratio	18,967	16	0,270
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[9] 17 cells (68%) have an expected count less than 5. The minimum expected count is 0,01.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table G19 – Crosstabulation for Experience versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Experience	**>1 year**	**Count**	0	0	0	2	1	3
		% within Experience	0%	0%	0%	66,7%	33,3%	100%
		% within question E2	0%	0%	0%	2,3%	1,2%	1,5%
	1-3 years	**Count**	1	0	2	11	15	29
		% within Experience	3,4%	0%	6,9%	37,9%	51,7%	100%
		% within question E2	33,3%	0%	8%	12,8%	17,4%	14,2%
	4-6 years	**Count**	0	0	3	17	22	42
		% within Experience	0%	0%	7,1%	40,5%	52,4%	100%
		% within question E2	0%	0%	12%	19,8%	25,6%	20,6%
	7-10 years	**Count**	1	2	8	19	16	46
		% within Experience	2,2%	4,3%	17,4%	41,3%	34,8%	100%
		% within question E2	33,3%	50%	32%	22,1%	18,6%	22,5%
	<10 years	**Count**	1	2	12	37	32	84
		% within Experience	1,2%	2,4%	14,3%	44%	38,1%	100%
		% within question E2	33,3%	50%	48%	43%	37,2%	41,2%
Total		**Count**	3	4	25	86	86	204
		% within Experience	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within question E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table G20 – Chi-square tests for G19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,018[10]	16	0,808
Likelihood Ratio	12,948	16	0,677
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[10] 14 cells (56%) have an expected count less than 5. The minimum expected count is 0,04.

Appendix H – Cross-tabulation tables for Role versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table H1 – Crosstabulation for Role versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	3	2	3	8
		% within Role	0%	0%	37,5%	25%	37,5%	100%
		% within question A1	0%	0%	13,6%	1,9%	4,5%	3,9%
	Engineering	**Count**	1	5	16	69	46	137
		% within Role	0,7%	3,6%	11,7%	50,4%	33,6%	100%
		% within question A1	20%	71,4%	72,7%	67%	68,7%	67,2%
	Management	**Count**	4	1	2	14	9	30
		% within Role	13,3%	3,3%	6,7%	46,7%	30%	100%
		% within question A1	80%	14,3%	9,1%	13,6%	13,4%	14,7%
	Other	**Count**	0	0	1	5	1	7
		% within Role	0%	0%	14,3%	71,4%	14,3%	100%
		% within question A1	0%	0%	4,5%	4,9%	1,5%	3,4%
	Product	**Count**	0	1	0	13	8	22
		% within Role	0%	4,5%	0%	59,1%	36,4%	100%
		% within question A1	0%	14,3%	0%	12,6%	11,9%	10,8%
Total		**Count**	5	7	22	103	67	204
		% within Role	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within question A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H2 – Chi-square tests for H1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	29,005[11]	16	0,024
Likelihood Ratio	24,276	16	0,084
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[11] 18 cells (72%) have an expected count less than 5. The minimum expected count is 0,17.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table H3 – Crosstabulation for Role versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	1	0	4	2	1	8
		% within Role	12,5%	0%	50%	25%	12,5%	100%
		% within question A2	20%	0%	8,7%	2,5%	1,9%	3,9%
	Engineering	**Count**	2	15	28	60	32	137
		% within Role	1,5%	10,9%	20,4%	43,8%	23,4%	100%
		% within question A2	40%	71,4%	60,9%	75%	61,5%	67,2%
	Management	**Count**	1	3	8	8	10	30
		% within Role	3,3%	10%	26,7%	26,7%	33,3%	100%
		% within question A2	20%	14,3%	17,4%	10%	19,2%	14,7%
	Other	**Count**	0	1	2	2	2	7
		% within Role	0%	14,3%	28,6%	28,6%	28,6%	100%
		% within question A2	0%	4,8%	4,3%	2,5%	3,8%	3,4%
	Product	**Count**	1	2	4	8	7	22
		% within Role	4,5%	9,1%	18,2%	36,4%	31,8%	100%
		% within question A2	20%	9,5%	8,7%	10%	13,5%	10,8%
Total		**Count**	5	21	46	80	52	204
		% within Role	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H4 – Chi-square tests for H3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	13,464[12]	16	0,639
Likelihood Ratio	12,363	16	0,719
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[12] 16 cells (64%) have an expected count less than 5. The minimum expected count is 0,17.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table H5 – Crosstabulation for Role versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	2	2	4	8
		% within Role	0%	0%	25%	25%	50%	100%
		% within question B1	0%	0%	6,1%	2,1%	6,3%	3,9%
	Engineering	**Count**	2	10	27	64	34	137
		% within Role	1,5%	7,3%	19,7%	46,7%	24,8%	100%
		% within question B1	66,7%	100%	81,8%	67,4%	54%	67,2%
	Management	**Count**	1	0	1	12	16	30
		% within Role	3,3%	0%	3,3%	40%	53,3%	100%
		% within question B1	33,3%	0%	3%	12,6%	25,4%	14,7%
	Other	**Count**	0	0	0	6	1	7
		% within Role	0%	0%	0%	85,7%	14,3%	100%
		% within question B1	0%	0%	0%	6,3%	1,6%	3,4%
	Product	**Count**	0	0	3	11	8	22
		% within Role	0%	0%	13,6%	50%	36,4%	100%
		% within question B1	0%	0%	9,1%	11,6%	12,7%	10,8%
Total		**Count**	3	10	33	95	63	204
		% within Role	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within question B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H6 – Chi-square tests for H5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,613[13]	16	0,098
Likelihood Ratio	28,485	16	0,028
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[13] 17 cells (68%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table H7 – Crosstabulation for Role versus affirmation B2

			Answer to B2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	0	3	5	8
		% within Role	0%	0%	0%	37,5%	62,5%	100%
		% within question B2	0%	0%	0%	3,2%	8,2%	3,9%
	Engineering	**Count**	5	11	21	70	30	137
		% within Role	3,6%	8%	15,3%	51,1%	21,9%	100%
		% within question B2	83,3%	91,7%	70%	73,7%	49,2%	67,2%
	Management	**Count**	1	0	5	11	13	30
		% within Role	3,3%	0%	16,7%	36,7%	43,3%	100%
		% within question B2	16,7%	0%	16,7%	11,6%	21,3%	14,7%
	Other	**Count**	0	1	1	2	3	7
		% within Role	0%	14,3%	14,3%	28,6%	42,9%	100%
		% within question B2	0%	8,3%	3,3%	2,1%	4,9%	3,4%
	Product	**Count**	0	0	3	9	10	22
		% within Role	0%	0%	13,6%	40,9%	45,5%	100%
		% within question B2	0%	0%	10%	9,5%	16,4%	10,8%
Total		**Count**	6	12	30	95	61	204
		% within Role	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within question B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H8 – Chi-square tests for H7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	19,864[14]	16	0,226
Likelihood Ratio	24,512	16	0,079
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[14] 17 cells (68%) have an expected count less than 5. The minimum expected count is 0,21.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table H9 – Crosstabulation for Role versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	1	4	3	8
		% within Role	0%	0%	12,5%	50%	37,5%	100%
		% within question C1	0%	0%	2,9%	4,7%	4,6%	3,9%
	Engineering	**Count**	1	11	25	59	41	137
		% within Role	0,7%	8%	18,2%	43,1%	29,9%	100%
		% within question C1	33,3%	73,3%	71,4%	68,6%	63,1%	67,2%
	Management	**Count**	2	2	2	12	12	30
		% within Role	6,7%	6,7%	6,7%	40%	40%	100%
		% within question C1	66,7%	13,3%	5,7%	14%	18,5%	14,7%
	Other	**Count**	0	1	1	3	2	7
		% within Role	0%	14,3%	14,3%	42,9%	28,6%	100%
		% within question C1	0%	6,7%	2,9%	3,5%	3,1%	3,4%
	Product	**Count**	0	1	6	8	7	22
		% within Role	0%	4,5%	27,3%	36,4%	31,8%	100%
		% within question C1	0%	6,7%	17,1%	9,3%	10,8%	10,8%
Total		**Count**	3	15	35	86	65	204
		% within Role	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within question C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H10 – Chi-square tests for H9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	12,656[15]	16	0,698
Likelihood Ratio	11,615	16	0,770
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[15] 16 cells (64%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table H11 – Crosstabulation for Role versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	Agility	Count	0	1	2	4	1	8
		% within Role	0%	12,5%	25%	50%	12,5%	100%
		% within question C2	0%	9,1%	4,8%	4%	2,1%	3,9%
	Engineering	Count	1	7	27	71	31	137
		% within Role	0,7%	5,1%	19,7%	51,8%	22,6%	100%
		% within question C2	50%	63,6%	64,3%	70,3%	64,6%	67,2%
	Management	Count	1	0	7	11	11	30
		% within Role	3,3%	0%	23,3%	36,7%	36,7%	100%
		% within question C2	50%	0%	16,7%	10,9%	22,9%	14,7%
	Other	Count	0	1	1	4	1	7
		% within Role	0%	14,3%	14,3%	57,1%	14,3%	100%
		% within question C2	0%	9,1%	2,4%	4%	2,1%	3,4%
	Product	Count	0	2	5	11	4	22
		% within Role	0%	9,1%	22,7%	50%	18,2%	100%
		% within question C2	0%	18,2%	11,9%	10,9%	8,3%	10,8%
Total		Count	2	11	42	101	48	204
		% within Role	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within question C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H12 – Chi-square tests for H11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	10,953[16]	16	0,812
Likelihood Ratio	11,587	16	0,772
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[16] 16 cells (64%) have an expected count less than 5. The minimum expected count is 0,07.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table H13 – Crosstabulation for Role versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	Agility	Count	1	3	2	2	0	8
		% within Role	12,5%	37,5%	25%	25%	0%	100%
		% within question D1	2,4%	3,8%	4,3%	6,1%	0%	3,9%
	Engineering	Count	29	53	29	23	3	137
		% within Role	21,2%	38,7%	21,2%	16,8%	2,2%	100%
		% within question D1	69%	66,3%	63%	69,7%	100%	67,2%
	Management	Count	8	12	7	3	0	30
		% within Role	26,7%	40%	23,3%	10%	0%	100%
		% within question D1	19%	15%	15,2%	9,1%	0%	14,7%
	Other	Count	1	1	4	1	0	7
		% within Role	14,3%	14,3%	57,1%	14,3%	0%	100%
		% within question D1	2,4%	1,3%	8,7%	3%	0%	3,4%
	Product	Count	3	11	4	4	0	22
		% within Role	13,6%	50%	18,2%	18,2%	0%	100%
		% within question D1	7,1%	13,8%	8,7%	12,1%	0%	10,8%
Total		Count	42	80	46	33	3	204
		% within Role	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within question D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H14 – Chi-square tests for H13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	9,957[17]	16	0,869
Likelihood Ratio	10,220	16	0,855
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[17] 17 cells (68%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table H15 – Crosstabulation for Role versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	2	2	3	1	8
		% within Role	0%	25%	25%	37,5%	12,5%	100%
		% within question D2	0%	5,4%	4,2%	3,5%	4,2%	3,9%
	Engineering	**Count**	6	21	28	63	19	137
		% within Role	4,4%	15,3%	20,4%	46%	13,9%	100%
		% within question D2	66,7%	56,8%	58,3%	73,3%	79,2%	67,2%
	Management	**Count**	2	6	9	11	2	30
		% within Role	6,7%	20%	30%	36,7%	6,7%	100%
		% within question D2	22,2%	16,2%	18,8%	12,8%	8,3%	14,7%
	Other	**Count**	0	2	1	4	0	7
		% within Role	0%	28,6%	14,3%	57,1%	0%	100%
		% within question D2	0%	5,4%	2,1%	4,7%	0%	3,4%
	Product	**Count**	1	6	8	5	2	22
		% within Role	4,5%	27,3%	36,4%	22,7%	9,1%	100%
		% within question D2	11,1%	16,2%	16,7%	5,8%	8,3%	10,8%
Total		**Count**	9	37	48	86	24	204
		% within Role	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within question D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H16 – Chi-square tests for H15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,408[18]	16	0,784
Likelihood Ratio	12,926	16	0,678
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[18] 15 cells (60%) have an expected count less than 5. The minimum expected count is 0,31.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table H17 – Crosstabulation for Role versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	1	1	6	8
		% within Role	0%	0%	12,5%	12,5%	75%	100%
		% within question E1	0%	0%	33,3%	2,6%	3,8%	3,9%
	Engineering	**Count**	1	0	1	28	107	137
		% within Role	0,7%	0%	0,7%	20,4%	78,1%	100%
		% within question E1	50%	0%	33,3%	71,8%	67,3%	67,2%
	Management	**Count**	1	0	1	5	23	30
		% within Role	3,3%	0%	3,3%	16,7%	76,7%	100%
		% within question E1	50%	0%	33,3%	12,8%	14,5%	14,7%
	Other	**Count**	0	1	0	0	6	7
		% within Role	0%	14,3%	0%	0%	85,7%	100%
		% within question E1	0%	100%	0%	0%	3,8%	3,4%
	Product	**Count**	0	0	0	5	17	22
		% within Role	0%	0%	0%	22,7%	77,3%	100%
		% within question E1	0%	0%	0%	12,8%	10,7%	10,8%
Total		**Count**	2	1	3	39	159	204
		% within Role	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within question E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H18 – Chi-square tests for H17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	40,512[19]	16	<0,001
Likelihood Ratio	16,435	16	0,423
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[19] 18 cells (72%) have an expected count less than 5. The minimum expected count is 0,03.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table H19 – Crosstabulation for Role versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Role	**Agility**	**Count**	0	0	2	4	2	8
		% within Role	0%	0%	25%	50%	25%	100%
		% within question E2	0%	0%	8%	4,7%	2,3%	3,9%
	Engineering	**Count**	2	4	17	64	50	137
		% within Role	1,5%	2,9%	12,4%	46,7%	36,5%	100%
		% within question E2	66,7%	100%	68%	74,4%	58,1%	67,2%
	Management	**Count**	1	0	3	8	18	30
		% within Role	3,3%	0%	10%	26,7%	60%	100%
		% within question E2	33,3%	0%	12%	9,3%	20,9%	14,7%
	Other	**Count**	0	0	0	3	4	7
		% within Role	0%	0%	0%	42,9%	57,1%	100%
		% within question E2	0%	0%	0%	3,5%	4,7%	3,4%
	Product	**Count**	0	0	3	7	12	22
		% within Role	0%	0%	13,6%	31,8%	54,5%	100%
		% within question E2	0%	0%	12%	8,1%	14%	10,8%
Total		**Count**	3	4	25	86	86	204
		% within Role	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within question E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table H20 – Chi-square tests for H19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	13,385[20]	16	0,644
Likelihood Ratio	15,643	16	0,478
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[20] 18 cells (72%) have an expected count less than 5. The minimum expected count is 0,10.

Appendix I – Cross-tabulation tables for Mentoring Experience versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table I1 – Crosstabulation for Role versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	2	7	19	9	38
		% within Mentoring Experience	2,6%	5,3%	18,4%	50%	23,7%	100%
		% within question A1	20%	28,6%	31,8%	18,4%	13,4%	18,6%
	Yes	**Count**	4	5	15	84	58	166
		% within Mentoring Experience	2,4%	3%	9%	50,6%	34,9%	100%
		% within question A1	80%	71,4%	68,2%	81,6%	86,6%	81,4%
Total		**Count**	5	7	22	103	67	204
		% within Mentoring Experience	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within question A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I2 – Chi-square tests for I1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	4,183[21]	4	0,382
Likelihood Ratio	3,899	4	0,420
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[21] 4 cells (40%) have an expected count less than 5. The minimum expected count is 0,93.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table I3 – Crosstabulation for Role versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	0	3	11	17	7	38
		% within Mentoring Experience	0%	7,9%	28,9%	44,7%	18,4%	100%
		% within question A2	0%	14,3%	23,9%	21,3%	13,5%	18,6%
	Yes	**Count**	5	18	35	63	45	166
		% within Mentoring Experience	3%	10,8%	21,1%	38%	27,1%	100%
		% within question A2	100%	85,7%	76,1%	78,8%	86,5%	81,4%
Total		**Count**	5	21	46	80	52	204
		% within Mentoring Experience	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I4 – Chi-square tests for I3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	3,532[22]	4	0,473
Likelihood Ratio	4,478	4	0,345
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[22] 18 cells (72%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table I5 – Crosstabulation for Role versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	2	2	8	18	8	38
		% within Mentoring Experience	5,3%	5,3%	21,1%	47,4%	21,1%	100%
		% within question B1	66,7%	20%	24,2%	18,9%	12,7%	18,6%
	Yes	**Count**	1	8	25	77	55	166
		% within Mentoring Experience	0,6%	4,8%	15,1%	46,4%	33,1%	100%
		% within question B1	33,3%	80%	75,8%	81,1%	87,3%	81,4%
Total		**Count**	3	10	33	95	63	204
		% within Mentoring Experience	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within question B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I6 – Chi-square tests for I5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	6,734[23]	4	0,151
Likelihood Ratio	5,580	4	0,233
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[23] 3 cells (30%) have an expected count less than 5. The minimum expected count is 0,56.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table I7 – Crosstabulation for Role versus affirmation B2

			Answer to B2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	2	3	6	19	8	38
		% within Mentoring Experience	5,3%	7,9%	15,8%	50%	21,1%	100%
		% within question B2	33,3%	25%	20%	20%	13,1%	18,6%
	Yes	**Count**	4	9	24	76	53	166
		% within Mentoring Experience	2,4%	5,4%	14,5%	45,8%	31,9%	100%
		% within question B2	66,7%	75%	80%	80%	86,9%	81,4%
Total		**Count**	6	12	30	95	61	204
		% within Mentoring Experience	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within question B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I8 – Chi-square tests for I7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	2,556[24]	4	0,635
Likelihood Ratio	2,517	4	0,642
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[24] 3 cells (30%) have an expected count less than 5. The minimum expected count is 1,12.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table I9 – Crosstabulation for Role versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	4	11	11	11	38
		% within Mentoring Experience	2,6%	10,5%	28,9%	28,9%	28,9%	100%
		% within question C1	33,3%	26,7%	31,4%	12,8%	16,9%	18,6%
	Yes	**Count**	2	11	24	75	54	166
		% within Mentoring Experience	1,2%	6,6%	14,5%	45,2%	32,5%	100%
		% within question C1	66,7%	73,3%	68,6%	87,2%	83,1%	81,4%
Total		**Count**	3	15	35	86	65	204
		% within Mentoring Experience	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within question C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I10 – Chi-square tests for I9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	6,909[25]	4	0,141
Likelihood Ratio	6,489	4	0,166
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[25] 3 cells (30%) have an expected count less than 5. The minimum expected count is 0,56.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table I11 – Crosstabulation for Role versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	1	9	21	6	38
		% within Mentoring Experience	2,6%	2,6%	23,7%	55,3%	15,8%	100%
		% within question C2	50%	9,1%	21,4%	20,8%	12,5%	18,6%
	Yes	**Count**	1	10	33	80	42	166
		% within Mentoring Experience	0,6%	6%	19,9%	48,2%	25,3%	100%
		% within question C2	50%	90,9%	78,6%	79,2%	87,5%	81,4%
Total		**Count**	2	11	42	101	48	204
		% within Mentoring Experience	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within question c2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I12 – Chi-square tests for I11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	3,677[26]	4	0,451
Likelihood Ratio	3,607	4	0,462
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[26] 3 cells (30%) have an expected count less than 5. The minimum expected count is 0,37.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table I13 – Crosstabulation for Role versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	7	14	9	8	0	38
		% within Mentoring Experience	18,4%	36,8%	23,7%	21,1%	0%	100%
		% within question D1	16,7%	17,5%	19,6%	24,2%	0%	18,6%
	Yes	**Count**	35	66	37	25	3	166
		% within Mentoring Experience	21,1%	39,8%	22,3%	15,1%	1,8%	100%
		% within question D1	83,3%	82,5%	80,4%	75,8%	100%	81,4%
Total		**Count**	42	80	46	33	3	204
		% within Mentoring Experience	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within question D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I14 – Chi-square tests for I13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	1,573[27]	4	0,814
Likelihood Ratio	2,081	4	0,721
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[27] 2 cells (20%) have an expected count less than 5. The minimum expected count is 0,56.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table I15 – Crosstabulation for Role versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	7	9	16	5	38
		% within Mentoring Experience	2,6%	18,4%	23,7%	42,1%	13,2%	100%
		% within question D2	11,1%	18,9%	18,8%	18,6%	20,8%	18,6%
	Yes	**Count**	8	30	39	70	19	166
		% within Mentoring Experience	4,8%	18,1%	23,5%	42,2%	11,4%	100%
		% within question D2	88,9%	81,1%	81,3%	81,4%	79,2%	81,4%
Total		**Count**	9	37	48	86	24	204
		% within Mentoring Experience	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within question D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I16 – Chi-square tests for I15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	0,415[28]	4	0,981
Likelihood Ratio	0,458	4	0,977
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[28] 2 cells (20%) have an expected count less than 5. The minimum expected count is 1,68.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table I17 – Crosstabulation for Role versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	0	2	6	29	38
		% within Mentoring Experience	2,6%	0%	5,3%	15,8%	76,3%	100%
		% within question A2	50%	0%	66,7%	15,4%	18,2%	18,6%
	Yes	**Count**	1	1	1	33	130	166
		% within Mentoring Experience	0,6%	0,6%	0,6%	19,9%	78,3%	100%
		% within question A2	50%	100%	33,3%	84,6%	81,8%	81,4%
Total		**Count**	2	1	3	39	159	204
		% within Mentoring Experience	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I18 – Chi-square tests for I17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	6,382[29]	4	0,172
Likelihood Ratio	5,028	4	0,284
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[29] 6 cells (60%) have an expected count less than 5. The minimum expected count is 0,19.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table I19 – Crosstabulation for Role versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Experience	**No**	**Count**	1	0	5	16	16	38
		% within Mentoring Experience	2,6%	0%	13,2%	42,1%	42,1%	100%
		% within question E2	33,3%	0%	20%	18,6%	18,6%	18,6%
	Yes	**Count**	2	4	20	70	70	166
		% within Mentoring Experience	1,2%	2,4%	12%	42,2%	42,2%	100%
		% within question E2	66,7%	100%	80%	81,4%	81,4%	81,4%
Total		**Count**	3	4	25	86	86	204
		% within Mentoring Experience	1,5%	2%	12,3%	42,5%	42,5%	100%
		% within question E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table I20 – Chi-square tests for I19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	1,375[30]	4	0,849
Likelihood Ratio	2,046	4	0,727
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[30] 5 cells (50%) have an expected count less than 5. The minimum expected count is 0,56.

Appendix J – Cross-tabulation tables for Type of mentoring versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table J1 – Crosstabulation for Role versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	2	7	19	9	38
		% within Mentoring Experience	2,6%	5,3%	18,4%	50%	23,7%	100%
		% within question A1	20%	28,6%	31,8%	18,4%	13,4%	18,6%
	Both	**Count**	1	2	6	34	26	69
		% within Mentoring Experience	1,4%	2,9%	8,7%	49,3%	37,7%	100%
		% within question A1	20%	28,6%	23,7%	33%	38,8%	33,8%
	Formal	**Count**	1	0	3	20	13	37
		% within Mentoring Experience	2,7%	0%	8,1%	54,1%	35,1%	100%
		% within question A1	20%	0%	13,6%	19,4%	19,4%	18,1%
	Informal	**Count**	2	3	6	30	19	60
		% within Mentoring Experience	3,3%	5%	10%	50%	31,7%	100%
		% within question A1	40%	42,9%	27,3%	29,1%	28,4%	29,4%
Total		**Count**	5	7	22	103	67	204
		% within Mentoring Experience	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within question A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J2 – Chi-square tests for J1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	6,895[31]	12	0,864
Likelihood Ratio	7,851	12	0,797
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[31] 10 cells (50%) have an expected count less than 5. The minimum expected count is 0,91.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table J3 – Crosstabulation for Role versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	0	3	11	17	7	38
		% within Mentoring Experience	0%	7,9%	28,9%	44,7%	18,4%	100%
		% within question A2	0%	14,3%	23,9%	21,3%	13,5%	18,6%
	Both	**Count**	2	8	18	25	16	69
		% within Mentoring Experience	2,9%	11,6%	26,1%	36,2%	23,2%	100%
		% within question A2	40%	38,1%	39,1%	31,3%	30,8%	33,8%
	Formal	**Count**	0	4	6	14	13	37
		% within Mentoring Experience	0%	10,8%	16,2%	37,8%	35,1%	100%
		% within question A2	0%	19%	13%	17,5%	25%	18,1%
	Informal	**Count**	3	6	11	24	16	60
		% within Mentoring Experience	5%	10%	18,3%	40%	26,7%	100%
		% within question A2	60%	28,6%	23,9%	30%	30,8%	29,4%
Total		**Count**	5	21	46	80	52	204
		% within Mentoring Experience	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J4 – Chi-square tests for J3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	8,780[32]	12	0,722
Likelihood Ratio	10,218	12	0,597
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[32] 6 cells (30%) have an expected count less than 5. The minimum expected count is 0,91.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table J5 – Crosstabulation for Role versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	2	2	8	18	8	38
		% within Mentoring Experience	5,3%	5,3%	21,1%	47,4%	21,1%	100%
		% within question B1	66,7%	20%	24,2%	18,9%	12,7%	18,6%
	Both	**Count**	0	4	10	26	29	69
		% within Mentoring Experience	0%	5,8%	14,5%	37,7%	42%	100%
		% within question B1	0%	40%	30,3%	27,4%	46%	33,8%
	Formal	**Count**	0	3	5	19	10	37
		% within Mentoring Experience	0%	8,1%	13,5%	51,4%	27%	100%
		% within question B1	0%	30%	15,2%	20%	15,9%	18,1%
	Informal	**Count**	1	1	10	32	16	60
		% within Mentoring Experience	1,7%	1,7%	16,7%	53,3%	26,7%	100%
		% within question B1	33,3%	10%	30,3%	33,7%	25,4%	29,4%
Total		**Count**	3	10	33	95	63	204
		% within Mentoring Experience	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within question B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J6 – Chi-square tests for J5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	14,757[33]	4	0,255
Likelihood Ratio	15,031	4	0,240
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[33] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,54.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table J7 – Crosstabulation for Role versus affirmation B2

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	2	3	6	19	8	38
		% within Mentoring Experience	5,3%	7,9%	15,8%	50%	21,1%	100%
		% within question B2	33,3%	25%	20%	20%	13,1%	18,6%
	Both	**Count**	1	4	13	32	19	69
		% within Mentoring Experience	1,4%	5,8%	18,8%	46,4%	27,5%	100%
		% within question B2	16,7%	33,3%	43,3%	33,7%	31,1%	33,8%
	Formal	**Count**	2	3	4	17	11	37
		% within Mentoring Experience	5,4%	8,1%	10,8%	45,9%	29,7%	100%
		% within question B2	33,3%	25%	13,3%	17,9%	18%	18,1%
	Informal	**Count**	1	2	7	27	23	60
		% within Mentoring Experience	1,7%	3,3%	11,7%	45%	38,3%	100%
		% within question B2	16,7%	16,7%	23,3%	28,4%	37,7%	29,4%
Total		**Count**	6	12	30	95	61	204
		% within Mentoring Experience	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within question B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J8 – Chi-square tests for J7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	7,824[34]	12	0,799
Likelihood Ratio	7,787	12	0,802
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[34] 8 cells (40%) have an expected count less than 5. The minimum expected count is 1,09.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table J9 – Crosstabulation for Role versus affirmation C1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	4	11	11	11	38
		% within Mentoring Experience	2,6%	10,5%	28,9%	28,9%	28,9%	100%
		% within question C1	33,3%	26,7%	31,4%	12,8%	16,9%	18,6%
	Both	**Count**	0	5	7	29	28	69
		% within Mentoring Experience	0%	7,2%	10,1%	42%	40,6%	100%
		% within question C1	0%	33,3%	20%	33,7%	43,1%	33,8%
	Formal	**Count**	1	1	5	19	11	37
		% within Mentoring Experience	2,7%	2,7%	13,5%	51,4%	29,7%	100%
		% within question C1	33,3%	6,7%	14,3%	22,1%	16,9%	18,1%
	Informal	**Count**	1	5	12	27	15	60
		% within Mentoring Experience	1,7%	8,3%	20%	45%	25%	100%
		% within question C1	33,3%	33,3%	34,3%	31,4%	23,1%	29,4%
Total		**Count**	3	15	35	86	65	204
		% within Mentoring Experience	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within question C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J10 – Chi-square tests for J9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	14,191[35]	12	0,289
Likelihood Ratio	15,256	12	0,228
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[35] 7 cells (70%) have an expected count less than 5. The minimum expected count is 0,54.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table J11 – Crosstabulation for Role versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	1	9	21	6	38
		% within Mentoring Experience	2,6%	2,6%	23,7%	55,3%	15,8%	100%
		% within question C2	50%	9,1%	21,4%	20,8%	12,5%	18,6%
	Both	**Count**	0	2	14	39	14	69
		% within Mentoring Experience	0%	2,9%	20,3%	56,5%	20,3%	100%
		% within question C2	0%	18,2%	33,3%	38,6%	29,2%	33,8%
	Formal	**Count**	0	4	5	14	14	37
		% within Mentoring Experience	0%	10,8%	13,5%	37,8%	37,8%	100%
		% within question C2	0%	36,4%	11,9%	13,9%	29,2%	18,1%
	Informal	**Count**	1	4	14	27	14	60
		% within Mentoring Experience	1,7%	6,7%	23,3%	45%	23,3%	100%
		% within question C2	50%	36,4%	33,3%	26,7%	29,2%	29,4%
Total		**Count**	2	11	42	101	48	204
		% within Mentoring Experience	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within question C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J12 – Chi-square tests for J11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	13,911[36]	12	0,306
Likelihood Ratio	14,184	12	0,289
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[36] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,36.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table J13 – Crosstabulation for Role versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	7	14	9	8	0	38
		% within Mentoring Experience	18,4%	36,8%	23,7%	21,1%	0%	100%
		% within question D1	16,7%	17,5%	19,6%	24,2%	0%	18,6%
	Both	**Count**	18	22	13	14	2	69
		% within Mentoring Experience	26,1%	31,9%	18,8%	20,3%	2,9%	100%
		% within question D1	42,9%	27,5%	28,3%	42,4%	66,7%	33,8%
	Formal	**Count**	4	16	9	7	1	37
		% within Mentoring Experience	10,8%	43,2%	24,3%	18,9%	2,7%	100%
		% within question D1	9,5%	20%	19,6%	21,2%	33,3%	18,1%
	Informal	**Count**	13	28	15	4	0	60
		% within Mentoring Experience	21,7%	46,7%	25%	6,7%	0%	100%
		% within question D1	31%	35%	32,6%	12,1%	0%	29,4%
Total		**Count**	42	80	46	33	3	204
		% within Mentoring Experience	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within question D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J14 – Chi-square tests for J13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	13,095[37]	12	0,362
Likelihood Ratio	15,417	12	0,219
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[37] 4 cells (20%) have an expected count less than 5. The minimum expected count is 0,54.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table J15 – Crosstabulation for Role versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	7	9	16	5	38
		% within Mentoring Experience	2,6%	18,4%	23,7%	42,1%	13,2%	100%
		% within question D2	11,1%	18,9%	18,8%	18,6%	20,8%	18,6%
	Both	**Count**	2	12	19	29	7	69
		% within Mentoring Experience	2,9%	17,4%	27,5%	42%	10,1%	100%
		% within question D2	22,2%	32,4%	39,6%	33,7%	29,2%	33,8%
	Formal	**Count**	1	8	7	17	4	37
		% within Mentoring Experience	2,7%	21,6%	18,9%	45,9%	10,8%	100%
		% within question D2	11,1%	21,6%	14,6%	19,8%	16,7%	18,1%
	Informal	**Count**	5	10	13	24	8	60
		% within Mentoring Experience	8,3%	16,7%	21,7%	40%	13,3%	100%
		% within question D2	55,6%	27%	27,1%	27,9%	33,3%	29,4%
Total		**Count**	9	37	48	86	24	204
		% within Mentoring Experience	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within question D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J16 – Chi-square tests for J15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	4,767[38]	12	0,965
Likelihood Ratio	4,454	12	0,974
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[38] 6 cells (30%) have an expected count less than 5. The minimum expected count is 1,63.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table J17 – Crosstabulation for Role versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	0	2	6	29	38
		% within Mentoring Experience	2,6%	0%	5,3%	15,8%	76,3%	100%
		% within question E1	50%	0%	66,7%	15,4%	18,2%	18,6%
	Both	**Count**	0	0	0	14	55	69
		% within Mentoring Experience	0%	0%	0%	20,3%	79,7%	100%
		% within question E1	0%	0%	0%	35,9%	34,6%	33,8%
	Formal	**Count**	0	0	0	6	31	37
		% within Mentoring Experience	0%	0%	0%	16,2%	83,8%	100%
		% within question E1	0%	0%	0%	15,4%	19,5%	18,1%
	Informal	**Count**	1	1	1	13	44	60
		% within Mentoring Experience	1,7%	1,7%	1,7%	21,7%	73,3%	100%
		% within question E1	50%	100%	33,3%	33,3%	27,7%	29,4%
Total		**Count**	2	1	3	39	159	204
		% within Mentoring Experience	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within question E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J18 – Chi-square tests for J17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,078[39]	12	0,522
Likelihood Ratio	11,850	12	0,458
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[39] 12 cells (60%) have an expected count less than 5. The minimum expected count is 0,18.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table J19 – Crosstabulation for Role versus affirmation A1

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Mentoring	**No participation**	**Count**	1	0	5	16	16	38
		% within Mentoring Experience	2,6%	0%	13,2%	42,1%	42,1%	100%
		% within question E2	33,3%	0%	20%	18,6%	18,6%	18,6%
	Both	**Count**	0	2	7	28	32	69
		% within Mentoring Experience	0%	2,9%	10,1%	40,6%	46,4%	100%
		% within question E2	0%	50%	28%	32,6%	37,2%	33,8%
	Formal	**Count**	1	2	2	14	18	37
		% within Mentoring Experience	2,7%	5,4%	5,4%	37,8%	48,6%	100%
		% within question E2	33,3%	50%	8%	16,3%	20,9%	18,1%
	Informal	**Count**	1	0	11	28	20	60
		% within Mentoring Experience	1,7%	0%	18,3%	46,7%	33,3%	100%
		% within question E2	33,3%	0%	44%	32,6%	23,3%	29,4%
Total		**Count**	3	4	25	86	86	204
		% within Mentoring Experience	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within question E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table J20 – Chi-square tests for J19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,995[40]	12	0,446
Likelihood Ratio	14,224	12	0,287
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[40] 10 cells (50%) have an expected count less than 5. The minimum expected count is 0,54

Appendix K – Cross-tabulation tables for Role in mentoring versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table K1 – Crosstabulation for Role in mentoring versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	2	7	19	9	38
		% within Role in mentoring	2,6%	5,3%	18,4%	50%	23,7%	100%
		% within question A1	20%	28,6%	31,8%	18,4%	13,4%	18,6%
	Both	**Count**	2	3	6	48	29	88
		% within Role in mentoring	2,3%	3,4%	6,8%	54,5%	33%	100%
		% within question A1	40%	42,9%	27,3%	46,6%	43,3%	43,1%
	Mentee	**Count**	0	1	4	20	20	45
		% within Role in mentoring	0%	2,2%	8,9%	44,4%	44,4%	100%
		% within question A1	0%	14,3%	18,2%	19,4%	29,9%	22,1%
	Mentor	**Count**	2	1	5	16	9	33
		% within Role in mentoring	6,1%	3%	15,2%	48,5%	27,3%	100%
		% within question A1	40%	14,3%	22,7%	15,5%	13,4%	16,2%
Total		**Count**	5	7	22	103	67	204
		% within Role in mentoring	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within question A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K2 – Chi-square tests for K1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,292[41]	12	0,504
Likelihood Ratio	11,577	12	0,480
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[41] 11 cells (55%) have an expected count less than 5. The minimum expected count is 0,81.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table K3 – Crosstabulation for Role in mentoring versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	0	3	11	17	7	38
		% within Role in mentoring	0%	7,9%	28,9%	44,7%	18,4%	100%
		% within question A2	0%	14,3%	23,9%	21,3%	13,5%	18,6%
	Both	**Count**	4	9	21	33	21	88
		% within Role in mentoring	4,5%	10,2%	23,9%	37,5%	23,9%	100%
		% within question A2	80%	42,9%	45,7%	41,3%	40,4%	43,1%
	Mentee	**Count**	0	4	8	20	13	45
		% within Role in mentoring	0%	8,9%	17,8%	44,4%	28,9%	100%
		% within question A2	0%	19%	17,4%	25%	25%	22,1%
	Mentor	**Count**	1	5	6	10	11	33
		% within Role in mentoring	3%	15,2%	18,2%	30,3%	33,3%	100%
		% within question A2	20%	23,8%	13%	12,5%	21,2%	16,2%
Total		**Count**	5	21	46	80	52	204
		% within Role in mentoring	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within question A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K4 – Chi-square tests for K3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	9,381[42]	12	0,670
Likelihood Ratio	11,050	12	0,525
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[42] 7 cells (35%) have an expected count less than 5. The minimum expected count is 0,81.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table K5 – Crosstabulation for Role in mentoring versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	2	2	8	18	8	38
		% within Role in mentoring	5,3%	5,3%	21,1%	47,4%	21,1%	100%
		% within question B1	66,7%	20%	24,2%	18,9%	12,7%	18,6%
	Both	**Count**	1	5	13	39	30	88
		% within Role in mentoring	1,1%	5,7%	14,8%	44,3%	34,1%	100%
		% within question B1	33,3%	50%	39,4%	41,1%	47,6%	43,1%
	Mentee	**Count**	0	1	11	20	13	45
		% within Role in mentoring	0%	2,2%	24,4%	44,4%	28,9%	100%
		% within question B1	0%	10%	33,3%	21,1%	20,6%	22,1%
	Mentor	**Count**	0	2	1	18	12	33
		% within Role in mentoring	0%	6,1%	3%	54,5%	36,4%	100%
		% within question B1	0%	20%	3%	18,9%	19%	16,2%
Total		**Count**	3	10	33	95	63	204
		% within Role in mentoring	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within question B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K6 – Chi-square tests for K5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	14,349[43]	12	0,279
Likelihood Ratio	15,760	12	0,202
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[43] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,49.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table K7 – Crosstabulation for Role in mentoring versus affirmation B2

			Answer to B2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	2	3	6	19	8	38
		% within Role in mentoring	5,3%	7,9%	15,8%	50%	21,1%	100%
		% within question B2	33,3%	25%	20%	20%	13,1%	18,6%
	Both	**Count**	4	4	13	42	25	88
		% within Role in mentoring	4,5%	4,5%	14,8%	47,7%	28,4%	100%
		% within question B2	66,7%	33,3%	43,3%	44,2%	41%	43,1%
	Mentee	**Count**	0	4	9	21	11	45
		% within Role in mentoring	0%	8,9%	20%	46,7%	24,4%	100%
		% within question B2	0%	33,3%	30%	22,1%	18%	22,1%
	Mentor	**Count**	0	1	2	13	17	33
		% within Role in mentoring	0%	3%	6,1%	39,4%	51,5%	100%
		% within question B2	0%	8,3%	6,7%	13,7%	27,9%	16,2%
Total		**Count**	6	12	30	95	61	204
		% within Role in mentoring	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within question B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K8 – Chi-square tests for K7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	15,154[44]	12	0,233
Likelihood Ratio	16,839	12	0,156
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[44] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,97.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table K9 – Crosstabulation for Role in mentoring versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	4	11	11	11	38
		% within Role in mentoring	2,6%	10,5%	28,9%	28,9%	28,9%	100%
		% within question C1	33,3%	26,7%	31,4%	12,8%	16,9%	18,6%
	Both	**Count**	2	4	14	35	33	88
		% within Role in mentoring	2,3%	4,5%	15,9%	39,8%	37,5%	100%
		% within question C1	66,7%	26,7%	40%	40,7%	50,8%	43,1%
	Mentee	**Count**	0	3	5	22	15	45
		% within Role in mentoring	0%	6,7%	11,1%	48,9%	33,3%	100%
		% within question C1	0%	20%	14,3%	25,6%	23,1%	22,1%
	Mentor	**Count**	0	4	5	18	6	33
		% within Role in mentoring	0%	12,1%	15,2%	54,5%	18,2%	100%
		% within question C1	0%	26,7%	14,3%	20,9%	9,2%	16,2%
Total		**Count**	3	15	35	86	65	204
		% within Role in mentoring	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within question C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K10 – Chi-square tests for K9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	14,913[45]	12	0,246
Likelihood Ratio	15,855	12	0,198
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[45] 7 cells (35%) have an expected count less than 5. The minimum expected count is 0,49.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table K11 – Crosstabulation for Role in mentoring versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	1	9	21	6	38
		% within Role in mentoring	2,6%	2,6%	23,7%	55,3%	15,8%	100%
		% within question C2	50%	9,1%	21,4%	20,8%	12,5%	18,6%
	Both	**Count**	1	3	19	39	26	88
		% within Role in mentoring	1,1%	3,4%	21,6%	44,3%	29,5%	100%
		% within question C2	50%	27,3%	45,2%	38,6%	54,2%	43,1%
	Mentee	**Count**	0	2	7	24	12	45
		% within Role in mentoring	0%	4,4%	15,6%	53,3%	26,7%	100%
		% within question C2	0%	18,2%	16,7%	23,8%	25%	22,1%
	Mentor	**Count**	0	5	7	17	4	33
		% within Role in mentoring	0%	15,2%	21,2%	51,5%	12,1%	100%
		% within question C2	0%	45,5%	16,7%	16,8%	8,3%	16,2%
Total		**Count**	2	11	42	101	48	204
		% within Role in mentoring	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within question C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K12 – Chi-square tests for K11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	14,933[46]	12	0,245
Likelihood Ratio	14,113	12	0,294
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[46] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,32.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table K13 – Crosstabulation for Role in mentoring versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	7	14	9	8	0	38
		% within Role in mentoring	18,4%	36,8%	23,7%	21,1%	0%	100%
		% within question D1	16,7%	17,5%	19,6%	24,2%	0%	18,6%
	Both	**Count**	21	34	22	10	1	88
		% within Role in mentoring	23,9%	38,6%	25%	11,4%	1,1%	100%
		% within question D1	50%	42,5%	47,8%	30,3%	33,3%	43,1%
	Mentee	**Count**	3	18	9	14	1	45
		% within Role in mentoring	6,7%	40%	20%	31,1%	2,2%	100%
		% within question D1	7,1%	22,5%	19,6%	42,4%	33,3%	22,1%
	Mentor	**Count**	11	14	6	1	1	33
		% within Role in mentoring	33,3%	42,4%	18,2%	3%	3%	100%
		% within question D1	26,2%	17,5%	13%	3%	33,3%	16,2%
Total		**Count**	42	80	46	33	3	204
		% within Role in mentoring	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within question D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K14 – Chi-square tests for K13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	21,099[47]	12	0,049
Likelihood Ratio	23,186	12	0,026
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[47] 4 cells (20%) have an expected count less than 5. The minimum expected count is 0,49.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table K15 – Crosstabulation for Role in mentoring versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	7	9	16	5	38
		% within Role in mentoring	2,6%	18,4%	23,7%	42,1%	13,2%	100%
		% within question D2	11,1%	18,9%	18,8%	18,6%	20,8%	18,6%
	Both	**Count**	7	19	25	27	10	88
		% within Role in mentoring	8%	21,6%	28,4%	30,7%	11,4%	100%
		% within question D2	77,8%	51,4%	52,1%	31,4%	41,7%	43,1%
	Mentee	**Count**	0	6	6	28	5	45
		% within Role in mentoring	0%	13,3%	13,3%	62,2%	11,1%	100%
		% within question D2	0%	16,2%	12,5%	32,6%	20,8%	22,1%
	Mentor	**Count**	1	5	8	15	4	33
		% within Role in mentoring	3%	15,2%	24,2%	45,5%	12,1%	100%
		% within question D2	11,1%	13,5%	16,7%	17,4%	16,7%	16,2%
Total		**Count**	9	37	48	86	24	204
		% within Role in mentoring	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within question D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K16 – Chi-square tests for K15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	16,332[48]	12	0,176
Likelihood Ratio	17,978	12	0,116
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[48] 6 cells (30%) have an expected count less than 5. The minimum expected count is 1,46.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table K17 – Crosstabulation for Role in mentoring versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	0	2	6	29	38
		% within Role in mentoring	2,6%	0%	5,3%	15,8%	76,3%	100%
		% within question E1	50%	0%	66,7%	15,4%	18,2%	18,6%
	Both	**Count**	1	1	1	14	71	88
		% within Role in mentoring	1,1%	1,1%	1,1%	15,9%	80,7%	100%
		% within question E1	50%	100%	33,3%	35,9%	44,7%	43,1%
	Mentee	**Count**	0	0	0	14	31	45
		% within Role in mentoring	0%	0%	0%	31,1%	68,9%	100%
		% within question E1	0%	0%	0%	35,9%	19,5%	22,1%
	Mentor	**Count**	0	0	0	5	28	33
		% within Role in mentoring	0%	0%	0%	15,2%	84,8%	100%
		% within question E1	0%	0%	0%	12,8%	17,6%	16,2%
Total		**Count**	2	1	3	39	159	204
		% within Role in mentoring	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within question E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K18 – Chi-square tests for K17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	13,216[49]	12	0,354
Likelihood Ratio	13,192	12	0,355
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[49] 12 cells (60%) have an expected count less than 5. The minimum expected count is 0,16.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table K19 – Crosstabulation for Role in mentoring versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Type of Role in Mentoring	**No participation**	**Count**	1	0	5	16	16	38
		% within Role in mentoring	2,6%	0%	13,2%	42,1%	42,1%	100%
		% within question E2	33,3%	0%	20%	18,6%	18,6%	18,6%
	Both	**Count**	1	2	7	38	40	88
		% within Role in mentoring	1,1%	2,3%	8%	43,2%	45,5%	100%
		% within question E2	33,3%	50%	28%	44,2%	46,5%	43,1%
	Mentee	**Count**	1	2	6	20	16	45
		% within Role in mentoring	2,2%	4,4%	13,3%	44,4%	35,6%	100%
		% within question E2	33,3%	50%	24%	23,3%	18,6%	22,1%
	Mentor	**Count**	0	0	7	12	14	33
		% within Role in mentoring	0%	0%	21,2%	36,4%	42,4%	100%
		% within question E2	0%	0%	28%	14%	16,3%	16,2%
Total		**Count**	3	4	25	86	86	204
		% within Role in mentoring	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within question E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table K20 – Chi-square tests for K19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	8,515[50]	12	0,744
Likelihood Ratio	9,757	12	0,637
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[50] 10 cells (50%) have an expected count less than 5. The minimum expected count is 0,49.

Appendix L – Crosstabulation tables for Job satisfaction versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table L1 – Crosstabulation for Job Satisfaction versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	1	0	0	0	1
		% within Satisfaction	0%	100%	0%	0%	0%	100%
		% within A1	0%	14,3%	0%	0%	0%	0,5%
	3	**Count**	0	0	1	2	1	4
		% within Satisfaction	0%	0%	25%	50%	25%	100%
		% within A1	0%	0%	4,5%	1,9%	1,5%	2%
	4	**Count**	0	1	1	2	3	7
		% within Satisfaction	0%	14,3%	14,3%	28,6%	42,9%	100%
		% within A1	0%	14,3%	4,5%	1,9%	4,5%	3,4%
	5	**Count**	1	0	2	3	1	7
		% within Satisfaction	14,3%	0%	28,6%	42,9%	14,3%	100%
		% within A1	20%	0%	9,1%	2,9%	1,5%	3,4%
	6	**Count**	0	0	1	10	3	14
		% within Satisfaction	0%	0%	7,1%	71,4%	21,4%	100%
		% within A1	0%	0%	4,5%	9,7%	4,5%	6,9%
	7	**Count**	0	2	4	29	16	51
		% within Satisfaction	0%	3,9%	7,8%	56,9%	31,4%	100%
		% within A1	0%	28,6%	18,2%	28,2%	23,9%	25%
	8	**Count**	2	1	3	36	23	65
		% within Satisfaction	3,1%	1,5%	4,6%	55,4%	35,4%	100%
		% within A1	40%	14,3%	13,6%	35%	34,3%	31,9%
	9	**Count**	0	2	5	17	11	35
		% within Satisfaction	0%	5,7%	14,3%	48,6%	31,4%	100%
		% within A1	0%	28,6%	22,7%	16,5%	16,4%	17,2%
	10	**Count**	2	0	5	4	9	20
		% within Satisfaction	10%	0%	25%	20%	45%	100%
		% within A1	40%	0%	22,7%	3,9%	13,4%	9,8%
Total		**Count**	5	7	22	103	67	204
		% within Satisfaction	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L2 – Chi-square tests for L1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	63,765[51]	32	< 0,001
Likelihood Ratio	41,478	32	0,122
Linear-by-Linear Association	0,820	1	0,365
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[51] 34 cells (75,6%) have an expected count less than 5. The minimum expected count is 0,02.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table L3 – Crosstabulation for Job Satisfaction versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	1	0	0	0	1
		% within Satisfaction	0%	100%	0%	0%	0%	100%
		% within A2	0%	4,8%	0%	0%	0%	0,5%
	3	**Count**	1	0	0	1	2	4
		% within Satisfaction	25%	0%	0%	25%	50%	100%
		% within A2	20%	0%	0%	1,3%	3,8%	2%
	4	**Count**	0	1	2	1	3	7
		% within Satisfaction	0%	14,3%	28,6%	14,3%	42,9%	100%
		% within A2	0%	4,8%	4,3%	1,3%	5,8%	3,4%
	5	**Count**	1	0	1	3	2	7
		% within Satisfaction	14,3%	0%	14,3%	42,9%	28,6%	100%
		% within A2	20%	0%	2,2%	3,8%	3,8%	3,4%
	6	**Count**	1	1	3	6	3	14
		% within Satisfaction	7,1%	7,1%	21,4%	42,9%	21,4%	100%
		% within A2	20%	4,8%	6,5%	7,5%	5,8%	6,9%
	7	**Count**	2	7	12	23	7	51
		% within Satisfaction	3,9%	13,7%	23,5%	45,1%	13,7%	100%
		% within A2	40%	33,3%	26,1%	28,7%	13,5%	25%
	8	**Count**	0	7	17	22	19	65
		% within Satisfaction	0%	10,8%	26,2%	33,8%	29,2%	100%
		% within A2	0%	33,3%	37%	27,5%	36,5%	31,9%
	9	**Count**	0	3	9	14	9	35
		% within Satisfaction	0%	8,6%	25,7%	40%	25,7%	100%
		% within A2	0%	14,3%	19,6%	17,5%	17,3%	17,2%
	10	**Count**	0	1	2	10	7	20
		% within Satisfaction	0%	5%	10%	50%	35%	100%
		% within A2	0%	4,8%	4,3%	12,5%	13,5%	9,8%
Total		**Count**	5	21	46	80	52	204
		% within Satisfaction	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L4 – Chi-square tests for L3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	40,271[52]	32	0,150
Likelihood Ratio	34,083	32	0,368
Linear-by-Linear Association	3,564	1	0,059
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[52] 31 cells (68,9%) have an expected count less than 5. The minimum expected count is 0,02.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table L5 – Crosstabulation for Job Satisfaction versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	0	1	0	1
		% within Satisfaction	0%	0%	0%	100%	0%	100%
		% within B1	0%	0%	0%	1,1%	0%	0,5%
	3	**Count**	0	0	1	2	1	4
		% within Satisfaction	0%	0%	25%	50%	25%	100%
		% within B1	0%	0%	3%	2,1%	1,6%	2%
	4	**Count**	0	0	1	6	0	7
		% within Satisfaction	0%	0%	14,3%	85,7%	0%	100%
		% within B1	0%	0%	3%	6,3%	0%	3,4%
	5	**Count**	1	0	3	2	1	7
		% within Satisfaction	14,3%	0%	42,9%	28,6%	14,3%	100%
		% within B1	33,3%	0%	9,1%	2,1%	1,6%	3,4%
	6	**Count**	0	1	2	8	3	14
		% within Satisfaction	0%	7,1%	14,3%	57,1%	21,4%	100%
		% within B1	0%	10%	6,1%	8,4%	4,8%	6,9%
	7	**Count**	0	4	11	23	13	51
		% within Satisfaction	0%	7,8%	21,6%	45,1%	25,5%	100%
		% within B1	0%	40%	33,3%	24,2%	20,6%	25%
	8	**Count**	2	3	8	26	26	65
		% within Satisfaction	3,1%	4,6%	12,3%	40%	40%	100%
		% within B1	66,7%	30%	24,2%	27,4%	41,3%	31,9%
	9	**Count**	0	2	3	18	12	35
		% within Satisfaction	0%	5,7%	8,6%	51,4%	34,3%	100%
		% within B1	0%	20%	9,1%	18,9%	19%	17,2%
	10	**Count**	0	0	4	9	7	20
		% within Satisfaction	0%	0%	20%	45%	35%	100%
		% within B1	0%	0%	12,1%	9,5%	11,1%	9,8%
Total		**Count**	3	10	33	95	63	204
		% within Satisfaction	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L6 – Chi-square tests for L5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	30,923[53]	32	0,521
Likelihood Ratio	30,674	32	0,534
Linear-by-Linear Association	3,567	1	0,059
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[53] 33 cells (73,3%) have an expected count less than 5. The minimum expected count is 0,01.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table L7 – Crosstabulation for Job Satisfaction versus affirmation B2

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	0	1	0	1
		% within Satisfaction	0%	0%	0%	100%	0%	100%
		% within B2	0%	0%	0%	1,1%	0%	0,5%
	3	**Count**	0	0	1	2	1	4
		% within Satisfaction	0%	0%	25%	50%	25%	100%
		% within B2	0%	0%	3,3%	2,1%	1,6%	2%
	4	**Count**	0	1	2	3	1	7
		% within Satisfaction	0%	14,3%	28,6%	42,9%	14,3%	100%
		% within B2	0%	8,3%	6,7%	3,2%	1,6%	3,4%
	5	**Count**	1	0	1	3	2	7
		% within Satisfaction	14,3%	0%	14,3%	42,9%	28,6%	100%
		% within B2	16,7%	0%	3,3%	3,2%	3,3%	3,4%
	6	**Count**	0	1	2	7	4	14
		% within Satisfaction	0%	7,1%	14,3%	50%	28,6%	100%
		% within B2	0%	8,3%	6,7%	7,4%	6,6%	6,9%
	7	**Count**	2	2	9	26	12	51
		% within Satisfaction	3,9%	3,9%	17,6%	51%	23,5%	100%
		% within B2	33,3%	16,7%	30%	27,4%	19,7%	25%
	8	**Count**	3	5	7	25	25	65
		% within Satisfaction	4,6%	7,7%	10,8%	38,5%	38,5%	100%
		% within B2	50%	41,7%	23,3%	26,3%	41%	31,9%
	9	**Count**	0	1	8	16	10	35
		% within Satisfaction	0%	2,9%	22,9%	45,7%	28,6%	100%
		% within B2	0%	8,3%	26,7%	16,8%	16,4%	17,2%
	10	**Count**	0	2	0	12	6	20
		% within Satisfaction	0%	10%	0%	60%	30%	100%
		% within B2	0%	16,7%	0%	12,6%	9,8%	9,8%
Total		**Count**	6	12	30	95	61	204
		% within Satisfaction	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L8 – Chi-square tests for L7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	22,324[54]	32	0,899
Likelihood Ratio	26,464	32	0,743
Linear-by-Linear Association	1,249	1	0,264
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[54] 33 cells (73,3%) have an expected count less than 5. The minimum expected count is 0,03.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table L9 – Crosstabulation for Job Satisfaction versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	0	0	1	1
		% within Satisfaction	0%	0%	0%	0%	100%	100%
		% within C1	0%	0%	0%	0%	1,5%	0,5%
	3	**Count**	1	0	1	2	0	4
		% within Satisfaction	25%	0%	25%	50%	0%	100%
		% within C1	33,3%	0%	2,9%	2,3%	0%	2%
	4	**Count**	0	0	1	5	1	7
		% within Satisfaction	0%	0%	14,3%	71,4%	14,3%	100%
		% within C1	0%	0%	2,9%	5,8%	1,5%	3,4%
	5	**Count**	0	0	3	3	1	7
		% within Satisfaction	0%	0%	42,9%	42,9%	14,3%	100%
		% within C1	0%	0%	8,6%	3,5%	1,5%	3,4%
	6	**Count**	0	1	1	6	6	14
		% within Satisfaction	0%	7,1%	7,1%	42,9%	42,9%	100%
		% within C1	0%	6,7%	2,9%	7%	9,2%	6,9%
	7	**Count**	0	5	12	21	13	51
		% within Satisfaction	0%	9,8%	23,5%	41,2%	25,5%	100%
		% within C1	0%	33,3%	34,3%	24,4%	20%	25%
	8	**Count**	1	4	10	23	27	65
		% within Satisfaction	1,5%	6,2%	15,4%	35,4%	41,5%	100%
		% within C1	33,3%	26,7%	28,6%	26,7%	41,5%	31,9%
	9	**Count**	0	3	6	16	10	35
		% within Satisfaction	0%	8,6%	17,1%	45,7%	28,6%	100%
		% within C1	0%	20%	17,1%	18,6%	15,4%	17,2%
	10	**Count**	1	2	1	10	6	20
		% within Satisfaction	5%	10%	5%	50%	30%	100%
		% within C1	33,3%	13,3%	2,9%	11,6%	9,2%	9,8%
Total		**Count**	3	15	35	86	65	204
		% within Satisfaction	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L10 – Chi-square tests for L9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	37,901[55]	32	0,218
Likelihood Ratio	30,264	32	0,555
Linear-by-Linear Association	0,329	1	0,566
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[55] 33 cells (73,3%) have an expected count less than 5. The minimum expected count is 0,01.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table L11 – Crosstabulation for Job Satisfaction versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	1	0	0	1
		% within Satisfaction	0%	0%	100%	0%	0%	100%
		% within C2	0%	0%	2,4%	0%	0%	0,5%
	3	**Count**	1	0	1	2	0	4
		% within Satisfaction	25%	0%	25%	50%	0%	100%
		% within C2	50%	0%	2,4%	2%	0%	2%
	4	**Count**	0	1	2	4	0	7
		% within Satisfaction	0%	14,3%	28,6%	57,1%	0%	100%
		% within C2	0%	9,1%	4,8%	4%	0%	3,4%
	5	**Count**	0	0	1	5	1	7
		% within Satisfaction	0%	0%	14,3%	71,4%	14,3%	100%
		% within C2	0%	0%	2,4%	5%	2,1%	3,4%
	6	**Count**	0	0	5	5	4	14
		% within Satisfaction	0%	0%	35,7%	35,7%	28,6%	100%
		% within C2	0%	0%	11,9%	5%	8,3%	6,9%
	7	**Count**	0	3	7	28	13	51
		% within Satisfaction	0%	5,9%	13,7%	54,9%	25,5%	100%
		% within C2	0%	27,3%	16,7%	27,7%	27,1%	25%
	8	**Count**	1	4	11	34	15	65
		% within Satisfaction	1,5%	6,2%	16,9%	52,3%	23,1%	100%
		% within C2	50%	36,4%	26,2%	33,7%	31,3%	31,9%
	9	**Count**	0	2	9	14	10	35
		% within Satisfaction	0%	5,7%	25,7%	40%	28,6%	100%
		% within C2	0%	18,2%	21,4%	13,9%	20,8%	17,2%
	10	**Count**	0	1	5	9	5	20
		% within Satisfaction	0%	5%	25%	45%	25%	100%
		% within C2	0%	9,1%	11,9%	8,9%	10,4%	9,8%
Total		**Count**	2	11	42	101	48	204
		% within Satisfaction	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L12 – Chi-square tests for L11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	41,471[56]	32	0,122
Likelihood Ratio	26,544	32	0,739
Linear-by-Linear Association	2,274	1	0,132
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[56] 34 cells (75,6%) have an expected count less than 5. The minimum expected count is 0,01.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table L13 – Crosstabulation for Job Satisfaction versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	1	0	0	0	0	1
		% within Satisfaction	100%	0%	0%	0%	0%	100%
		% within D1	2,4%	0%	0%	0%	0%	0,5%
	3	**Count**	1	1	1	1	0	4
		% within Satisfaction	25%	25%	25%	25%	0%	100%
		% within D1	2,4%	1,3%	2,2%	3%	0%	2%
	4	**Count**	2	3	1	1	0	7
		% within Satisfaction	28,6%	42,9%	14,3%	14,3%	0%	100%
		% within D1	4,8%	3,8%	2,2%	3%	0%	3,4%
	5	**Count**	2	3	1	1	0	7
		% within Satisfaction	28,6%	42,9%	14,3%	14,3%	0%	100%
		% within D1	4,8%	3,8%	2,2%	3%	0%	3,4%
	6	**Count**	4	4	3	2	1	14
		% within Satisfaction	28,6%	28,6%	21,4%	14,3%	7,1%	100%
		% within D1	9,5%	5%	6,5%	6,1%	33,3%	6,9%
	7	**Count**	10	24	10	6	1	51
		% within Satisfaction	19,6%	47,1%	19,6%	11,8%	2%	100%
		% within D1	23,8%	30%	21,7%	18,2%	33,3%	25%
	8	**Count**	9	31	14	11	0	65
		% within Satisfaction	13,8%	47,7%	21,5%	16,9%	0%	100%
		% within D1	21,4%	38,8%	30,4%	33,3%	0%	31,9%
	9	**Count**	9	11	8	6	1	35
		% within Satisfaction	25,7%	31,4%	22,9%	17,1%	2,9%	100%
		% within D1	21,4%	13,8%	17,4%	18,2%	33,3%	17,2%
	10	**Count**	4	3	8	5	0	20
		% within Satisfaction	20%	15%	40%	25%	0%	100%
		% within D1	9,5%	3,8%	17,4%	15,2%	0%	9,8%
Total		**Count**	42	80	46	33	3	204
		% within Satisfaction	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L14 – Chi-square tests for L13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,213[57]	32	0,871
Likelihood Ratio	22,871	32	0,882
Linear-by-Linear Association	2,360	1	0,125
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[57] 31 cells (68,9%) have an expected count less than 5. The minimum expected count is 0,01.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table L15 – Crosstabulation for Job Satisfaction versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	1	0	0	1
		% within Satisfaction	0%	0%	100%	0%	0%	100%
		% within D2	0%	0%	2,1%	0%	0%	0,5%
	3	**Count**	0	2	1	0	1	4
		% within Satisfaction	0%	50%	25%	0%	25%	100%
		% within D2	0%	5,4%	2,1%	0%	4,2%	2%
	4	**Count**	0	4	1	2	0	7
		% within Satisfaction	0%	57,1%	14,3%	28,6%	0%	100%
		% within D2	0%	10,8%	2,1%	2,3%	0%	3,4%
	5	**Count**	0	3	1	2	1	7
		% within Satisfaction	0%	42,9%	14,3%	28,6%	14,3%	100%
		% within D2	0%	8,1%	2,1%	2,3%	4,2%	3,4%
	6	**Count**	1	1	2	6	4	14
		% within Satisfaction	7,1%	7,1%	14,3%	42,9%	28,6%	100%
		% within D2	11,1%	2,7%	4,2%	7%	16,7%	6,9%
	7	**Count**	0	9	16	21	5	51
		% within Satisfaction	0%	17,6%	31,4%	41,2%	9,8%	100%
		% within D2	0%	24,3%	33,3%	24,4%	20,8%	25%
	8	**Count**	4	14	13	29	5	65
		% within Satisfaction	6,2%	21,5%	20%	44,6%	7,7%	100%
		% within D2	44,4%	37,8%	27,1%	33,7%	20,8%	31,9%
	9	**Count**	2	3	11	14	5	35
		% within Satisfaction	5,7%	8,6%	31,4%	40%	14,3%	100%
		% within D2	22,2%	8,1%	22,9%	16,3%	20,8%	17,2%
	10	**Count**	2	1	2	12	3	20
		% within Satisfaction	10%	5%	10%	60%	15%	100%
		% within D2	22,2%	2,7%	4,2%	14%	12,5%	9,8%
Total		**Count**	9	37	48	86	24	204
		% within Satisfaction	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L16 – Chi-square tests for L15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	39,426[58]	32	0,172
Likelihood Ratio	41,368	32	0,124
Linear-by-Linear Association	2,151	1	0,142
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[58] 32 cells (71,1%) have an expected count less than 5. The minimum expected count is 0,04.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table L17 – Crosstabulation for Job Satisfaction versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	0	0	1	1
		% within Satisfaction	0%	0%	0%	0%	100%	100%
		% within E1	0%	0%	0%	0%	0,6%	0,5%
	3	**Count**	1	0	0	0	3	4
		% within Satisfaction	25%	0%	0%	0%	75%	100%
		% within E1	50%	0%	0%	0%	1,9%	2%
	4	**Count**	0	0	0	2	5	7
		% within Satisfaction	0%	0%	0%	28,6%	71,4%	100%
		% within E1	0%	0%	0%	5,1%	3,1%	3,4%
	5	**Count**	0	0	1	1	5	7
		% within Satisfaction	0%	0%	14,3%	14,3%	71,4%	100%
		% within E1	0%	0%	33,3%	2,6%	3,1%	3,4%
	6	**Count**	0	0	0	3	11	14
		% within Satisfaction	0%	0%	0%	21,4%	78,6%	100%
		% within E1	0%	0%	0%	7,7%	6,9%	6,9%
	7	**Count**	0	0	1	11	39	51
		% within Satisfaction	0%	0%	2%	21,6%	76,5%	100%
		% within E1	0%	0%	33,3%	28,2%	24,5%	25%
	8	**Count**	1	0	0	13	51	65
		% within Satisfaction	1,5%	0%	0%	20%	78,5%	100%
		% within E1	50%	0%	0%	33,3%	32,1%	31,9%
	9	**Count**	0	0	1	6	28	35
		% within Satisfaction	0%	0%	2,9%	17,1%	80%	100%
		% within E1	0%	0%	33,3%	15,4%	17,6%	17,2%
	10	**Count**	0	1	0	3	16	20
		% within Satisfaction	0%	5%	0%	15%	80%	100%
		% within E1	0%	100%	0%	7,7%	10,1%	9,8%
Total		**Count**	2	1	3	39	159	204
		% within Satisfaction	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L18 – Chi-square tests for L17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	46,293[59]	32	0,049
Likelihood Ratio	21,434	32	0,922
Linear-by-Linear Association	1,015	1	0,314
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[59] 35 cells (77,8%) have an expected count less than 5. The minimum expected count is 0,00.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table L19 – Crosstabulation for Job Satisfaction versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Satisfaction	**1**	**Count**	0	0	0	1	0	1
		% within Satisfaction	0%	0%	0%	100%	0%	100%
		% within E2	0%	0%	0%	1,2%	0%	0,5%
	3	**Count**	1	0	1	0	2	4
		% within Satisfaction	25%	0%	25%	0%	50%	100%
		% within E2	33,3%	0%	4%	0%	2,3%	2%
	4	**Count**	1	0	2	2	2	7
		% within Satisfaction	14,3%	0%	28,6%	28,6%	28,6%	100%
		% within E2	33,3%	0%	8%	2,3%	2,3%	3,4%
	5	**Count**	0	0	1	3	3	7
		% within Satisfaction	0%	0%	14,3%	42,9%	42,9%	100%
		% within E2	0%	0%	4%	3,5%	3,5%	3,4%
	6	**Count**	0	0	1	7	6	14
		% within Satisfaction	0%	0%	7,1%	50%	42,9%	100%
		% within E2	0%	0%	4%	8,1%	7%	6,9%
	7	**Count**	0	1	7	17	26	51
		% within Satisfaction	0%	2%	13,7%	33,3%	51%	100%
		% within E2	0%	25%	28%	19,8%	30,2%	25%
	8	**Count**	1	2	6	35	21	65
		% within Satisfaction	1,5%	3,1%	9,2%	53,8%	32,3%	100%
		% within E2	33,3%	50%	24%	40,7%	24,4%	31,9%
	9	**Count**	0	0	5	14	16	35
		% within Satisfaction	0%	0%	14,3%	40%	45,7%	100%
		% within E2	0%	0%	20%	16,3%	18,6%	17,2%
	10	**Count**	0	1	2	7	10	20
		% within Satisfaction	0%	5%	10%	35%	50%	100%
		% within E2	0%	25%	8%	8,1%	11,6%	9,8%
Total		**Count**	3	4	25	86	86	204
		% within Satisfaction	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table L20 – Chi-square tests for L19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	40,665[60]	32	0,140
Likelihood Ratio	28,665	32	0,630
Linear-by-Linear Association	1,015	1	0,126
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[60] 33 cells (73,3%) have an expected count less than 5. The minimum expected count is 0,01.

Appendix M – Crosstabulation tables for Mentoring initiation versus Pairing Factors Preferences

Affirmation A1: Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors.

Table M1 – Crosstabulation for Job Satisfaction versus affirmation A1

			Answer to A1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	2	2	6	33	33	76
		% within Satisfaction	2,6%	2,6%	7,9%	43,4%	43,4%	100%
		% within A1	40%	28,6%	27,3%	32%	49,3%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	2	10	43	18	74
		% within Satisfaction	1,4%	2,7%	13,5%	58,1%	24,3%	100%
		% within A1	20%	28,6%	45,5%	41,7%	26,9%	36,3%
	No strong preference	**Count**	2	3	4	26	15	50
		% within Satisfaction	4%	6%	8%	52%	30%	100%
		% within A1	40%	42,9%	18,2%	25,2%	22,4%	24,5%
	Other	**Count**	0	0	2	1	1	4
		% within Satisfaction	0%	0%	50%	25%	25%	100%
		% within A1	0%	0%	9,1%	1%	1,5%	2%
Total		**Count**	5	7	22	103	67	204
		% within Satisfaction	2,5%	3,4%	10,8%	50,5%	32,8%	100%
		% within A1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M2 – Chi-square tests for M1 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	16,043[61]	12	0,189
Likelihood Ratio	13,517	12	0,333
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[61] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation A2: Having similar work styles or problem-solving approaches is more important than demographic similarities for a strong mentoring relationship.

Table M3 – Crosstabulation for Job Satisfaction versus affirmation A2

			Answer to A2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	1	7	13	30	25	76
		% within Satisfaction	1,3%	9,2%	17,1%	39,5%	32,9%	100%
		% within A2	20%	33,3%	28,3%	37,5%	48,1%	37,3%
	Assigned pairs based on transparent criteria	**Count**	2	9	14	30	19	74
		% within Satisfaction	2,7%	12,2%	18,9%	40,5%	25,7%	100%
		% within A2	40%	42,9%	30,4%	37,5%	36,5%	36,3%
	No strong preference	**Count**	2	5	17	18	8	50
		% within Satisfaction	4%	10%	34%	36%	16%	100%
		% within A2	40%	23,8%	37%	22,5%	15,4%	24,5%
	Other	**Count**	0	0	2	2	0	4
		% within Satisfaction	0%	0%	50%	50%	0%	100%
		% within A2	0%	0%	4,3%	2,5%	0%	2%
Total		**Count**	5	21	46	80	52	204
		% within Satisfaction	2,5%	10,3%	22,5%	39,2%	25,5%	100%
		% within A2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M4 – Chi-square tests for M3 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	12,142[62]	12	0,434
Likelihood Ratio	13,164	12	0,357
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[62] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,10.

Affirmation B1: Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships.

Table M5 – Crosstabulation for Job Satisfaction versus affirmation B1

			Answer to B1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	0	2	13	37	24	76
		% within Satisfaction	0%	2,6%	17,1%	48,7%	31,6%	100%
		% within B1	0%	20%	39,4%	38,9%	38,1%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	3	11	37	22	74
		% within Satisfaction	1,4%	4,1%	14,9%	50%	29,7%	100%
		% within B1	33,3%	30%	33,3%	38,9%	34,9%	36,3%
	No strong preference	**Count**	2	5	6	20	17	50
		% within Satisfaction	4%	10%	12%	40%	34%	100%
		% within B1	66,7%	50%	18,2%	21,1%	27%	24,5%
	Other	**Count**	0	0	3	1	0	4
		% within Satisfaction	0%	0%	75%	25%	0%	100%
		% within B1	0%	0%	9,1%	1,1%	0%	2%
Total		**Count**	3	10	33	95	63	204
		% within Satisfaction	1,5%	4,9%	16,2%	46,6%	30,9%	100%
		% within B1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M6 – Chi-square tests for M5 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	18,888[63]	12	0,091
Likelihood Ratio	16,436	12	0,172
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[63] 11 cells (55%) have an expected count less than 5. The minimum expected count is 0,06.

Affirmation B2: Mentor training in cultural awareness and inclusive communication would be valuable.

Table M7 – Crosstabulation for Job Satisfaction versus affirmation B2

			Answer to B2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	2	4	8	36	26	76
		% within Satisfaction	2,6%	5,3%	10,5%	47,4%	34,2%	100%
		% within B2	33,3%	33,3%	26,7%	37,9%	42,6%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	3	13	35	22	74
		% within Satisfaction	1,4%	4,1%	17,6%	47,3%	29,7%	100%
		% within B2	16,7%	25%	43,3%	36,8%	36,1%	36,3%
	No strong preference	**Count**	3	4	8	22	13	50
		% within Satisfaction	6%	8%	16%	44%	26%	100%
		% within B2	50%	33,3%	26,7%	23,2%	21,3%	24,5%
	Other	**Count**	0	1	1	2	0	4
		% within Satisfaction	0%	25%	25%	50%	0%	100%
		% within B2	0%	8,3%	3,3%	2,1%	0%	2%
Total		**Count**	6	12	30	95	61	204
		% within Satisfaction	2,9%	5,9%	14,7%	46,6%	29,9%	100%
		% within B2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M8 – Chi-square tests for M7 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	18,888[64]	12	0,091
Likelihood Ratio	16,436	12	0,172
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[64] 11 cells (55%) have an expected count less than 5. The minimum expected count is 0,06.

Affirmation C1: The success of a mentoring relationship depends more on fit between the pair than whether the partnership was self-selected or assigned.

Table M9 – Crosstabulation for Job Satisfaction versus affirmation C1

			Answer to C1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	0	5	11	34	26	76
		% within Satisfaction	0%	6,6%	14,5%	44,7%	34,2%	100%
		% within C1	0%	33,3%	31,4%	39,5%	40%	37,3%
	Assigned pairs based on transparent criteria	**Count**	2	6	13	27	26	74
		% within Satisfaction	2,7%	8,1%	17,6%	36,5%	35,1%	100%
		% within C1	66,7%	40%	37,1%	31,4%	40%	36,3%
	No strong preference	**Count**	1	3	10	24	12	50
		% within Satisfaction	2%	6%	20%	48%	24%	100%
		% within C1	33,3%	20%	28,6%	27,9%	18,5%	24,5%
	Other	**Count**	0	1	1	1	1	4
		% within Satisfaction	0%	25%	25%	25%	25%	100%
		% within C1	0%	6,7%	2,9%	1,2%	1,5%	2%
Total		**Count**	3	15	35	86	65	204
		% within Satisfaction	1,5%	7,4%	17,2%	42,2%	31,9%	100%
		% within C1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M10 – Chi-square tests for M9 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	7,457[65]	12	0,826
Likelihood Ratio	7,950	12	0,789
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[65] 9 cells (45%) have an expected count less than 5. The minimum expected count is 0,06.

Affirmation C2: I support having structured opportunities to meet potential mentors or mentees before matches are finalised.

Table M11 – Crosstabulation for Job Satisfaction versus affirmation C2

			Answer to C2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	0	4	15	33	24	76
		% within Satisfaction	0%	5,3%	19,7%	43,4%	31,6%	100%
		% within C2	0%	36,4%	35,7%	32,7%	50%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	4	13	44	12	74
		% within Satisfaction	1,4%	5,4%	17,6%	59,5%	16,2%	100%
		% within C2	50%	36,4%	31%	43,6%	25%	36,3%
	No strong preference	**Count**	1	2	11	24	12	50
		% within Satisfaction	2%	4%	22%	48%	24%	100%
		% within C2	50%	18,2%	26,2%	23,8%	25%	24,5%
	Other	**Count**	0	1	3	0	0	4
		% within Satisfaction	0%	25%	75%	0%	0%	100%
		% within C2	0%	9,1%	7,1%	0%	0%	2%
Total		**Count**	2	11	42	101	48	204
		% within Satisfaction	1%	5,4%	20,6%	49,5%	23,5%	100%
		% within C2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M12 – Chi-square tests for M11 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	19,381[66]	12	0,080
Likelihood Ratio	19,223	12	0,083
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[66] 11 cells (55%) have an expected count less than 5. The minimum expected count is 0,04.

Affirmation D1: Sharing surface-level similarities (such as gender, nationality, or role) is important to me in a mentoring relationship.

Table M13 – Crosstabulation for Job Satisfaction versus affirmation D1

			Answer to D1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	15	28	20	13	0	76
		% within Satisfaction	19,7%	36,8%	26,3%	17,1%	0%	100%
		% within D1	35,7%	35%	43,5%	39,4%	0%	37,3%
	Assigned pairs based on transparent criteria	**Count**	13	33	15	11	2	74
		% within Satisfaction	17,6%	44,6%	20,3%	14,9%	2,7%	100%
		% within D1	31%	41,3%	32,6%	33,3%	66,7%	36,3%
	No strong preference	**Count**	12	18	10	9	1	50
		% within Satisfaction	24%	36%	20%	18%	2%	100%
		% within D1	28,6%	22,5%	21,7%	27,3%	33,3%	24,5%
	Other	**Count**	2	1	1	0	0	4
		% within Satisfaction	50%	25%	25%	0%	0%	100%
		% within D1	4,8%	1,3%	2,2%	0%	0%	2%
Total		**Count**	42	80	46	33	3	204
		% within Satisfaction	20,6%	39,2%	22,5%	16,2%	1,5%	100%
		% within D1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M14 – Chi-square tests for M13 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	7,019[67]	12	0,856
Likelihood Ratio	8,197	12	0,770
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[67] 8 cells (40%) have an expected count less than 5. The minimum expected count is 0,06.

Affirmation D2: The seniority or status of the mentor (e.g., much more experienced or highly ranked) is crucial for effective mentoring.

Table M15 – Crosstabulation for Job Satisfaction versus affirmation D2

			Answer to D2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	4	13	16	34	9	76
		% within Satisfaction	5,3%	17,1%	21,1%	44,7%	11,8%	100%
		% within D2	44,4%	35,1%	33,3%	39,5%	37,5%	37,3%
	Assigned pairs based on transparent criteria	**Count**	2	14	17	34	7	74
		% within Satisfaction	2,7%	18,9%	23%	45,9%	9,5%	100%
		% within D2	22,2%	37,8%	35,4%	39,5%	29,2%	36,3%
	No strong preference	**Count**	2	8	14	18	8	50
		% within Satisfaction	4%	16%	28%	36%	16%	100%
		% within D2	22,2%	21,6%	29,2%	20,9%	33,3%	24,5%
	Other	**Count**	1	2	1	0	0	4
		% within Satisfaction	25%	50%	25%	0%	0%	100%
		% within D2	11,1%	5,4%	2,1%	0%	0%	2%
Total		**Count**	9	37	48	86	24	204
		% within Satisfaction	4,4%	18,1%	23,5%	42,2%	11,8%	100%
		% within D2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M16 – Chi-square tests for M15 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	11,623[68]	12	0,476
Likelihood Ratio	11,049	12	0,525
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[68] 14 cells (70%) have an expected count less than 5. The minimum expected count is 0,02.

Affirmation E1: A safe, open environment where feedback can be exchanged freely is essential for effective mentorship.

Table M17 – Crosstabulation for Job Satisfaction versus affirmation E1

			Answer to E1 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	0	1	0	17	58	76
		% within Satisfaction	0%	1,3%	0%	22,4%	76,3%	100%
		% within E1	0%	100%	0%	43,6%	36,5%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	0	2	15	56	74
		% within Satisfaction	1,4%	0%	2,7%	20,3%	75,7%	100%
		% within E1	50%	0%	66,7%	38,5%	35,2%	36,3%
	No strong preference	**Count**	1	0	0	7	42	50
		% within Satisfaction	2%	0%	0%	14%	84%	100%
		% within E1	50%	0%	0%	17,9%	26,4%	24,5%
	Other	**Count**	0	0	1	0	3	4
		% within Satisfaction	0%	0%	25%	0%	75%	100%
		% within E1	0%	0%	33,3%	0%	1,9%	2%
Total		**Count**	2	1	3	39	159	204
		% within Satisfaction	1%	0,5%	1,5%	19,1%	77,9%	100%
		% within E1	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M18 – Chi-square tests for M17 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,140[69]	12	0,028
Likelihood Ratio	15,186	12	0,231
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[69] 14 cells (70%) have an expected count less than 5. The minimum expected count is 0,02.

Affirmation E2: I appreciate mentorship frameworks that include regular check-ins, reflection, and opportunities to address difficulties.

Table M19 – Crosstabulation for Job Satisfaction versus affirmation E2

			Answer to E2 affirmation					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Mentoring Preferences	**Self-selected pairs after introductory meetings**	**Count**	0	3	10	30	33	76
		% within Satisfaction	0%	3,9%	13,2%	39,5%	43,4%	100%
		% within E2	0%	75%	40%	34,9%	38,4%	37,3%
	Assigned pairs based on transparent criteria	**Count**	1	1	6	32	34	74
		% within Satisfaction	1,4%	1,4%	8,1%	43,2%	45,9%	100%
		% within E2	33,3%	25%	24%	37,2%	39,5%	36,3%
	No strong preference	**Count**	1	0	8	22	19	50
		% within Satisfaction	2%	0%	16%	44%	38%	100%
		% within E2	33,3%	0%	32%	25,6%	22,1%	24,5%
	Other	**Count**	1	0	1	2	0	4
		% within Satisfaction	25%	0%	25%	50%	0%	100%
		% within E2	33,3%	0%	4%	2,3%	0%	2%
Total		**Count**	3	4	25	86	86	204
		% within Satisfaction	1,5%	2%	12,3%	42,2%	42,2%	100%
		% within E2	100%	100%	100%	100%	100%	100%

Source: Self-elaborated based on survey results, processed by SPSS, 2025

Table M20 – Chi-square tests for M19 Crosstabulation

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-quare	23,620[70]	12	0,023
Likelihood Ratio	15,830	12	0,199
N of valid cases	204		

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[70] 11 cells (55%) have an expected count less than 5. The minimum expected count is 0,06.

Appendix N – Correlation tables for Job Satisfaction against Affirmations A1 to E2

Table N1 – Bivariate Correlation table between Job Satisfaction and Affirmations A1 to E2, using Kendall's Tau-b method

		Job Satisfaction	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2
Job Satisfaction	Correlation Coefficient	--										
	Sig. (2-tailed)	.										
A1	Correlation Coefficient	,040	--									
	Sig. (2-tailed)	,503	.									
A2	Correlation Coefficient	,099	,252[71]	--								
	Sig. (2-tailed)	,087	<,001	.								
B1	Correlation Coefficient	,131[72]	,137[72]	,080	--							
	Sig. (2-tailed)	,026	,027	,183	.							
B2	Correlation Coefficient	,070	,006	-,019	,511[71]	--						
	Sig. (2-tailed)	,234	,926	,748	<,001	.						
C1	Correlation Coefficient	,043	,266[71]	,021	,143[72]	,019	--					
	Sig. (2-tailed)	,459	<,001	,720	,019	,754	.					
C2	Correlation Coefficient	,037	,264[71]	,114	,165[71]	,160[71]	,277[71]	--				
	Sig. (2-tailed)	,523	<,001	,059	,007	,009	<,001	.				
D1	Correlation Coefficient	,091	,094	,074	-,043	-,034	,021	,005	--			
	Sig. (2-tailed)	,115	,121	,213	,480	,573	,728	,938	.			
D2	Correlation Coefficient	,072	,063	,128[72]	-,039	-,119[72]	,102	,067	,190[71]	--		
	Sig. (2-tailed)	,210	,299	,030	,513	,048	,089	,262	,001	.		
E1	Correlation Coefficient	,036	,221[71]	-,026	,165[72]	,155[72]	,176[71]	,173[71]	-,099	,009	--	
	Sig. (2-tailed)	,566	<,001	,688	,011	,017	,006	,008	,119	,892	.	
E2	Correlation Coefficient	,025	,077	,063	,236[71]	,262[71]	-,031	,156[72]	,060	,058	,311[71]	--
	Sig. (2-tailed)	,674	,223	,303	<,001	<,001	,618	,012	,327	,345	<,001	.

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[71] Correlation is significant at the 0,01 level (2-tailed).

[72] Correlation is significant at the 0,05 level (2-tailed).

Table N2 – Bivariate Correlation table between Job Satisfaction and Affirmations A1 to E2, using Spearman's Rho method

		Job Satisfaction	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2
Job Satisfaction	Correlation Coefficient	--										
	Sig. (2-tailed)	.										
A1	Correlation Coefficient	,044	--									
	Sig. (2-tailed)	,528	.									
A2	Correlation Coefficient	,119	,284[73]	--								
	Sig. (2-tailed)	,091	<,001	.								
B1	Correlation Coefficient	,160[74]	,151[74]	,092	--							
	Sig. (2-tailed)	,022	,031	,191	.							
B2	Correlation Coefficient	,084	,006	-,023	,560[73]	--						
	Sig. (2-tailed)	,231	,934	,741	<,001	.						
C1	Correlation Coefficient	,053	,300[73]	,025	,163[74]	,022	--					
	Sig. (2-tailed)	,450	<,001	,721	,020	,753	.					
C2	Correlation Coefficient	,044	,292[73]	,133	,185[73]	,183[73]	,314[73]	--				
	Sig. (2-tailed)	,536	<,001	,057	,008	,009	<,001	.				
D1	Correlation Coefficient	,108	,109	,087	-,049	-,039	,025	,004	--			
	Sig. (2-tailed)	,123	,121	,218	,482	,584	,724	,954	.			
D2	Correlation Coefficient	,088	,074	,152*	-,045	-,139[74]	,119	,078	,225[73]	--		
	Sig. (2-tailed)	,211	,294	,030	,519	,047	,090	,266	,001	.		
E1	Correlation Coefficient	,040	,233[73]	-,029	,176[74]	,166[74]	,191[73]	,184[73]	-,110	,009	--	
	Sig. (2-tailed)	,571	<,001	,679	,012	,017	,006	,008	,117	,902	.	
E2	Correlation Coefficient	,029	,083	,072	,263[73]	,294[73]	-,034	,174[74]	,069	,066	,327[73]	--
	Sig. (2-tailed)	,676	,236	,306	<,001	<,001	,629	,013	,325	,346	<,001	.

Source: Self-elaborated based on survey results, processed by SPSS, 2025

[73] Correlation is significant at the 0,01 level (2-tailed).

[74] Correlation is significant at the 0,05 level (2-tailed).

Appendix O – Enrolment Questionnaire for Mentoring Programme

Section 1: Eligibility and Informed Consent (GDPR)
"Before proceeding, please confirm that you:

- Are aged 18 years or older.

- Are currently employed in the technological environment dedicated to software development.

- Have read and understood our GDPR information notice (outlined below), and consent to the collection and processing of your data for the stated purposes."

GDPR notice excerpt:
"Your responses will be used exclusively for research and mentoring matching purposes. Any data processed are pseudonymised or anonymised, stored securely, and retained for a maximum of 12 months after project completion. No personal data or protected characteristics are ever used as matching criteria. You may withdraw consent and request erasure of your data at any stage, as stipulated by the General Data Protection Regulation (EU) 2016/679."

Section 2: Demographic and Professional Background

1. What is your name?

2. What is your gender identity?
   Options: Female / Male / Non-binary / Prefer not to say

3. How many years of experience do you have in the technology field?
   Options: Less than 1 year / 1–3 years / 4–6 years / 7–10 years / More than 10 years

4. Which category best describes your current primary role?
   Options: Engineering / Product / Agility / Management / Other (please specify)

Section 3: Self-Evaluation for Pairing Criteria
Please indicate your self-assessed strengths, preferences, and elaborations for each of the following, using a scale of 1 (lowest) to 5 (highest):

5. How do you rate your proficiency in your primary professional domains on a scale of 1 (beginner) to 5 (expert)? Please specify your core technologies or methodologies.
6. How do you describe your preferred work style and approach to problem-solving on a scale of 1 (highly structured) to 5 (highly flexible or innovative)? Please elaborate briefly.

7. How do you evaluate your communication preferences and openness to feedback, on a scale of 1 (infrequent/as-needed) to 5 (frequent/proactive)? Please specify preferred communication modes and any accessibility requirements.
8. How comfortable are you when engaging with individuals from different cultural backgrounds, on a scale of 1 (limited comfort) to 5 (highly comfortable)? Please detail any relevant international experience or language proficiencies.
9. How would you assess your availability and scheduling flexibility for regular programme meetings, on a scale of 1 (very constrained) to 5 (very flexible)? Please state any time zone limitations or preferred meeting times.

Section 4: Matching Preferences and Values

10. Please rank the following criteria for pairing with a mentor/mentee, from 1 (most important) to 5 (least important):

- Shared professional interests/skills
- Compatible work style/problem-solving approach
- Communication preferences
- Cultural awareness and inclusivity
- Availability and scheduling logistics

11. How strongly do you agree with the following statements (Strongly Disagree / Disagree / Neutral / Agree / Strongly Agree)?

- "Mentorship pairs with similar values, attitudes, or professional philosophies lead to more successful outcomes than pairs matched on surface-level factors."
- "Mentors who acknowledge and discuss differences in background, culture, and identity foster stronger mentoring relationships."
- "A safe, open environment for feedback is essential for effective mentorship."
- "Sharing surface-level similarities (e.g., role, nationality) is important in mentoring."

Section 5: Motivations and Expectations

12. What are your main goals in participating (tick all that apply)?

- Professional skill development
- Networking
- Knowledge transfer
- Career advancement
- Support in role transition
- Other (please specify)

13. What are the specific areas of interest or goals you wish to pursue in a mentoring relationship?

14. What preferences or constraints would you like considered regarding your mentor/mentee? (e.g., time zone, language, organisational division)

Section 6: Data Use Acknowledgement and Final Consent

15. Do you confirm you have read and understood the Data Privacy Notice, and do you provide explicit consent for the use of your data as detailed above?

Signature and date (digital or manual)

Appendix P – Mentoring Programme Commitment Letter Template

Individual Commitment Letter for Mentoring Programme
Programme: [Insert Programme Title / Cohort]
Participant Name: [Insert Full Name]
Role: [Mentor / Mentee]
Date: [Insert Date]

As a participant in the mentoring programme, I hereby commit to the following principles and practices, as established by programme guidelines and supported by contemporary research.

1. Purpose and Expectations

I commit to pursue professional development, reciprocal learning, and knowledge transfer, establishing and reviewing personal goals within the mentoring process throughout the programme period.

2. Responsibilities and Conduct

I will participate actively and responsibly in all scheduled interactions, engaging with integrity, openness, and respect for my mentoring partner (strikethrough the not-applicable option).
As a mentor, I will offer informed guidance, timely feedback, positive encouragement, and ensure psychological safety during mentoring sessions.
As a mentee, I will proactively engage with my mentor, communicate my goals transparently, and provide constructive feedback.

3. Meeting Frequency and Process

I will attend scheduled meetings at the agreed frequency, notify my mentoring partner as soon as possible of any required cancellations, and reschedule meetings in good faith as necessary.

4. Confidentiality and Ethics

I will preserve confidentiality regarding all discussions within the mentoring context, except where information sharing is mutually consented or required by law or ethical standards.
I will uphold the highest standards of professionalism and inclusivity, contributing to a safe and trusting environment for all programme participants.

5. Feedback and Programme Evaluation

I will participate in programme feedback activities and scheduled evaluations to support continuous improvement and the monitoring of programme outcomes.

6. Consent and Data Protection

I acknowledge my understanding of the programme's GDPR and institutional data policies and give my consent for anonymised use of my data solely for evaluation and improvement purposes.

Signature and date (digital or manual)

Appendix Q – Mentoring Programme Pulse Feedback Questionnaire

Notice on Privacy and Data Use

Your responses to this feedback questionnaire will be treated in strict confidence. All data will be anonymised, and results will be analysed in bulk, ensuring that no individual participant can be identified in any report, presentation, or other device resulting from it. Data will be used solely for the purposes of programme evaluation and quality improvement, in accordance with institutional data protection guidelines and the General Data Protection Regulation (EU) 2016/679. By continuing, you provide informed consent for the use of your data as described.

Section 1: Participation Context

1. What is your role in the programme?
   Options: Mentor / Mentee

2. At which stage of the mentoring cycle are you providing this feedback?
   Options: Early (First third) / Middle / Late (Final third)

Section 2: Mentoring Relationship Quality

3. How would you rate the level of engagement and commitment of your mentoring partner during programme meetings?
   Scale: 1 (Very low) to 5 (Very high)

4. How frequently have you communicated with your mentoring partner since the last feedback check-in?
   Options: Not at all / Once / 2 to 3 times / 4 or more times

5. To what extent do you feel comfortable openly sharing ideas, challenges, or feedback during mentorship interactions?
   Scale: 1 (Not at all comfortable) to 5 (Extremely comfortable)

6. How effectively have meeting times and channels suited your availability and preferences?
   Scale: 1 (Not at all effective) to 5 (Highly effective)

Section 3: Programme Experience and Mentoring Process

7. How clear and relevant have your personal goals for the mentoring relationship been since the start of this period?
   Scale: 1 (Not at all clear) to 5 (Very clear)

8. Have you encountered any unresolved barriers or difficulties in the mentoring process (e.g., unclear objectives, communication barriers, resource access)?
   Options: Yes / No (if yes, please specify)

Section 4: Perceived Value and Support

9. In what ways has your participation contributed to your professional development or skill acquisition since the previous check-in?
   Open text response

10. How valued and supported have you felt by your mentor/mentee during this stage of the programme?
    Scale: 1 (Not at all supported) – 5 (Extremely supported)

Section 5: Programme Organisation and Suggestions

11. How would you rate the coordination and support provided by the mentoring programme organisers during this period?
    Scale: 1 (Very poor) to 5 (Excellent)

12. What suggestions do you have for improving this mentoring programme or the mentoring process at this stage?
    Open text response

Appendix R – Mentoring Programme Final Evaluation Questionnaire

Notice on Privacy and Data Use

Your responses to this feedback questionnaire will be treated in strict confidence. All data will be anonymised, and results will be analysed in bulk, ensuring that no individual participant can be identified in any report, presentation, or other device resulting from it. Data will be used solely for the purposes of programme evaluation and quality improvement, in accordance with institutional data protection guidelines and the General Data Protection Regulation (EU) 2016/679. By continuing, you provide informed consent for the use of your data as described.

Section 1: Participation Context

1. What is your role in the programme?
   Options: Mentor / Mentee

2. Did you participate in the mentoring programme for its full 9-month duration?
   Options: Yes / No (If no, please indicate the total number of months you participated)

Section 2: Relationship and Engagement

3. How would you rate the overall quality of your mentoring relationship?
   Scale: 1 (Very poor) to 5 (Excellent)

4. How well matched did you feel your mentoring partner was to your development needs and aspirations?
   Scale: 1 (Very poorly matched) to 5 (Extremely well matched)

5. How often did you meet with your mentoring partner during the programme?
   Options: Never / Once / Occasionally / Monthly / Bi-weekly / Weekly or more

6. How effective were your communication methods and meeting formats (e.g., online, in-person, hybrid)?
   Scale: 1 (Not effective) to 5 (Highly effective)

7. To what extent did you feel able to speak openly, give feedback, and address challenges safely within your mentoring relationship?
   Scale: 1 (Not at all) to 5 (Completely)

Section 3: Goal Setting and Achievement

8. Did you and your mentoring partner set clear goals at the outset of the programme?
   Options: Yes / No / Partially

9. To what extent were these mentoring goals achieved by the end of the programme?
   Scale: 1 (Not at all achieved) to 5 (Fully achieved)

Section 4: Programme Outcomes and Impact

10. What specific professional competencies or personal skills have you developed as a result of your participation in this mentoring programme?
    Open text response

11. To what extent has your involvement in the programme contributed to your academic or career progression?
    Scale: 1 (Not at all) to 5 (To a great extent)

12. Have you expanded your professional network or gained meaningful contacts through this experience?
    Options: Yes / No / Unsure (if yes, please briefly describe.)

13. What challenges or barriers did you encounter during the programme, and how were they addressed?
    Open text response

Section 5: Satisfaction and Future Participation

14. How satisfied are you with your overall experience in the mentoring programme?
    Scale: 1 (Very dissatisfied) to 5 (Very satisfied)

15. Would you recommend this mentoring programme to a peer or colleague?
    Options: Yes / No / Maybe

16. Are you interested in participating in future mentoring programmes (as a mentor or mentee)?
    Options: Yes, as a mentor / Yes, as a mentee / Yes, both roles / No / Undecided

17. What recommendations do you have for improving the mentoring programme in future iterations?
    Open text response